FIELDOLOGY WORKS
RURAL GRANTS AND ECOLOGY EXPERTS

BIODIVERSITY NET GAIN REPORT

Longridge Road, Chipping, PR3 2QD.

REPORT CONTROL SHEET

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CONTENTS

1. INTRODUCTION

1.1. SCOPE & PURPOSE

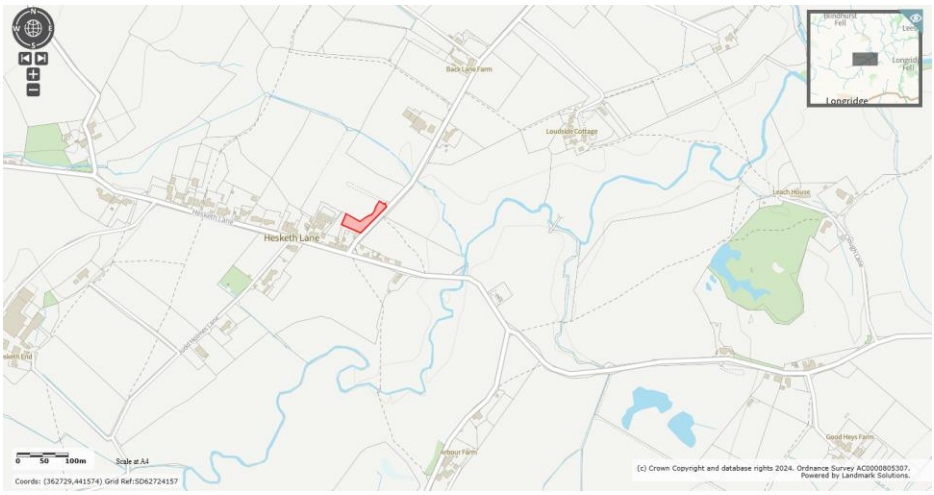
1.1.1. Fieldology Works Ltd was commissioned by Strategic Developments to prepare a Biodiversity Net Gain (BNG) Assessment for Longridge Road, Chipping, PR3 2QD .

1.1.2. The author of this report is Julie Wickington BSc (Hons), MA (Hons) at Fieldology Works Ltd. Julie is highly experienced at managing schemes and has produced many ecological reports to inform planning management plans.

1.1.3. This report has been written broadly following the Biodiversity Net Gain Report and Audit Templates (CIEEM, 2021).

1.2. LOCATION

1.2.1. Please refer to Figure 1.1 for the site location.



1.3. OBJECTIVES

1.3.1. The report has been produced to document the methods, results and conclusions of a BNG Assessment undertaken based on the proposed development for the site to fulfil the following:

- Ensure that the mitigation hierarchy has been applied;
- Identify the baseline habitats present and provide a condition assessment;
- Identify the post development habitats on site, assess the possible target condition and provide an indication of the likely importance of those habitats;
- Calculate the overall change in biodiversity score from pre- post development;
- Provide design recommendations to maximise potential net gain achievable; and,
- Provide an indication of likely outcomes and indicative cost as required.

1.4. PLANNING CONTEXT

1.4.1. Paragraph 174(d) of the revised National Planning Policy Framework (2021) states that "Planning policies, and decisions should contribute to and enhance the natural and local environment by… minimising impacts on and providing net gains for biodiversity…"

1.4.2. The Government 25-year Environment Plan states that the government will "embed environmental net gain principle for development."

2. METHODS

2.1. EXISTING HABITAT (BASELINE)

2.1.1. A site walkover and condition assessment of the site was undertaken by Julie, at Fieldology Works Ltd on 9th September 2024. The On-site Baseline Plan (Ref: SDW001) illustrates the habitats to be incorporated into the proposal.

2.1.2. The methods were based on the standard methodology as detailed by UK HAB Methodology to assess the habitats present.

2.2. PLANNING LAYOUT (POST-DEVELOPMENT)

2.2.1. The On-Site Creation and Enhancement Plan (Ref: SDW002 illustrates the habitats to be incorporated within the site.

2.3. THE STATUTORY BIODIVERSITY METRIC

2.3.1. The BNG calculation was undertaken utilising The Statutory Biodiversity Metric Calculation Tool (2024) (full calculation available in Appendix). The calculation was performed by a technically competent and experienced ecologist as detailed in British Standard BS8683 – Suitably qualified person –definition in BS8683:2020.

2.3.2. The Statutory Biodiversity Metric uses habitat features as a proxy measure for capturing the value and importance of nature. The metric takes into account the size, ecological condition, location and proximity to nearby 'connecting' features. The metric enables assessments to be made of the present and forecast future biodiversity value of a site.

2.3.3. To minimise the impacts of this proposed development and to produce a 10% net gain, the mandatory mitigation hierarchy has been adopted. This sequence is as follows:

- On-Site units - Delivered through habitat creation/enhancement via landscaping/green infrastructure.
- Off-site units - Delivered off-site through habitat creation/enhancement, including via habitat banks, with public and private landowners.
- Statutory Credits - Delivered through large-scale habitat projects delivering high-value habitats which can also provide long-term nature-based solutions.

This development can provide the biodiversity net gain On-Site.

2.4. HABITAT SCORING

2.4.1. The Statutory Biodiversity Metric supplies reference documents and user guides in which to accurately evaluate and assess the different habitats on site. The methodology for the baseline and post development calculations are demonstrated in the following sections.

2.4.2. Baseline Units - To assess the quality of a habitat and therefore calculate the units scored the Statutory Biodiversity Metric utilises three scoring factors as detailed below.

2.4.3. Condition - The condition of a habitat is assessed utilising the Condition Sheets provided for each habitat type. These list positive indicators for each habitat and indicate how many of these indicators need to be present to meet certain thresholds of condition. These condition sheets can be found in the Statutory Biodiversity Metric habitat condition assessment sheets with instructions tool Technical (Natural England Joint Publication, 2021).

2.4.4. Distinctiveness - The distinctiveness of each habitat (area and linear) is automatically assigned by the tool, based upon national records of the occurrence and rarity of each habitat (Statutory Biodiversity Metric).

2.4.5. Strategic Significance - The idea of strategic significance works at a landscape scale. It gives additional unit value to habitats that are in preferred locations for biodiversity and other environmental objectives. Strategic significance utilises published local plans and objectives to identify local priorities for targeting biodiversity and nature improvement, such Nature Recovery Areas, local biodiversity plans, National Character Area objectives and green infrastructure strategies. Upon review of the statutory and non-statutory designations using (Magic Maps) (Accessed 18.10.24), and Lancashire County Council's Local Nature Recovery Strategy, the site has been considered as "Area/Compensation not in local strategy/ No local Strategy". See Appendix for Magic Maps 500m Buffer Zone).

2.4.6. Post Development Units - Additional factors are implemented when assessing post development habitats.

- Difficulty of Creation/Enhancement;
- Temporal Risk "Time to target condition"; and,
- Spatial Risk (when offsite mitigation is necessary).

2.5. LIMITATIONS OF ASSESSMENT

2.5.1. Whilst every effort has been made to provide a comprehensive description of the site, no investigation could ensure the complete characterisation and prediction of the natural environment. The conclusions and recommendations detailed in this report are based upon the site redline and blueline boundaries (as appropriate) and the development proposals as

outlined by the client at the time of writing. Should there be any changes to the site redline boundary or development proposals at a later stage, this assessment should be reviewed to determine whether any amendments or additional survey work is required.

2.5.2. Habitat areas (predevelopment) have been measured using online mapping, and therefore will not be completely accurate.

2.5.3. The Site Layout Plan used for post development areas is indicative in nature and does not constitute a detailed landscape plan.

3. BASELINE CONDITIONS

3.1. CONDITION ASSESSMENT

3.1.1. The following section summarises the condition assessment based on the condition sheets present within the Statutory Biodiversity Metric.

MODIFIED GRASSLAND

3.1.2. Approximately 0.1764ha of Modified Grassland (g4, 110,107, 601 and 614 (silage and haylage, mown and collected, permanent agricultural grassland and minimum tillage) is located within the site. It was assessed as scoring a 'moderate' condition based on passing 4 criteria.

- The majority of the ruderal plant species account for more than 95% of the total habitat area and the vegetation height is not varied.
- Species include: Perennial Rye Grass (*Lolium perenne*), Timothy (*Phleum pratense*), Creeping Bent (*Agrostis stolonifera*), Couch grass (*Elymus repens*), Broad-leaved Dock (*Rumex obtusifolius*), Spear Thistle (*Cirsium vulgare*), Common Nettle (*Urtica dioica*).
- There is no scrub present and physical damage due to mowing and nutrient application is present, creating bare earth and a gappy sward. There are no non-native invasive species.

NATIVE HEDGEROW

3.1.3 There is 0.072km of native hedgerow (h2a, 116 (flailed) is located on the site. It was assessed as scoring a 'poor' condition based on failing more than 4 attributes.

The height and width of the hedgerow is less than 1.5m and there were no gaps on the hedgerow base and canopy. There is evidence of nutrient enrichment at the base of the hedgerow as seen by the plant species present and there was no/very little perennial herbaceous species. The hedgerow is free of non-native invasive and neophyte species, species present include: Predominantly >80% Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*) and Elderberry (*Sambucus nigra*). Finally, there is evidence of excessive hedgerow cutting and the buffer zone was recently mown to the hedgerow base.

SUMMARY

3.1.4 Table 3.1 summarises the baseline habitats, condition assessment and area size.

Table 3.1 Habitat Type and Condition Assessment (pre-development)

HABITAT TYPE	CONDITION ASSESSMENT	UNIT
Modified Grassland	Moderate	0.1764 Ha
Native Hedgerow	Poor	0.074 Km

3.2. RETAINED AND ENHANCED HABITATS

3.2.1. Approximately 0.1245 Ha of Modified Grassland will be retained and managed to sustain 'Moderate' Condition. All of the native hedgerow will be enhanced to 'moderate' condition.

3.3. LOST HABITATS

3.3.1. 0.0516 Ha of Modified Grassland land will be lost in this project.

3.4. PRE- DEVELOPMENT HABITAT BASELINE

3.4.1. Please refer to Table 3.4 summarising the Habitat Baseline for the calculation, demonstrating habitats to be retained, enhanced and/or lost.

Table 3.2 Habitat Baseline

	On site baseline	Retained	Enhanced	Lost
Habitat (Area) Units	0.71	0.50		0.21
Hedgerow (Linear) Units	0.14	0	0.14	0

4. HABITAT CREATION

4.1. INTRODUCTION

Please refer to the On-Site Habitat Creation and Enhancement Plan (SD002) for full details of the proposed development and habitats.

The following sections detail the condition assessments that the habitats will be required to meet to achieve their target condition. This can be achieved through the production of a Habitat Management and Monitoring Plan with a commitment to maintain the BNG for at least 30 years. The proposed on-site enhancements are not classed as 'significant on-site enhancements' and it is deemed that a legal agreement is not required for this proposal. However, the LPS may have require a legal agreement for wider planning policy reasons.

4.2. MODIFIED GRASSLAND

4.2.1 A total of 0.1245 Ha of modified grassland will be retained in the scheme. They will manage this as a "Moderate" habitat condition following this condition criteria:

- The parcel represents a good example of its habitat type, dominated by a few fast growing grasses ((Rye-grasses (*Lolium Spp*), Timothy (*Phleum pratense*), Cock's-foot (*Dactylis glomerata),* rested Dog's Tail (*Cynosurus cristatus*) and Yorkshire Fog *(Holcus lanatus*)) and, typically 9 or more vascular plant species present per m sq.
- Sward height is varied (at least 20% of the sward is less than 7cm and at least 20% is more than 7 cm) creating microclimates that provide opportunities for insects, birds and small mammals to live and breed.
- Grass over greater than 75%, cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.
- Cover of bracken (*Pteridium aquilinum*) is less than 20% and cover of scrub (including bramble (*Rubus fruticosus agg*.) is less than 5%.

4.3 RURAL TREE

4.3.1 A total of 19 new Rural Trees are proposed to be planted within the scheme. These could comprise Sessile Oak with other native broadleaves such as Pedunculate Oak, Holly, Birch and Crab Apple, the trees will be "small sized" to cover a total area of 0.0774 ha. They will target a "Moderate" habitat condition by seeking to meet the following condition criteria:

- The tree is mature (or more than 50% within the block are mature).
- 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.
- Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.

- More than 20% of the tree canopy area is oversailing vegetation beneath.

4.4 NATIVE HEDGEROW

4.4.1 A total of 0.072 Km of native hedgerow will be enhanced as part of the scheme. It is recommended that this can be achieved by meeting the following criteria:

- The height and width of the hedgerow is > 1.5m.
- Gaps in the hedgerow canopy make up <10% of the total length and there are no gaps in the canopy >5m. The gap in the hedge base (the gap between the ground and base of the canopy) is ,.05m for >90% of the hedgerow length.
- There is a >1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length. Plant species indicative of nutrient enrichment of soils do not dominate with <20% cover of the area of undisturbed ground.
- More than 90% of the hedgerow and undisturbed ground is free of invasive non-native plan species and >90% of the hedgerow or undisturbed ground is free of damage caused by human activities.

4.5 BIODIVERSE GREEN ROOF

4.5.1 A total area of 00105 Ha is proposed to be a biodiverse green roof. A biodiverse green roof should have a ratio of 60:40 between wildflower and sedum species; with the species richness of dry grassland species including > 25 wildflower species. A biodiverse green roof should include other habitat features (for example, bricks for solitary nesting bees or log)s.

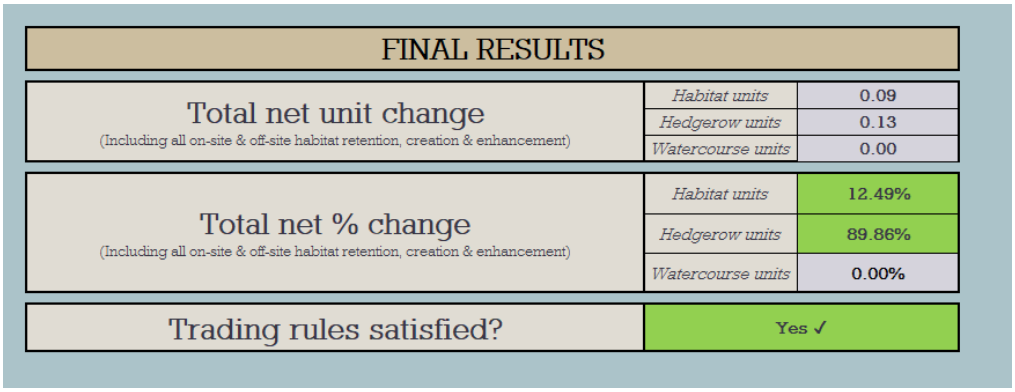
- The specification for a biodiversity green roof includes a depth of substrate (not including a blanket or turf) that varies between 80 – 150mm, with at least 30% of the roof at 150mm deep; and
- Is planted and seeded with a wide range of dry grassland wildflowers and Sedum species.

5 SUMMARY

5.2 Metric

This report and the Statutory Biodiversity Metric submitted have demonstrated that the proposed habitat creation create a net gain of biodiversity within the site of +12.49% in habitat units and an increase in Hedgerow Units of 89.88%. The trading rules have been satisfied.

Figure 5.1 On site net % changed



FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	0.09
	Hedgerow units	0.13
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	12.49%
	Hedgerow units	89.86%
	Watercourse units	0.00%
Trading rules satisfied?	Yes ✓	

5.2 NEXT STEPS

To achieve the BNG within the grassland site a change in habitat condition from 'poor' to 'moderate' is required. It is recommended that the following steps are undertaken to maintain the enhancement and creation of these habitats.

5.2.1 HABITAT MANAGEMENT PLAN

An adequate management plan is to be written and initiated to benefit the Site, comprising the following methods:

GRASSLAND

1. A 'conservation style' cut of the grassland once a year at during September. Removal of cuttings is key, as the current Site. Old cuttings add nutrients back to into soil, enabling coarse grasses to become dominant at the expense of nutrient poor loving species indicative of other lowland acidic grassland swards. Therefore, the removal of cuttings after a cut is to be a management priority and a core part of achieving 'moderate' condition.
2. A regular once yearly cut should also reduce scrub build-up. By cutting in September, it reduces the opportunity for invasive species to flourish as much due to the reduced temperatures and sunlight levels. This, in combination with step 3 below, creates the opportunity for native flower species to colonize more easily the following year.

3. Remove invasive scrub over winter. Whilst the grassland is currently in poor condition, it could quite easily be enhanced/created by removing the invasive scrub patches that may encroach from the surrounding areas. The scrub removal, targeting species such as bramble, as well as tree saplings, should be undertaken using manual or brush cutters in November. The scrub should be removed to as close to ground level as is possible.
4. Timings of the cuts are also important. Cutting is to occur late enough in the season to enable all forbs to flower and set seed. Earlier cuts within April, May or June are not to occur, as these may hinder flowering and subsequent seed set of forbs present on Site. It should be noted that if subsequent management differs from the suggested actions above, then the grassland site is unlikely to obtain the improved habitat condition score of 'moderate' and subsequently the Site is unlikely to achieve the necessary 10% BNG required.

6 BIBLIOGRAPHY

- CIEEM (2021) Biodiversity Net Gain Report and Audit Templates.
- DEFRA (2024) The Biodiversity Metric 4: Auditing and Accounting for Biodiversity: Metric
- DEFRA (2024) The Biodiversity Metric 4: Auditing and Accounting for Biodiversity. Condition Assessment Sheets (Excel Format)
- Biodiversity Net Gain - Strategic Significance (arcgis.com)

7 APPENDICES

File references for attachments

Statutory_Biodiversity_Metric_Condition_Assessments-_Feb24 SD

The_Statutory_Biodiversity_Metric_Calculation_Tool_-_Macro_disabled_tool_SD.xlsx

On Site Baseline Ref SD001

On Site Creation & Enhancement Ref SD002

Magic Maps 500m Buffer Zone.

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