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21<sup>st</sup> July 2023

To Whom it May Concern,

RE: Small Site Metric Technical Note  
Of land at The Old Blacksmiths, Hawsker

## Introduction

Esk Valley Environmental Ltd was commissioned by Cheryl ward, on behalf of Eleanor, Delia and Emily Holyfield (the client) to deliver a Biodiversity Net Gain (BNG) assessment of a proposed residential development (The site). An application has been submitted to the local planning authority, The North York Moors Planning Authority (NYMPA) which has received comments back with regards to BNG on site. The clients have been advised that a BNG assessment should be conducted of the site in line with the recently adopted Environment Act 2021.

A Response from the NYMPA ecologist states:

*The ecology report submitted by MAB states that there will be “a residual loss of other neutral grassland, and likely a loss of woodland habitat from the development. There will likely be a residual loss of semi-mature/mature trees from the development.” The enhancements proposed in the report are bat boxes. These are not comparable to loss of habitat and cannot be calculated within the biodiversity net gain (BNG) metric. Part of the justification behind the concept of BNG and the implementation of the metric is as these sort of enhancements (bat boxes, bird boxes etc.) are difficult to measure their effectiveness and are often incomparable to the habitat lost.*

*I would therefore recommend that a BNG assessment is still completed.*

This technical note has been prepared to accompany the completed Small Sites Metric (SSM) calculation tool and summarises the results of a site walkover of the site conducted in July 2023 and details the habitat enhancement and creation required on site to achieve the required 10% gain.

The aim of the site walkover was to:

- Ground truth the extended UKHab Habitat survey conducted by MAB Environment and Ecology Ltd;
- Determine and describe habitats present on site;
- Identify any priority habitats present on or immediately adjacent to site; and,

- Identify an appropriate habitat enhancement / replacement strategy to be designed and implemented to achieve BNG on site.

The site consists of an area of g3c, other neutral grassland, w1g, other woodland – broadleaved, u1, built up areas and gardens, and u1b, developed land, sealed surface to the rear of the Old Blacksmiths in Hawkser.

## Biodiversity Net Gain

BNG is a process whereby development leaves biodiversity in a measurably better state than before and is a policy requirement under the National Planning Policy Framework (NPPF; 2019)<sup>1</sup>. BNG will soon become a legal requirement in England<sup>2</sup> with the Environment Act (2021) setting out a mandatory 10 % net gain in biodiversity for new development<sup>3</sup>.

The BNG process is governed by a set of UK good practice principles (2016)<sup>4</sup> along with industry guidance which outlines the practical implementation of the principles (2019)<sup>5</sup>. The key principle is the application of a mitigation hierarchy, which sets out that development should first avoid biodiverse habitats, then mitigate/minimise impacts upon habitats, then restore/reinstate habitats. As a last resort, once the mitigation hierarchy has been maximised on-site, the project may use biodiversity offsetting to compensate for any residual biodiversity impacts due to the project. The principles require use of a metric e.g. Natural England Biodiversity Metric v4.0, to assess and quantify net biodiversity change. Applying this process enables transparent reporting on biodiversity outputs to demonstrate delivery against the current policy requirement for BNG.

Esk Valley Environmental has in-house biodiversity expertise, working on BNG across England since 2018. We have in-depth experience of applying BNG assessments to residential, road, rail and energy infrastructure developments, using the Defra metric, Natural England Biodiversity Metric v4.0.

The SSM is a simplified version of the Natural England Biodiversity Metric 4.0 and It has been specifically been designed for use on small development sites. Such sites are defined (for the purposes of the SSM) as small sites where the following criteria are met:

- For residential developments the number of dwellings to be provided is fewer than 10 residential units (9 or fewer) on a site area less than 1ha;
- Where the number of dwellings to be provided is not known the site area is less than 0.5hectares;
- For all other development types where the site area is less than 0.5hectares or less than 5,000sqm;

However, the SSM cannot be used on such sites where:

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<sup>1</sup> Ministry of Housing, Communities & Local Government, 2019. National Planning Policy Framework (NPPF), last updated 20 July 2021. Accessed from: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/810197/NPPF\\_Feb\\_2019\\_revised.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf)

<sup>2</sup> Department for Environment Food & Rural Affairs, 2020. Environment Bill 2020: Policy Statement. Accessed from: <https://www.gov.uk/government/publications/environment-bill-2020/30-january-2020-environment-bill-2020-policy-statement>

<sup>3</sup> Department for Environment Food & Rural Affairs, 2020. Environment Bill 2020: Nature and conservation covenants (parts 6 and 7). Accessed from: <https://www.gov.uk/government/publications/environment-bill-2020/10-march-2020-nature-and-conservation-covenants-parts-6-and-7>

<sup>4</sup> CIEEM, CIRIA, IEMA, 2016. Biodiversity Net Gain: Good practice principles for development. Accessed from: <https://cieem.net/wp-content/uploads/2019/02/Biodiversity-Net-Gain-Principles.pdf>

<sup>5</sup> CIEEM, CIRIA, IEMA, 2019. Biodiversity Net Gain: Good practice principles for development. A practical guide. Accessed from: <https://cieem.net/wp-content/uploads/2019/02/C776a-Biodiversity-net-gain.-Good-practice-principles-for-development.-A-practical-guide-web.pdf>

- a. Where habitats not available in the SSM are present
- b. Where priority habitats are within the development site (excluding some hedgerows and arable field margins)
- c. Where protected species are present on the development site
- d. Where any offsite interventions are required

## Methodology

A site walkover and habitat assessment of the site was undertaken by Mark Tarrant MEECW on the 6<sup>th</sup> July 2023. Mark has a BSc in Biology and has worked professionally as a consultant ecologist since 2008. He has extensive experience in conducting BNG assessments, including using the latest 4.0 metric.

The weather during the survey period was clear and warm, with little wind. The survey involved a site walkover and confirmation of preliminary assessment of key habitats and land use as identified in the MAB Environment and Ecology Ltd Preliminary Ecological Appraisal. The survey methodology was based upon the standard UKHab methodology described in the UK Habitat Classification User Manual Version 1.1<sup>6</sup>.

## Limitations

The habitat survey provides a snapshot of ecological conditions and does not record plants or animals that may be present at the site at different times of the year.

The habitat areas measured for the purposes of the metric are based on areas mapped at the time of the UKHab survey and may change due to changes in land use. The habitat measurements have not been undertaken with calibrated instruments and are therefore not to a precise scale. All polygon areas were input into the metric in square metres, rounded up to the nearest full number. This can cause a slight variation to the sum of the individual numbers but is unlikely to substantially change the results.

Esk Valley Environmental Ltd is satisfied that this report represents a robust appraisal of the site. If any action or development has not taken place on this land within twelve months of the date of this report, the findings of this survey should be reviewed by a suitably qualified ecologist and may need to be updated in line with CIEEM's 'Advice Note on the Lifespan of Ecological Reports and Surveys' (2019)<sup>7</sup>.

## Results

There are no internationally designated sites in or partly within the search area.

The site falls on the northern extent of North York Moors National Park. There are no National Nature Reserves NNRs, Areas of Outstanding Natural Beauty AONBs, Local Nature Reserves LNRs, North Yorkshire SINC (Site of Importance for Nature Conservation) or Yorkshire Wildlife Trust Reserves within 2 km of the site. There are no irreplaceable habitats within the site boundary.

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<sup>6</sup> Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. 2020. The UK Habitat Classification User Manual Version 1.1. Accessed from: <http://www.ukhab.org/>

<sup>7</sup> Chartered Institute of Ecology and Environmental Management (CIEEM), 2019. Advice Note on the Lifespan of Ecological Reports and Surveys. CIEEM, Winchester. Available online: <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf>

The centre of the site was found to consist of other neutral grassland, rough grassland dominated by tall ruderals. This area has previously been an extended garden and contains the remnants of vegetable plots and associated paraphernalia. There is a strip of other woodland – broadleaved, around the boundary of the site that contains a number of mature trees including sycamore *Acer pseudoplatanus*, and ash *Fraxinus excelsior*. The mature trees are mostly restricted to adjacent land with the mapped habitat on site consisting mostly of understorey vegetation that fall within the sphere of influence.

### SSM

The baseline habitats found within the site are shown in the table below:

Habitat		C. Strategic significance	Areas (m <sup>2</sup> )			Baseline results		
A. Broad Habitat	B. Habitat type		D. Total Area	E. Area retained	F. Area enhanced	Total habitat units onsite	Area Lost	Units lost
Woodland and forest	Other woodland; broadleaved	Area/compensation not in local strategy/ no local strategy	355.00	0.00	333.00	0.28	22.00	0.018
Grassland	Other neutral grassland	Area/compensation not in local strategy/ no local strategy	494.00	0.00	197.00	0.40	297.00	0.238
Urban	Vegetated garden	Area/compensation not in local strategy/ no local strategy	141.00	0.00		0.03	141.00	0.028
Urban	Developed land; sealed surface	Area/compensation not in local strategy/ no local strategy	380.00	0.00		0.00	380.00	0.000

Approximately 297m<sup>2</sup> of Other neutral Grassland will be lost to the development.

No additional habitat will be created on site.

A. Broad Habitat	B. Habitat type	Condition Assessment		D. Strategic significance	E. Total Area (m <sup>2</sup> )	Habitat units created onsite
		Acceptable condition options	C. Targeted condition			
Urban	Developed land; sealed surface	N/A - Other	N/A - Other	Area/compensation not in local strategy/ no local strategy	840.00	0.0000

The following habitat enhancement is proposed on site. The other neutral grassland retained on site shall be enhanced by being over sown with neutral grassland mix enhanced with wildflowers, whilst undesirable tall ruderals are controlled. The Other Woodland; Broadleaved retained on site will also be enhanced.

Existing Habitat Type		Enhanced Habitat type		B. Strategic significance	Area Enhanced	Enhanced Condition	Total Units	Net Improvement
Broad habitat type	Existing habitat type	Enhancement Type	A. Enhanced habitat type					
Woodland and forest	Other woodland; broadleaved	Condition	Other woodland; broadleaved	Area/compensation not in local strategy/ no local strategy	333.00	Good	0.3597	0.0933
Grassland	Other neutral grassland	Condition	Other neutral grassland	Area/compensation not in local strategy/ no local strategy	197.00	Good	0.2128	0.0552

In addition, six fruit trees shall be planted on site, 4 small trees and 2 large trees. These are captured in the tree area calculator below:

Tree size (Diameter at breast height)	A. Total number of trees pre development	B. Number of trees retained (but not enhanced)	C. Number of trees enhanced	D. Number of new trees planted post development	Areas			
					Area pre development	Area retained	Area Enhanced by development	Area of new trees planted post development
Small - DBH ≤ 30cm	0	0	0	4	0	0	0	163
Medium - DBH > 30 to ≤ 90cm	0	0	0	2	0	0	0	732
Large - DBH > 90cm					0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>895</b>

The following table outlines the headline results from the SSM calculations. As can be seen from the table, BNG targets are met, the scheme actually delivers a 19.62% gain, which is well in excess of the 10% requirement.

<b>Headline Results</b>	
Headline	BNG Targets Met ✓
Trading Rules	Trading Rules Not Satisfied ▲
Next steps	Scheme alterations or offsite units required
If BNG targets cannot be reached on-site, the main Biodiversity Metric 4.0 should be used.	
Baseline Units	Habitat units
	0.7074

	<i>Hedgerow units</i>	Zero Units Baseline
	<i>River units</i>	Zero Units Baseline
Post-development Units	<i>Habitat units</i>	0.8462
	<i>Hedgerow units</i>	0.0000
	<i>River units</i>	0.0000
Total net unit change	<i>Habitat units</i>	0.1388 ✓
	<i>Hedgerow units</i>	0.0000 ✓
	<i>River units</i>	0.0000 ✓
Total net % change	<i>Habitat units</i>	19.62% ✓
	<i>Hedgerow units</i>	% target not appropriate
	<i>River units</i>	% target not appropriate
Habitats units required to meet target		0.0000
Hedgerow units required to meet target		0.0000
River units required to meet target		0.0000

The loss of other neutral grassland (Medium distinctiveness) without replacement with the same broad habitat or a higher distinctiveness habitat means the biodiversity metric reports trading rules are not satisfied. However, given that the enhancement of the remaining grass land on site, in conjunction with the enhancement of the woodland and the provision of 6 additional trees results in an increase of habitats of medium distinctiveness, this is not considered to be a limitation, as these new habitats will be comparable in habitat value. Therefore, trading rules are considered to have been satisfied. This is supported by the 'Distinctiveness band' trading results below:

Distinctiveness band	Baseline units	Onsite provision	Net change	Trading satisfied?
Medium distinctiveness	0.6792	0.846	0.1670	Yes ✓
Low distinctiveness	0.0282	0.000	-0.0282	Yes ✓
Are there sufficient Medium distinctiveness units to cover low distinctiveness losses?	0.1388			Yes ✓

## Discussion/Recommendations

A walkover of the site and assessment of the habitats present has identified medium distinctiveness habitats present. Two residential dwellings are proposed to be constructed on site.

Following completion of construction the retained other neutral grassland would be enhanced, being over sown with a wildflower / meadow mix including such species as borage, musk mallow, marjoram, cornflower, field sabious and greater knapweed. Commercially produced meadow mixes are available from a variety of sources. A wildflower rich neutral grassland will be created.

An alternative to commercially available mixes would be the use of seeding via green hay. Green hay, taken from a species rich donor site and spread on a species poor recipient site is a method of restoring and recreating wildflower grasslands. Green hay is harvested wildflowers and grasses just as they are shedding seed and still 'green'. The hay is quickly transferred to the species-poor recipient site where it is spread allowing the seed to drop. Green hay can be relatively cheap; however the logistics of transferring the hay quickly need to be carefully planned. This means that the donor and recipient sites must be close together. Using green hay can be a very successful method of undertaking grassland restoration and recreation.

The woodland will be enhanced through two routes. Firstly, ash showing signs of dieback should be removed/cleared, creating a net gain in the health of tree species on site. The site should then be subject to an under planting of saplings from suitable native species, such as field maple *Acer campestre*, common oak *Quercus robur*, and silver birch *Betula Pendula*. Which would result in a benefit to the vertical structure of the woodland, as well as the age distribution. Any saplings planted should be protected from damage by pest species.

A suitable maintenance scheme will have to be established to ensure the condition of the habitats established on site. The other neutral grassland should be subject to a suitable management routine to ensure it establishes well and doesn't become rank over time. The site should be mown regularly in the first year after sowing, to encourage the perennial flowers and grasses to make strong root growth. Cut to a height of 5cm (2in), about six to eight weeks after the seedlings appear, and repeat every two months throughout the first summer. These cuts can be lower, at 4cm (1½in). Once established it is recommended that the area is subject to a main summer cut, between late June and the end of August, the cut vegetation should be left in situ for some days to allow the seeds to drop and reseed for the following year.

Mark Tarrant

Director