

Biodiversity Net Gain Plan

Land at Misselbrook Lane, North Baddesley

December 2022

A report by

Colin Hicks BSc (Hons) MCIEEM, Principal Ecologist



Report details

Site address:	Land at Misslebrook Lane, North Baddesley, Hampshire
Grid reference:	SU 40099 19510
Report date:	15 th December 2022
Report author:	Colin Hicks BSc (Hons) MCIEEM
Report reference:	WOR 3274.BNG

Declaration of compliance

Code of Professional Conduct

The information which we have prepared is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

Table of contents

1. Introduction	4
1.1. Background.....	4
2. Methodology	4
2.1. Classification of habitats	4
2.2. Mapping and condition of baseline habitats.....	4
2.3. Mapping of proposed development and associated habitats	4
2.4. Biodiversity Net Gain calculation	5
3. Biodiversity Net Gain Summary Figures.....	6
3.1. Principals of net gain	6
3.2. Summary of results	7
4. Planting, management and targets.....	8
4.1. Hedgerow plantings	8
4.2. Grassland – other neutral grassland	8
4.3. Urban – urban trees	9
Map 1. Site baseline habitats	10
Map 2. Proposed site habitats.....	11

1. Introduction

1.1. Background

Western Ecology has been commissioned to complete a Biodiversity Net Gain (BNG) calculation of an area of land at Misselbrook Lane, North Baddesley, Hampshire. A battery site, access and cable route are proposed. This report addresses BNG targets relating to the proposed battery site and access. The cable route is not included as effects will be temporary, while the route is limited to sealed roads.

2. Methodology

A phase 1 habitat survey of the site was completed by Chris Ayre, BSc (Hons) in September 2022 and a habitat map is included here as Map 1.

2.1. Classification of habitats

The existing habitats were classified using the Phase 1 Habitat Survey methodology developed by the Joint Nature Conservation Committee (JNCC, 2010) and modified by the Institute of Environmental Assessment (IEA, 1995). The main plant species were recorded and broad habitat types mapped according to both the Phase 1 Habitat Survey methodology, and the UK Habitats Classification definitions (UK Habitat Classification Working Group, 2018). Plant species were identified according to Stace (1997).

2.2. Mapping and condition of baseline habitats

Habitats were characterised as described above and mapped using a combination of OS background mapping and aerial imagery. Professional judgement was used to make condition assessments of habitats, when applicable. Baseline habitats are as follows:

Habitat units within development footprint

- Grassland – modified grassland = 3.5887ha Poor condition. Failing criteria 1, 2 & 5.
- Sparsely vegetated land – ruderal/ephemeral = 0.0139ha. Moderate condition failing criteria 1
- Urban – Artificial unvegetated unsealed surface = 0.011ha. access track

2.3. Mapping of proposed development and associated habitats

Proposed habitats associated with the site are shown on the Landscape Masterplan Plan, and the pertinent details are included here as Map 2:

Habitat unit creation within development footprint

- Urban - Developed land; sealed surface = 0.8123ha Battery plant and access track
- Urban – Urban trees = 0.0936 Small groups of native trees planted as screening. Moderate condition

Habitat unit enhancement within development footprint

- Grassland – modified grassland > Grassland – other neutral grassland = 0.679ha. Good condition

Habitat unit retention within development footprint

- Grassland – modified grassland = 2.0974ha. Along access tracks and to north east of the BESS site. Poor condition

Hedgerow unit creation within development footprint

- Native species rich hedgerow = 0.183km Moderate condition

2.4. Biodiversity Net Gain calculation

This calculation uses the Defra 3.1 metric utilising the guidance, technical supplements and habitat condition assessment sheets provided by Natural England, and following CIEEM Biodiversity Net Gain: Good practice principles for development (2016). Areas are measured in ha and lengths in km.

3. Biodiversity Net Gain Summary Figures

3.1. Principals of net gain

Ten principles setting out good practice for achieving Biodiversity Net Gain¹ have been applied as follows:

Principal	Principal met?	Comments
Utilise the mitigation hierarchy to minimise impact on biodiversity	Yes	No valued habitats to be lost.
Eliminate negative impacts on biodiversity that cannot be offset elsewhere	Yes	Realistic potential for net gain met with offsite proposals
Involve all pre-development and post-development stakeholders in forming mandatory net gain solutions	Yes	Landowners and LPA involved. No other realistic stakeholders
Understand the potential risks and variable factors to achieving biodiversity net gain	Yes	Risks involved with habitat management minimised: realistic habitat types and condition enhancements proposed
Determine a suitable method to secure measurable net gains for biodiversity	Yes	To be provided in a management plan via monitoring regime and a suitable agreement for offsite net gain requirements
Ensure the best possible outcomes from biodiversity net gain	Yes	Realistic potential for net gain within the Site, with 10% gain to be achieved within development footprint
Offer nature conservation that exceed the BNG requirements	Yes	Potential for more than 10% gain to be achieved for habitat and hedgerow units
Focus on generating long-term environmental benefits from biodiversity net gain	Yes	Proposed habitats can realistically be managed for the long-term
Cover all areas of sustainability, incorporating economical and societal factors	Yes	Proposed habitats enhance the environment for people and local wildlife.

¹ <https://cieem.net/wp-content/uploads/2019/02/Biodiversity-Net-Gain-Principles.pdf>

3.2. Summary of results

Summary of percentage change and biodiversity net gain in units; detail taken from Defra 3.1 Metric, 'Headline Results' sheet. This predicts an **36.78%** net gain in habitat areas (2.63 units) and **100%** net gain in hedgerow units (1.23 units). Trading rules have been satisfied.

Misslebrook BESS

Headline Results

Return to results menu

On-site baseline	Habitat units	7.16
	Hedgerow units	0.00
	River units	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	9.80
	Hedgerow units	1.23
	River units	0.00
On-site net % change (Including habitat retention, creation & enhancement)	Habitat units	36.78%
	Hedgerow units	0.00%
	River units	0.00%
Off-site baseline	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	2.63
	Hedgerow units	1.23
	River units	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	36.78%
	Hedgerow units	100.00%
	River units	0.00%
Trading rules Satisfied?	Yes ✓	

4. Planting, management and targets

Planting and on-going site management will be undertaken by suitably experienced operatives/contractors employed by site operator for the operational life of the development.

4.1. Hedgerow plantings

0.183km of native species rich native shrub hedgerow will be created at the boundary of the BESS site.

Target (30 year objective)

The target habitat condition is 'Moderate' as follows:

1. Height >1.5m
2. Width >1.5m
3. Gaps make up <10% of total length and no gaps greater than 5m
4. >1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length
5. >90% of the hedgerow or undisturbed ground is free of damage caused by human activities.
6. >90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species

4.2. Grassland – other neutral grassland

0.679ha of grassland habitat will be created to the north west of the BESS site through enhancement of the existing grassland at this location. This will be over-seeded with grassland mix such as EM10 – Tussocky Mixture.

Target (30 year objective)

Target habitat condition for this habitat is 'Good' as follows:

1. The appearance and composition of the vegetation closely matches characteristics of the specific grassland habitat type (see UKHab definition). Wildflowers, sedges and indicator species for the specific grassland habitat type are very clearly and easily visible throughout the sward.
2. Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.
3. Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.
4. Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%.
5. There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981). Combined cover of species indicative of sub-optimal condition¹ and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.
6. There are greater than 9 species per metre squared.

4.3. Urban – urban trees

0.0936ha of urban tree cover will be created through planting of native trees to provide screening.

Target (30 year objective)

Target habitat condition for this habitat is 'Moderate' as follows:

1. The tree is a native species (or more than 70% within the block are native species).
2. There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime so the trees retain >75% of expected canopy for their age range and height.
3. More than 20% of the tree canopy area is oversailing vegetation beneath.

1 Geffery Close
Landrake
Saltash
Cornwall
PL12 5HA

Tel: 0800 622 6828
email: office@westernecology.co.uk

Legend (UK habs)

 g4 - modified grassland

 u1c - artificial unvegetated unsealed surface

 s - sparsely vegetated land

Title: Map 1. Site baseline habitats

Project: Missilebrook BESS

Checked by: CDH Version: 01
Date: 22/12/2022



Legend (UK habs)

- g4 - modified grassland
- g3c - other neutral grassland
- u1b - developed land, sealed surface
- Urban tree
- Native species rich hedgerow



Title: Map 2. Proposed habitats

Project: Missilebrook BESS

Checked by: CDH Version: 01
Date: 22/12/2022