

Biodiversity Net Gain Assessment: Hempton Road Improvement Scheme Note to Accompany the Defra Metric 3.1 Calculator



Client	WSP
Site address	Hempton – Road Improvement Scheme
Survey scope	Biodiversity Net Gain (BNG) Assessment
Survey date(s)	27/07/2022
Report date and status	13/10/2022
Report reference	2022.101
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Declaration of Compliance

This report has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management’s (CIEEM) Code of Professional Conduct and British Standard Institution’s (BSI) BS 8683:2021 *Biodiversity – Process for designing and implementing Biodiversity Net Gain – Specification*. We confirm that the opinions expressed within this document are our bona fide professional opinions.

The information which is being provided is a true representation of the survey methods used and the results assembled, with respect to the stated dates of survey and assessment. The future validity of this report is conditional on any changes which occur to the assessment site, and in any case will be limited by professionally accepted survey lifespans.

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. Non-Technical Summary

This report has been prepared by Norfolk Wildlife Services in relation to the proposed road improvements for Hempton. It is a note to accompany the calculations of the Biodiversity Metric 3.1.

This note provides a summary of the results of a Biodiversity Net Gain assessment of the proposed development. The 'Biodiversity Net Gain Report & Audit Templates' by CIEEM (2021) has provided the framework for this note, and includes the feasibility and design stage of the BNG process.

Habitats within the survey area have been classified using the UK Habitat Classification v.1.1.1. The fieldwork was carried out on 27/07/2022 by John Harris MCIEEM. The site was originally surveyed in 01/07/2020 and 29/07/2020 as part of the project's Ecological Impact Assessment. This assessment used NVC to survey the habitats within the development area and to record species lists. The main development area was classified as species-poor semi-improved grassland. A 2022 survey re-assessed the conditions of the habitats within the site boundary and converted the previous survey's habitat classes to UK Habitat Classification v1.1 categories, so to allow the use of the Biodiversity Metric 3.1.

The Biodiversity Metric 3.1 has been used to calculate the habitat and hedgerow units pre- and post-development. The proposed enhancements used within the metric calculations have been applied in accordance and compliance with the Biodiversity Metric Trading Rules. The target was to achieve a 2% net gain but the proposed mitigation is anticipated to provide 14.81% gain.

. Introduction

.. Description of the project

This note has been prepared by Norfolk Wildlife Services for WSP, on behalf of their client, in relation to proposed road improvements in Hempton at the Hempton Rd / Dereham Rd intersection. The survey area is located at approximate grid reference TF 91510 29069 (shown in Figure 1).

This note provides a summary of the results of a Biodiversity Net Gain assessment of the proposed road development.

.. Purpose

The purpose of this note is to:

- Support the Biodiversity Metric 3.1 calculations;
- Classify the ecological baseline of the survey area (as shown in Figure 1) according to habitat type, distinctiveness and strategic significance;
- Ensure the habitats classified within the survey area are supported by the best data available data at the time of assessment;
- Identify the data collection methods and all potentially significant limitations to survey results and assessment;
- Calculate baseline pre- and post-development BNG units for the site based on current development proposals;
- Provide an on-site and off-site BNG strategy with the aim of providing at least a 2% net gain in units through habitat creation/enhancement/succession (shown in figures 2 and 3);

.. Relevant legislation and policy guidance

... Biodiversity Net Gain

Biodiversity Net Gain (BNG) has been defined as *'development that leaves biodiversity in a better state than before, and an approach where developers work with local governments, wildlife groups, landowners and other stakeholders in order to support their priorities for nature conservation'* (CIEEM, 2016). The *'Biodiversity Net Gain Report & Audit Templates'* by CIEEM (2021) has provided the framework for this report, and includes the feasibility and design stage of the BNG process.

BNG does not replace or supersede legislation covering protected or valued habitats and species, nor the requirements of the ecological impact assessment process.

... Good Practice Principles

Good practice principles for BNG are set out within Table 1.1 of Biodiversity Net Gain: Good Practice Principles for Development (CIEEM, 2019). Key principles include:

- Apply the *'Mitigation Hierarchy'* provided by the CIEEM Guidelines for Ecological Impact Assessment (CIEEM, 2018) and be *'additional'* by achieving outcomes that exceed existing obligations;
- Avoid losing biodiversity which cannot be off-set elsewhere (irreplaceable habitats);
- Address the inherent risk of achieving net gain;
- Make a *'measurable'* net gain contribution (calculated using The Biodiversity Metric 3.1) and ensure that limitations and assumptions are clearly identified;

- Ensure that net gain design achieves the best outcome for biodiversity (this may require both quantitative and qualitative assessment) and create a net gain legacy for long-term benefits.

... Natural Environment and Rural Communities Act 2006

The Natural Environment and Rural Communities Act 2006 (NERC) came into force on 1 October 2006. Under Section 40 of the Act, all public bodies (including planning authorities) have a legal duty to consider biodiversity in their work (i.e. a material consideration for planning applications).

... The National Planning Policy Framework

The National Planning Policy Framework (NPPF, 2021) sets out the government's planning policies for England and how these are expected to be applied. Section 15: 'Conserving and enhancing the natural environment', Paragraphs 174 to 188, sets out requirements for a broad range of topics relating to the natural environment, and specifically for the delivery of biodiversity net gain (Paragraph 179[b]).

. Methods

.. Field survey and establishment of baseline ecological conditions

The area was surveyed in 2020 and the habitats evaluated as part of the Ecological Impact Assessment (Norfolk Wildlife Services, 2020). This assessment of the site used NVC techniques to identify habitats and gather a comprehensive species list. This assessment classified the area as species-poor semi-improved grassland.

To use the Biodiversity Metric, the habitats have to be recorded according to the UK Habitat Classification System. Also, the condition of the habitats needs to be recorded in accordance to the Biodiversity Metric 3.1 habitat condition assessment guidance. The survey area was re-evaluated on 27/07/2022 by John Harris MCIEEM. Habitat assessment of the survey area was conducted based on the UK Habitat Classification System (UKHab-Professional v1.1 2020). Habitats within the site were mapped up to Primary Habitat Hierarchy Level 5 (where applicable), with a minimal mapping unit of 25m².

The following Secondary Code groups were used where applicable to describing the habitat: Habitat Mosaic; Habitat Complex; Origin; Management; Land Use; Environmental Qualifier; Species Feature and Hydrological Regime.

.. Biodiversity Metric

The BNG Good Practice Principles (CIEEM, 2019) have been applied as part of the net gain assessment for the proposal site.

... Calculation of Biodiversity Units and Net Gain

The Biodiversity Metric 3.1 is the only currently approved method for calculating the habitat values pre- and post-development. The Biodiversity Metric 3.1 is used for the calculation of Biodiversity Units (BU) and the assessment of BNG in this report.

Biodiversity net gain calculations were undertaken on 10/10/2022 by John Harris MCIEEM, based on the Baseline Habitat Plan (Figure 1) and final development plan (Figure 2).

... Condition assessment

Habitat condition was assigned using the 'Biodiversity Metric 3.1 habitat condition assessment' Excel spreadsheet and following guidance from the 'Biodiversity Metric 3.1 Technical Supplement' document (Panks *et al.*, 2021) which accompanies the Biodiversity Metric 3.1. Assessment criteria were followed for each broad habitat type, to determine the condition of each habitat for all areas surveyed.

... Strategic significance

The strategic significance was assessed by determining if habitat areas within the site occur within any strategic locations for biodiversity, form part of a designated site for nature conservation or are identified within local plans such as Ecological Networks or stepping stone features.

... Measurement of habitats

Baseline and proposed habitat areas have been measured as distinct habitat parcels using QGIS 3.18.3 Geographical Information System with overlaid georeferenced Google Earth Pro imagery and the "70065269-WSP-HGN-ZZ-DR-CH-3001_Landscape Plan" site plan (Figure 2).

... Limitations

There were no significant limitations to the survey or assessment.

. Baseline Conditions

.. Habitat classification and condition assessment

No irreplaceable habitats were identified within the red-line boundary of the proposed scheme. There are also no hedgerows or linear features within the redline boundary.

The following habitats are within the redline boundary (figure 2):

- Grassland, 1.339735ha
 - Bracken (g1c) 0.070447ha
 - Other neutral grassland (g3c) 1.269288 ha
 - Poor condition 0.034317 ha
 - Moderate condition 1.151023 ha
 - Good condition 0.083948 ha
- Heathland and Scrub, 0.071449
 - Blackthorn scrub moderate (h3a) 0.031948 ha
 - Bramble scrub (h3d) 0.023169 ha
 - Gorse scrub poor condition (h3e) 0.016332 ha
- Urban
 - Developed land; sealed surface (u1b) 0.560093 ha

The habitats g1c, h3d and u1b do not have an applicable condition assessments within the Biodiversity Metric 3.1.

.. Strategic significance

The proposal site is not located within, but is adjacent to, a designed nature conservation site (Hempton County Wildlife Site). As such, the habitat areas have been assessed as having an increased Strategic Significance within the metric. This elevated significance is 'Location ecologically desirable but not in local strategy'. The red line of the development boundary does overlap with Hempton CWS. The Strategic Significance of these areas has been assigned as 'Formally identified in local strategy'. The appropriate Strategic Significance has then been applied within the metric.

Figure 1: Baseline Habitat Plan

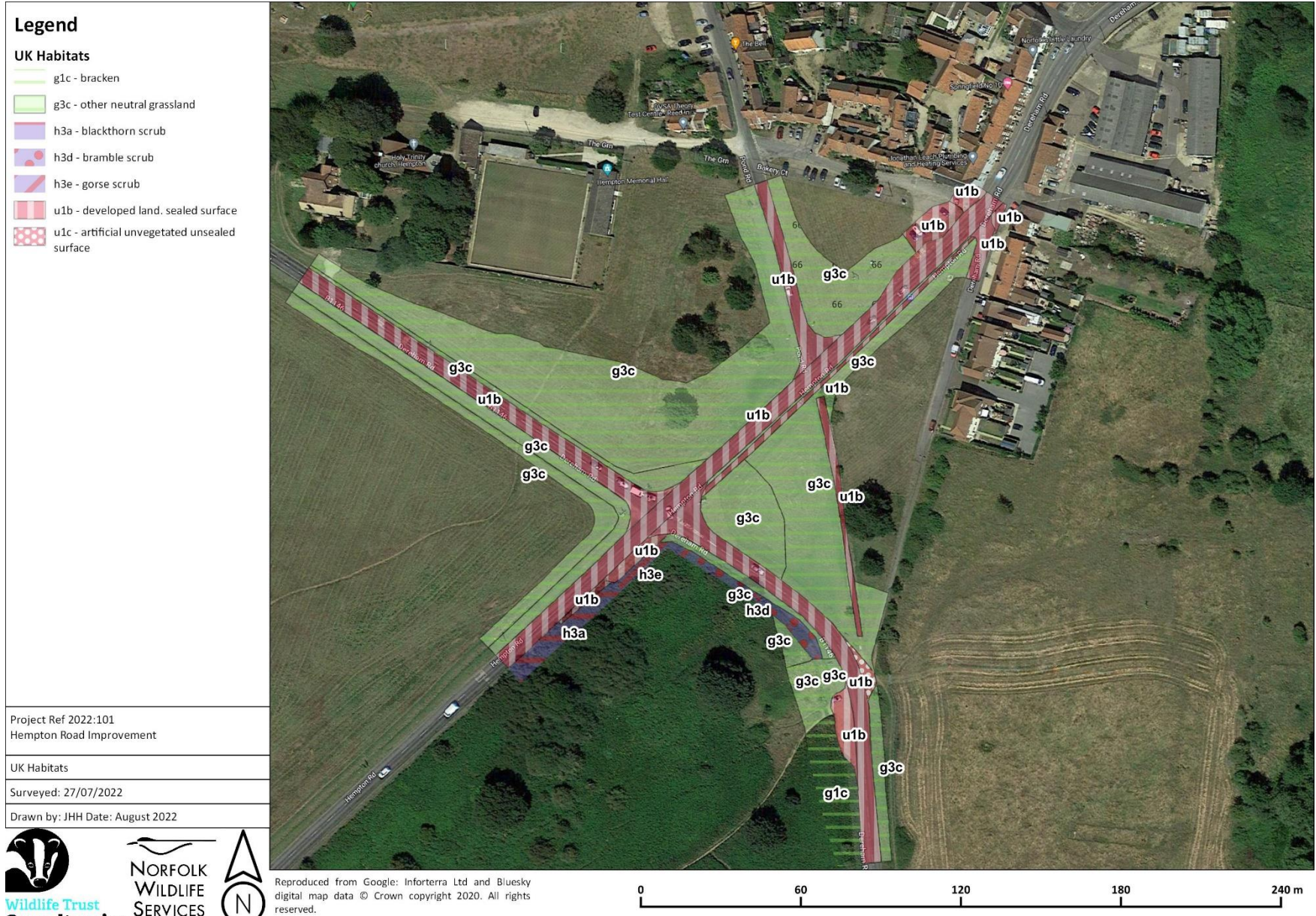
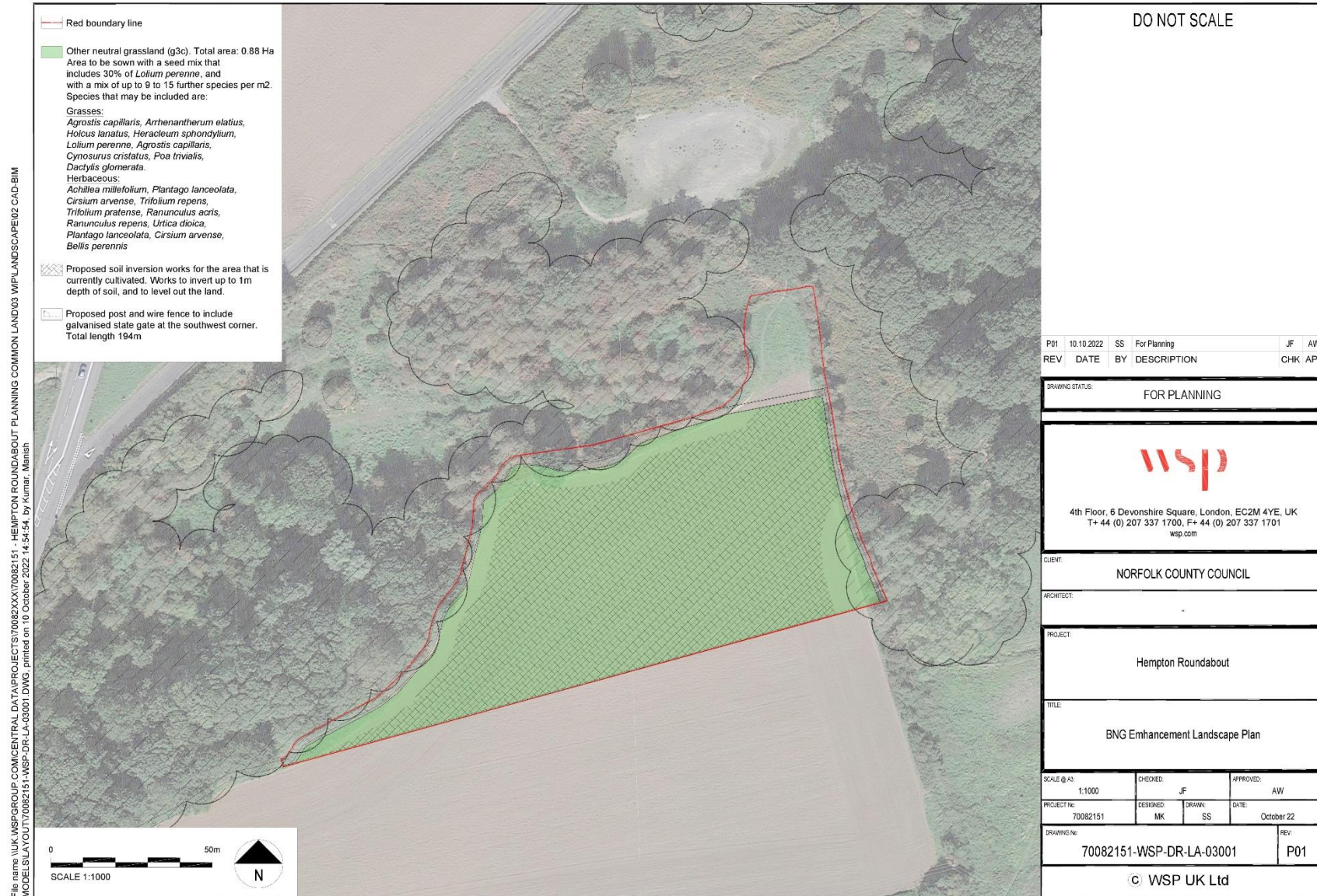


Figure 3: Proposed Offsite Habitats Plan



. BNG Metric

.. BNG Metric calculations and trading summary

The proposed habitats are detailed in this section, with the measures shown spatially in the mapping in figures 2 and 3. The trading summary for BNG habitat and hedgerow units for the described measures is shown in Table 1.

Table 1: BNG Trading summary

On-site baseline	Habitat units	12.02
	Hedgerow units	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	9.73
	Hedgerow units	0.0
On-site net % change (Including habitat retention, creation & enhancement)	Habitat units	-19.03%
	Hedgerow units	NA
Off-site baseline	Habitat units	1.94
	Hedgerow units	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	6.00
	Hedgerow units	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	1.78
	Hedgerow units	N/A
Total on-site net % plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	14.81%
	Hedgerow units	N/A
Trading rules Satisfied?	Yes	

.. Proposed habitat measures

To achieve the results above, it is proposed to create 0.7006832ha of 'other neutral' grassland in moderate condition within the site within 1 year of the development being complete. In addition to this, a 0.88 ha area of arable field is also proposed to be converted to 'other neutral' grassland in moderate condition.

This plan would provide more than the 2% BNG the council has committed to. To gain the 2% would require only 0.55ha of the area shown in figure 3.

The difficulty of this habitat creation is considered to be low, and there is the potential for areas to achieve good condition and yield additional habitat units.

.. Summary of BNG measures

The proposed habitat measures will result in a BNG of 14.81% (or +1.78 habitat units), and this is greater than the committed to enhancement of 2%. Converting 0.55ha of the arable field would give a total of 2.12% BNG, from a total net increase in habitat units of 0.25.

. Conclusions

The Biodiversity Net Gain assessment of the proposed new road layout at Hempton has calculated the habitat and hedgerow units pre- and post-development and made detailed recommendations to achieve net gain.

- It is proposed to create areas of 'other neutral' grassland both within the site boundary and off-site, with both managed to achieve at least moderate condition.
- The area of new 'other neutral' grassland habitat would provide a 14.81% gain, which is greater than the proposed +2%.

. Bibliography

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