



BIODIVERSITY NET GAIN REPORT:

MENZIES WOOD FARM, OKEHURST LANE, BILLINGSHURST, WEST SUSSEX, RH14 9HR

For: **Mr M. Betts**

Menzies Wood Farm

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EXECUTIVE SUMMARY

Proposed development

- Development proposals involve the re-configuring of the existing site that currently supports three buildings used for storage and light industry.

Biodiversity Net Gain

- The proposed development meets the required 10% net gain in Habitat Units (12.60% net gain).

Enhancements

- Habitat Unit net gain has been achieved through the creation of 0.22 ha. of lowland mixed deciduous woodland. The woodland needs to meet the condition requirement of 'moderate' to create sufficient additional habitat units and to meet the requirement of the trading rules. This is dependent upon a 30 year management commitment.
- Other existing habitats that will remain, such as modified grassland, other neutral grassland and native hedgerows with associated bank or ditch will need to be managed in a way that achieves existing conditions to satisfy the Trading Summary within the matrix.

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1.0 INTRODUCTION

- 1.1 Wychwood Environmental Ltd undertook a full Preliminary Ecological Appraisal (PEA) of the site in June 2024. Wychwood Environmental Ltd was subsequently instructed to undertake a Biodiversity Net Gain Assessment to determine the biological impact of the proposed development of the site at: Menzies Wood Farm, Okehurst Lane, Billingshurst, West Sussex, RH14 9HR.
- 1.2 Best practice guidelines require that this report be completed by a suitably qualified ecologist as defined in BS42020:2013. The author of this report meets that definition.
- 1.3 Development proposals include the re-configuring of the existing site that currently supports three buildings used for storage and light industry. The proposed development will retain an existing open sided barn within the centre of the site, with the demolition and replacement of the two other existing buildings. The site measures approximately 1.67 ha.
- 1.4 Biodiversity Net Gain (BNG) is an approach to development that leaves biodiversity in a better state than it was pre-development. The process relies on the mitigation hierarchy, which sets out that everything possible must be done to firstly avoid, secondly minimise and thirdly restore and rehabilitate losses of biodiversity on site.
- 1.5 This report was completed using the Defra Metric (Natural England, 2022)¹ to quantify the biodiversity baseline for the site and calculate the post-development biodiversity unit for the proposed scheme following the best practice guidelines as set down by CIRIA (2019).
- 1.6 Section two of this report describes the methodologies used for determining Biodiversity Net Gain. Section three and four provides the results of the assessment, section five provides discussion and implications for development.

¹ <https://www.gov.uk/government/news/biodiversity-30-metric-launched-in-new-sustainable-development-toolkit>

2.0 METHODOLOGY

Baseline Condition

- 2.1 The baseline condition of the site was established from data collected during the walk over survey Wychwood Environmental Ltd, the use of historical aerial imagery from Google Earth², and Defra's Magic Map online software, following national guidelines (JNCC, 2010)³. The walk over survey was undertaken on 24th June 2024.
- **Habitat Units** - All habitats (excluding hedgerows) within the footprint of the development, were assessed during the walk over survey following the Habitat Condition Assessment (HCA) guidelines (Natural England, 2021b).
 - **Hedgerow Units** - Any hedgerow or line of trees on site was assessed during the walk over survey following Hedgerow Regulations best practice methodology.
- 2.2 Habitat area or length, condition and distinctiveness were used to calculate baseline Biodiversity Units, providing a measure of the biodiversity pre-development. This calculation is in accordance with Defra's technical paper, guidance for developers and guidance for offset providers (Defra 2012 a, b and c). This is the standard metric used for calculating BU and LU in the UK.
- 2.3 Habitat Area and Hedgerow Length – The size of each habitat or hedgerow is calculated using the area measuring tool within Defra Magic Maps application⁴.
- 2.4 Habitat Distinctiveness – A pre-assigned value is given by the Biodiversity Metric 1.0.3 when inputting the specific Habitat Type using the UK Habitat Classification System (UKHab, 2020).
- 2.5 Habitat Condition Assessment (HCA) – Using “The Biodiversity Metric 1.0.3 - Auditing and Accounting for Biodiversity - Technical Supplement” (Natural England, 2019b), the condition of each habitat was assessed. Where there were gaps in primary HCA data, for example from limited access to land, professional judgement was applied, to retrospectively, assess the habitat condition.

² <https://earth.google.com/web/>

³ <https://hub.jncc.gov.uk/assets/9578d07b-e018-4c66-9c1b-47110f14df2a>

⁴ <https://magic.defra.gov.uk/MagicMap.aspx>

Post-development Condition

- 2.6 Post-development biodiversity units are calculated in a similar way to baseline biodiversity units. However, in addition to area, condition and distinctiveness of the proposed habitats, the key risks to delivery are taken into account through the incorporation of risk factors. The Defra metric sets out three risk factors: distance from the Scheme (Spatial Risk); time taken for created or enhanced habitats to reach target condition (Temporal Risk); and how difficult it is to create or enhance any given habitat (Delivery Risk).

Limitations

- 2.7 An initial site assessment such as this is only able to act like a 'snapshot' to record any flora or fauna that is present at the time of the survey. It is, therefore, possible that some species may not have been present during the survey but may be evident at other times of the year.
- 2.8 It is important to note that a scheme-wide biodiversity net gain or no net loss cannot be achieved for the scheme as a whole, if there are negative impacts on irreplaceable habitats. However, this site contained no irreplaceable habitats.
- 2.9 Defra guidance dictates that any compensation offered to address impacts on irreplaceable habitats should be agreed directly with Natural England (NE). The baseline habitat which is identified for such compensation and the biodiversity units resulting from this compensation should also be excluded from biodiversity unit calculations.
- 2.10 Following Defra guidance, impacts on irreplaceable habitats and their compensation have been excluded from this biodiversity unit calculation.
- 2.11 Biodiversity Impact Assessment only deals with habitat and as such this report does not cover any of the requirements of the proposed development arising from potential impacts on protected species and designated sites.

3.0 BASELINE

Baseline Habitats

- 3.1 The Biodiversity Metric 3.1 uses the UK Habitat Classification System (UKHab, 2020). Table 1 below gives the habitats identified as being present on site during the Ecological Appraisal using the Phase 1 Habitat Classification and the relevant conversion to the UK Habitat Classification System.

Table 1. Habitats on site.

Phase 1 Category	UKHAB Category
Building/Hardstanding	Developed Land; Sealed Surface
Amenity grassland	Modified grassland
Semi improved neutral grassland	Other neutral grassland
Ornamental planting	Introduced shrub
Native hedge – species poor	Native hedgerow - associated with bank or ditch

Developed Land

Sealed Surface

- 3.2 The site supports three buildings: The central open sided barn, the workshop and the open barn adjoining the office building. The central barn will be retained, and all other structures will be removed. The site is dominated by concrete hardstanding throughout. Areas to the east of the site support a short sward of grasses and other small herb species over the top of the concrete

Modified grassland

- 3.3 The access track to the south of the site is adjoined to the east by an area of tightly mown lawn.

Native hedgerow - associated with bank or ditch

- 3.4 The site is fringed mostly by a substantial hedge supporting native species including oak *Quercus robur*, hawthorn *Crataegus monogyna*, hazel *Corylus avellana*, blackthorn *Prunus*

spinosa and ash *Fraxinus excelsior*. The site is fringed on most sides by an earth bank to the inside of the hedge.

Other neutral grassland

- 3.5 This earth bank is vegetated supporting the following species: ox eye daisy *Leucanthemum vulgare*, nettle *Urtica dioica*, rye grass *Lolium perenne*, common bent *Agrostis capillaris*, bramble *Rubus* sp., herb robert *Geranium robertianum*, Yorkshire fog *Holcus lanatus*, narrow leaved dock *Rumex acetosa* and dogwood *Cornus sanguinea*.

Introduced shrub

- 3.6 There is a block of vegetation fringing the site to the west of the workshop. This vegetation appears to be a species of ornamental coniferous tree.

Baseline Condition Assessment

- 3.7 The habitats on site were assessed against the criteria in relevant Habitat Condition Assessment Sheet, the results of which are shown in Table 2 below.

Table 2. Habitat Condition Assessment.

Habitat	Condition Criteria													Habitat Condition
	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	
Developed Land; Sealed Surface	No Assessment Required – Condition N/A													N/A
Introduced shrub	No Assessment Required – Condition N/A													N/A
Modified grassland	n	n	y	y	y	y	y	-	-	-	-	-	-	Moderate
Other neutral grassland	N	y	Y	N	Y	y	-	-	-	-	-	-	-	Moderate
Native hedgerow - associated with bank or ditch	y	N	Y	Y	Y	N	y	y	-	-	-	-	-	Moderate

Irreplaceable Habitat

- 3.8 The site does not contain any irreplaceable habitats.

Strategic Significance

Habitats

- 3.9 None of the habitats recorded during the Ecological Assessment are listed as Habitats of Principal Biological Importance on Section 41 of the NERC Act 2006 nor are they listed as Priority Habitats on the national BAP.

Summary of Baseline Units

- 3.10 The Baseline Habitat Units for the site are given in Table 3 below.

Table 3. Baseline Habitat Units.

UKHAB Category	Area (Ha)	Habitat Units Delivered
Developed Land; Sealed Surface	1.25	0.00
Modified Grassland	0.29	1.14
Other Neutral Grassland	0.12	0.92
Introduced Shrub	0.17	0.03
Native hedgerow - associated with bank or ditch	0.43 (km)	0.43
Total Habitat Units		2.14
Total Hedgerow Units		3.77

4.0 PROPOSED

- 4.1 Proposed plans within Menzies Wood Farm landscape plan produced by Phillips Surveyors No. BP-01 (Sep 2023) (Figure 2) were used to calculate the Biodiversity Units post-development.

Proposed Habitats

- 4.2 From the Proposed Block Plan (Figure 2) the following Habitats have been identified as being created or retained on site post-development:
- Developed Land Sealed Surface
 - Modified Grassland
 - Other neutral grassland
 - Introduced shrub
 - lowland mixed deciduous woodland
 - Native Hedgerow – associated with ditch or bank

Developed Land Sealed Surface

- 4.3 The central barn will be retained, and all other structures will be removed. There will be two replacement structures built to the south of the site and to the east of the site. There will be a net reduction in built structures. The hardstanding will be retained almost in its entirety, with the exception of the western boundary that will be lost to the proposed woodland block.

Modified Grassland

- 4.4 This habitat to the south of the site will be retained in its entirety.

Introduced Shrub

- 4.5 This habitat to the western boundary of the site will be retained in its entirety.

Other Neutral Grassland

- 4.6 This habitat will be retained in its entirety.

Native Hedgerow – Associated with Bank or Ditch

- 4.7 This habitat will be retained in its entirety.

Lowland Mixed Deciduous Woodland

- 4.8 This habitat will be created upon the western boundary of the site, covering approximately 0.22 ha. The habitat will be planted using a mixture of at least five native, deciduous species. This habitat will achieve a condition of at least moderate and will require a 30+ year management strategy.

Proposed Habitat Condition Assessment

- 4.9 The retained and created habitats (proposed habitats) were assessed against the Habitat Condition Assessment Sheet and a likely condition was assigned based those criteria that could be reasonably assumed to be achievable. All retained habitats will be retained within their pre-development condition.
- 4.10 Table 4 below show the Condition Assessment for the retained and created habitat, with Table 5 showing the management required to achieve the appropriate net gain requirements.

Table 4. Proposed Habitat Condition Assessment.

Habitat	Condition Criteria													Habitat Condition
	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	
Developed Land; Sealed Surface	No Assessment Required – Condition N/A													N/A
Modified grassland	Y	n	y	y	y	y	y	-	-	-	-	-	-	Moderate
Introduced shrub	No Assessment Required – Condition N/A													N/A
Native Hedgerow with ditch or bank	y	N	Y	Y	Y	Y	y	y	-	-	-	-	-	Moderate
Other neutral grassland	N	y	Y	N	Y	y	-	-	-	-	-	-	-	Moderate
lowland mixed deciduous woodland	A (1)	B (2)	C (3)	D (3)	E (3)	F (2)	G (2)	H (2)	I (2)	J (1)	K (1)	L (2)	M (3)	moderate

Table 5. Management requirements of proposed habitats to meet net gain requirement.

Habitat	Definition	Classification	Condition Assessment Criteria	Management requirements to meet criteria
Developed Land; Sealed Surface	Soil surface sealed with impervious materials as a result of urban development and infrastructure construction.		N/A	N/A
Introduced shrub	Non-native tall phaeophytes in garden or park setting.		N/A	N/A
Modified Grassland	Vegetation dominated by a few fast-growing grasses on fertile, neutral soils. It is frequently characterised by an abundance of Rye-grass <i>Lolium</i> spp. and White Clover <i>Trifolium repens</i> .	Palatable grasses dominate mainly Rye grasses <i>Lolium</i> spp., Timothy Phleum pratense, Cock's-foot <i>Dactylis glomerata</i> , Crested Dog's-tail <i>Cynosurus cristatus</i> , Yorkshire Fog <i>Holcus lanatus</i> . Grass cover usually over 75%. Broadleaved species restricted mainly to White Clover <i>Trifolium repens</i> , Creeping Buttercup <i>Ranunculus repens</i> , Greater Plantain <i>Plantago major</i> , Dandelion <i>Taraxacum officinale</i> , Broad-leaved Dock <i>Rumex obtusifolius</i> and Chickweed <i>Stellaria media</i> . Fertile but wetter situations may support occasional Soft Rush <i>Juncus effusus</i> or Hard Rush <i>Juncus inflexus</i> , Floating Sweet Grass <i>Glyceria fluitans</i> , Creeping Bent <i>Agrostis stolonifera</i> and Rough Meadow-grass <i>Poa Trivialis</i> .	Moderate	<p>C1 There are 6-8 species within 1m sq. of grassland.</p> <p>C3 Any scrub present supports <20% cover.</p> <p>C4⁵ 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.</p> <p>C5 Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).</p> <p>C6 Cover of bracken is less than 20%.</p>

⁵ Condition Criteria

				<p>C7</p> <p>There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).</p>
Native Hedgerow with ditch or bank	A linear feature at least 20m long with a woody component less than 5m wide at its base, a shrub layer present and with associated man-made bank or ditch.	Dominated by native woody species	Moderate	<p>C1</p> <p>>1.5m high on average.</p> <p>C2</p> <p>>1.5m width on average.</p> <p>C3</p> <p>Gap between ground and base <0.5m for 90% of the hedge length.</p> <p>C4</p> <p>Hedge canopy - <10% canopy length.</p> <p>C5</p> <p>Plant species indicative of nutrient enrichment <20% total ground cover.</p> <p>C6</p> <p>>90% of hedge free from invasive species.</p> <p>C7</p> <p>>90% of hedge free from human induced damage.</p>
lowland mixed deciduous woodland	Woodland growing on varying soil conditions. Occurs largely upon enclosed landscapes with defined boundaries, at relatively low altitude	There is a great variety in species composition within the canopy and ground flora, but can also include monospecific stands such as oak, ash, hazel.	Moderate	<p>A (1 point) – one age class present</p> <p>B (2 points) – evidence of significant browsing by herbivores within <40% of the woodland.</p> <p>C (3 points) – no invasive plant species present within the woodland.</p> <p>D (3 points) – five or more native tree or shrub species across the woodland plot.</p> <p>E (3 points) – >80% of the canopy comprises of</p>

				<p>native trees.</p> <p>F (2 points) – 21-40% of the woodland supports open areas.</p> <p>G (2 points) – one to two ages classes of woodland re-generation.</p> <p>H (2 points) – 11-25% of trees subjected to tree damage or low risk disease present.</p> <p>I (2 points) - recognisable NVC woodland plant community present.</p> <p>J (1 point) – one or less story of vertical structure across woodland.</p> <p>K (1 point) – no veteran trees present in woodland.</p> <p>L (2 points) – 25-50% of the woodland supports some sort of deadwood (standing/ground).</p> <p>M (3 points) - <20% of woodland supports damage through nutrient enrichment.</p>
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Summary of Post-development Units

4.11 The Habitat Units post-development for the site are given in Table 6 below.

Table 6. Post-development Habitat Units.

UKHAB Category	Area (Ha)	Habitat Units Delivered
Developed Land; Sealed Surface	1.03	0.00
Introduced shrub	0.17	0.03
Other neutral grassland	0.12	0.92
Modified grassland	0.29	1.14
Native Hedgerow with Ditch or Bank	0.43 (km)	0.43
Lowland Mixed deciduous woodland	0.22	0.27
Total Habitat Units		2.41
Total Hedgerow Units		3.77

5.0 OUTCOME

Habitat Units

- 5.1 The proposed development meets the required 10% net gain with a 12.60% change in Habitat Units. This will only be achieved if the management detailed in Table 5 is followed to create appropriate condition assessment results, for the following proposed habitats within the site; Modified Grassland, Native Hedgerow with associated Bank and Ditch, Other Neutral Grassland and Lowland Mixed Deciduous Woodland.

Trading Rules

- 5.2 The Defra Metric requires that losses in habitat are compensated for on a 'like for like' or 'like for better' basis with new or restored habitats aiming to achieve a higher distinctiveness or condition than those lost. The proposed development meets the Trading Rule as set out above. The provision of 0.22 ha. of lowland mixed deciduous woodland (moderate condition) would meet the requirements of the trading rules, in addition to the positive management of all other habitat types detailed in Table 4 and Table 5.

6.0 REFERENCES

CIRIA (2019) Biodiversity Net Gain: good practice principles for development.

Defra (2012a) Biodiversity Offsetting Pilots: Technical Paper- the Metric for the Biodiversity Offsetting Pilots in England.

Defra (2012b) Biodiversity Offsetting Pilots: Guidance for Developers.

Defra (2012c) Biodiversity Offsetting Pilots: Guidance for Offset Providers.

Department for Communities and Local Government (2019) National Planning Policy Framework (NPPF).

JNCC (2010) Handbook for Phase 1 Habitat Survey: A technique for environmental audit. JNCC, Peterborough.

Natural England (2022) The Biodiversity Metric 3.1 (JP039) - <http://nepubprod.appspot.com/publication/6049804846366720>

Natural England (2022) The Biodiversity Metric 3.1 - Auditing and Accounting for Biodiversity - Technical Supplement

Natural England (2022) Habitat Condition Assessment Sheets with Instructions.

UKHab (2020) UK Habitat Classification.

Wychwood Environmental Ltd (2024) Ecological Appraisal Report: Menzies Wood Farm, Okehurst Lane, Billingshurst, West Sussex, RH14 9HR.

Annex 1 – Figures



Figure 1 – Baseline Habitats on Site – image taken from Preliminary Ecological Appraisal undertaken by Wychwood Environmental in June 2024.

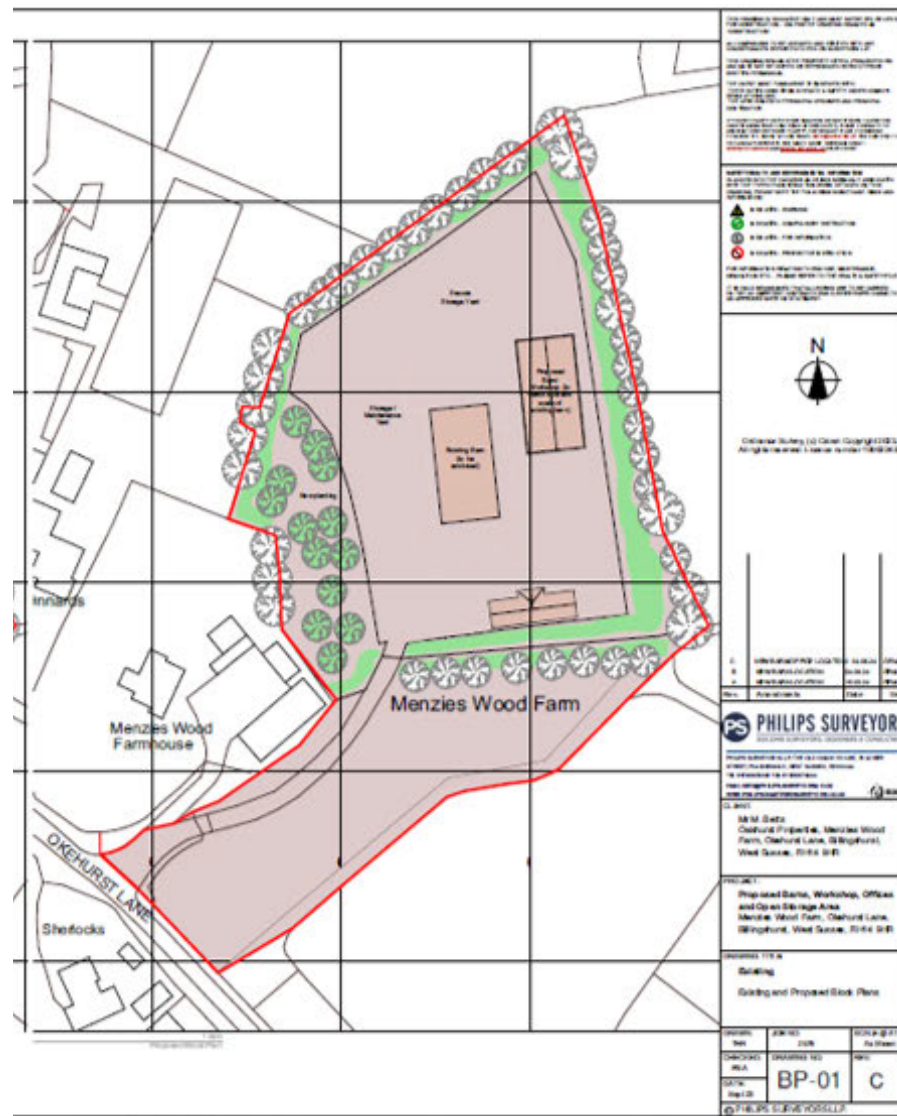


Figure 2 – Proposed Habitat Post Development. Wooded area to support 0.22 ha. of Lowland mixed deciduous to the west of the site woodland

