



Clayton Ecology

Biodiversity Net Gain Assessment

Manor Hill Farm

Desford

May 2024

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SUMMARY

This report has been prepared by Clayton Ecology Ltd on behalf of the Site owner: Preston Feedstocks Ltd. The report provides the results of a biodiversity net gain assessment of Manor Hill Farm, Leicester Lane, Desford, Leicestershire LE9 9JJ.

The proposal is to create a 50m x 100m asphalt pad, an area of artificial surface and changes to the pathway/road on current arable land.

The attached and supporting Biodiversity Net Gain Metric identifies that the creation of the tarmac pad and artificial surface will result in net loss of biodiversity in the absence of mitigation and compensation.

The habitat that will be lost comprises of cropland and a small section of grassland, that loss will result in a total of 2.29 Habitat units within the metric without any compensation actions. The total percentage loss of habitat within the metric once the landscaping scheme proposed does achieve the statutory 10% required.

The habitat units delivered within this Biodiversity Net Gain assessment are:

Habitat Units: a change from a 2.29 unit loss to a net gain of 0.26 (positive; equivalent to a gain of 11.51%).

In order to achieve the biodiversity net gain target of 10% from the project a total of 0 habitat units is required, the proposals post development deliver a total of 2.62 habitat units an overall 11.51% gain.

The trading rules within the Statutory calculation tool have been satisfied with the proposed development plan.

All of the proposals will require a detailed management plan and adaptive monitoring for a minimum of 30 years from the implementation of those habitats as per guidelines.

1. INTRODUCTION

This report has been prepared by Clayton Ecology Ltd on behalf of Preston Feedstocks Ltd. The report provides the results of a biodiversity net gain assessment of a section of land at Manor Hill Farm, Leicester Lane, Desford, Leicestershire LE9 9JJ. The survey area is centred at Ordnance Survey grid reference, SK 48804 03379.

The proposal is to create an asphalt pad on current arable land.

The evidence is presented in the form of Statutory Biodiversity Metric calculations for the site based on a condition assessments of the habitats on-site.

The location of the survey site in relation to wider environment is provided in Figure 1 below:



Figure 1: The area to be impacted highlighted in red, satellite imagery courtesy of Google Earth.

2. SURVEY METHODOLOGY

2.1 Habitat Condition Survey to inform BNG Calculations

To inform the Biodiversity Net Gain (BNG) Calculations, the habitat types and the condition assessments of the habitats. The habitats on the site were assessed and categorised in order to provide baseline information and subsequent interpretation of the ecological value of the site.

2.2 BNG Calculations

The latest version of the Statutory Metric (DEFRA, 2024) has been used to calculate the baseline value of the site (before development) and the post-development value in order to calculate the Total Net Unit Change. The broad habitat type 'Individual trees' has been used where a tree (or a group of trees) over 7.5cm in diameter at breast height (DBH) does not meet or contribute towards the definition of another broad habitat type. The tree sizes and areas have been assessed using the guidelines as shown below in Table 1.

Size class	Diameter at breast height (cm)	Metric area equivalent (ha)
Small	greater than 7cm and less than or equal to 30cm	0.0041
Medium	greater than 30cm and less than or equal to 60cm	0.0163
Large	greater than 60cm and less than or equal to 90cm	0.0366
Very Large	greater than 90cm	0.0765

Table 1: Tree size classes and area equivalents taken from Statutory Metric guidelines.

2.3 Minimum Mapping Units

The minimum mappable area used is equal to or above 25 m², the minimum mappable length of a linear feature is equal to or above 5 m.

2.4 Survey constraints

The survey was undertaken outside of the optimal period for habitat surveys (April to October); however, given the nature of the habitats present, it is considered that sufficient botanical information was collected to categorise the habitats and identify potential features of value.

2.5 Personnel

The preliminary ecological appraisal was undertaken by Clayton Ecology Ltd on the 5th March 2024. The survey was carried out by Mr Nick Clayton BSc (Hons) ACIEEM. Nick has extensive experience in habitat survey and condition assessments for biodiversity net gain and is appropriately qualified for the surveys based on the CIEEM competencies (CIEEM, 2017).

2.6 National Policy

The Environment Act 2021

This legislation and the requirement for mandatory biodiversity net gain of new developments came into force on the 12th of February 2024. As such, all

developments (aside from those exempt) are required to demonstrate a 10% biodiversity net gain.

National Planning Policy Framework

The National Planning Policy Framework (NPPF) (2023) guides Local Planning Authorities (LPAs) when developing their planning policies and considering planning applications affecting protected habitats, sites and species.

Planning Policy Statement 15: Conserving and enhancing the natural environment of the NPPF recognises that, planning policies and decisions should contribute to and enhance the natural and local environment. Section D of Paragraph 180 states:

“Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures; In respect of the natural environment.”

Section B of Paragraph 185 states:

“Promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity”.

Section D of Paragraph 186 also states:

“Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate”.

2.7 Local Policy

Hinckley and Bosworth Borough Council is the local authority, the Climate Change and Biodiversity Strategy 2024 - 2028 was therefore used to understand the local biodiversity targets. A screenshot 1 below shows that in section 5 of the strategy that tree planting is one of the key priorities within the borough. In addition the local plan, that it is under consultation only (not adopted) Hinckley and Bosworth Draft Local Plan 2020 – 2039, section NAT08, screenshot 2 show that development proposals should provide a net gain for biodiversity.

Maximising carbon storage and sequestration, including by:

- i. Increasing tree cover across the borough;***
- j. Incorporating green infrastructure, such as trees and woodland, that helps to sequester carbon from the atmosphere; and***

Screenshot 1: The local policy from Hinckley and Bosworth Borough Council.

Development proposals must demonstrate how they conserve and enhance features of nature conservation and geological value including proposals for their long-term future management.

All development should provide a net gain in biodiversity where possible. As a minimum, there should be no net loss of biodiversity. All proposals should be supported by evidence to demonstrate a biodiversity net gain using the recognised biodiversity accounting metric.

Major developments in particular must include measures to deliver biodiversity gains through opportunities to:

- a) restore and enhance existing features on site***
- b) create additional habitats and ecological networks***
- c) The linking of existing habitats to create links between ecological networks and where possible, with adjoining features.***

Screenshot 2: The draft Hinckley and Bosworth Draft Local Plan 2020 – 2039, section NAT08.

3. SURVEY RESULTS



Figure 2: The baseline assessment of the area impacted.

3.1 On-site Habitats and Habitat Condition Assessment Results

The area to be impacted is generally square in shape, situated to the east of Leicester Lane (B582), to the north of the Site is a series of commercial buildings on all other directions by agricultural land dominates the landscape. The impact Site is approximately 1.21 ha. The majority of the Site was dominated by agricultural land currently covered in a temporary grass cover, a stream runs along the southern end of the Site with a mature riparian woodland (please note this zone is outside of the impact area and are therefore not included in the metric assessment).

3.1.1 Temporary grass and clover leys– c1b (Map indicator 1).

Species comprised a grass cover planted in rows dominated by Perennial ryegrass *Lolium spp.*, other species included Annual meadow grass *Poa annua* and rare Rough meadow grass *Poa trivialis*. Low levels of forbs were also found at the all less than 1% cover and included Dandelion *Taraxacum agg.*, Red clover *Trifolium pratense*, Common mouse-ear *Cerastium fontanum*, Common vetch *Vicia sativa*, Hairy bitter-cress *Cardamine hirsute*, Shepherd's-purse *Capsella bursa-pastoris*, Groundsel *Senecio vulgaris*, and Prickly sow-thistle *Sonchus asper*.



Photograph 1: Temporary grass and clover leys looking south west from the upper north east

3.1.2 Modified grassland – g4 (Map indicator 2).

Modified grassland represents the smallest area of the Site, which is a small section at the north west. Species comprised Perennial ryegrass *Lolium spp.*, Red fescue *Festuca rubra*, Cock's foot *Dactylis glomerata*, Dandelion, White clover *Trifolium repens*, Spear thistle *Cirsium vulgare*, Creeping buttercup *Ranunculus repens*, Dock species *Rumex sp.*, Cow parsley *Anthriscus sylvestris*, Nettle *Urtica dioica*, and Common mouse-ear.

Condition Assessment Criteria		Condition Achieved (Y/N)
A	There are 6-8 vascular plant species per m ² present, including at least 2 forbs (this may include those listed in Footnote 1). Note - this criterion is essential for achieving Moderate or Good condition.	N
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	N
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble <i>Rubus fruticosus</i> agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Y
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	N
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens) ² .	N
F	Cover of bracken <i>Pteridium aquilinum</i> is less than 20%.	Y
G	There is an absence of invasive non-native plant species ³ (as listed on Schedule 9 of WCA4).	Y
Essential criterion 1 achieved - NO		N
Number of criteria passed		3
Condition Assessment Result		Poor

Table 2: Grassland (poor) condition assessment taken from the Statutory Biodiversity Metric Condition Assessments- Feb24 (2)



Photograph 2: An example of the of sward within the small section of grassland.

3.1.3 Artificial unvegetated; unsealed surface – u1c (Map indicator 3).

There is a worn road with a substrate of MOT Type 1 or similar running from the north of the Site to the south.

3.2 Baseline Total Habitat Units

Map ref	Baseline Habitat Off-site	On and	Condition assessment	Area (ha)	Habitat Units (HBU)
On-site					
1.	Temporary grass and clover leys		N/A	1.1208	2.24
2.	Modified grassland		Poor	0.0118	0.05
3.	Artificial unvegetated; unsealed surface		N/A	0.0736	0.00
Total on-site				1.21	2.29

Table 3: A table showing the baseline values of habitats to be affected by the proposals.

4. PROPOSED DESIGN



Figure 3: The proposals for the impact Site.

4.1 On-site Habitat Creation

4.1.1 Developed land, sealed surface - (Map indicator 1)

These areas include the new tarmac pad.

Minimum Targeted Condition: N/A

4.1.2 Artificial unvegetated, unsealed surface – u1c- (Map indicator 2)

These areas include the new redirected road/pathway and an area of artificial surface.

Minimum Targeted Condition: N/A

4.1.3 Unvegetated garden (Tree planting area) - (Map indicator 3)

Unvegetated garden

Minimum Targeted Condition: N/A

This area will be used to plant 175 trees. The area beneath the trees is not counted in the metric due to the changes to the understorey caused by planting of the trees. This will be moving towards a woodland understorey however; this habitat type cannot be counted within the metric and therefore will not meet the metric guidelines. To minimise double counting habitat units, a habitat type without a value is used i.e. unvegetated garden.

The Woodland Trust 2024 states "Typical planting densities include a tree every 3 metres (1,100 trees per hectare) or a tree every 2.5 metres (1,600 trees per hectare).".

A minimum of 175 small trees to be planted at the west of the site is shown in Figure 3 above. This is in line with typical planting densities of one tree every 3 metres (1,100 trees per hectare).

The management strategy will be provided in a separate document; however the targeted condition will be at least Moderate.

These trees will be native and of local provenience from a reputable supplier.

There will be a total of 175 no. trees planted.

DEFRA Minimum Targeted Condition: Moderate

Condition Assessment Criteria		Criterion passed (Yes or No)
A	The tree is a native species (or at least 70% within the block are native species).	Target
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Target

C	The tree is mature (or more than 50% within the block are mature) ¹ .	Unlikely to be achieved within the time period.
D	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.	Target
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	Unlikely to be achieved within the time period.
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Target
Number of criteria passed		
Condition Result (out of 5 criteria)	Assessment Score	Score Achieved x/√
Passes 5 or 6 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	
Passes 2 or fewer criteria	Poor (1)	

Table 4: A table showing the individual trees condition assessment taken from the Statutory Biodiversity Metric Condition Assessments- Feb24 (2)

4.2 Proposed Total Habitat Units

Map ref	Proposed Habitat On-site	Area retention category	Proposed Condition assessment	Area (ha)	Habitat Units (HBU)
On-site					
1.	Developed land; sealed surface	Created	N/A	0.4191	0.00
2.	Artificial unvegetated; unsealed surface	Created	N/A	0.5889	0.00
3.	Unvegetated garden	Created	N/A	0.1864	0.00
3.	Individual Trees – Minimum of 175	Created	Moderate	0.7125	2.51
Total on-site (including trees)				1.91	2.51

Table 5: A table showing the proposed values of the created habitats.

5. BIODIVERSITY NET GAIN RESULTS

5.1 Habitats

Habitat Units: Total Net Unit Change of 0.26 (positive; equivalent to a gain of 11.51%).

5.2 Habitats units required to meet target

In order to achieve the biodiversity net gain target of 10% (2.52 HBU overall) from the project a total of 0 habitat units is required. A total of 2.52 units is achieved post development which is an overall gain of 11.51%.

5.3 Trading Rules

The trading rules within the DEFRA calculation tool have been satisfied with the proposed development plan.

Please see the excel document for full calculation details labelled:

**V1_Manor Hill Farm_The_Statutory_Biodiversity_Metric_Calculation_Tool_-
_Macro_enabled_02.24**

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