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Biodiversity Impact Calculation

Site Name

Stone Pits Manor

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Client

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About the Author

This report has been prepared by Jess Saunders, a GIS consultant at The Ecology Co-op. Jess holds a BSc in Environmental Science and an MSc in GIS and Remote sensing with Environmental Management. Having worked at the Ecology Co-op for nearly one year, she has completed UKHab mapping in QGIS for a number of BNG and large-scale projects, including a 290ha site.

About the Reviewer

This report has been reviewed by Paul Whitby, a Director at the Ecology Co-op, with 19 years experience working as an ecologist. He has worked on Biodiversity Impact Calculations for a range of developments, from single dwellings, to large housing and industrial schemes. Paul is a Full Member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and is further a Chartered Ecologist through the Institute. As a member, he is bound by their code of professional conduct.



Report Summary

Purpose	The Ecology Co-operation was commissioned by to undertake a Biodiversity Impact Calculation of a proposal to establish a small single-pitch glamping facility within a field associated with the Stone Pits manor property, using the Statutory Biodiversity Metric, to quantify net change in biodiversity.
Summary of Losses and Gains	The proposed development scheme at this site will result in the loss of: - 0.042ha of other neutral grassland habitat will be lost. The proposed development scheme at this site will retain: - 0.066ha of Artificial unvegetated, unsealed surface The following habitats will be enhanced: - 0.233 ha of other neutral grassland from moderate to good condition. Post intervention the following habitats will be created: - 0.042ha of bare ground
Final Metric Results	The Biodiversity Impact Calculation has demonstrated that the proposed scheme will result in a likely net gain of 0.65 habitat units (29.52%). The current scheme satisfies the trading rules of the Statutory Biodiversity Metric and the generated biodiversity uplift can be achieved by improving the sward structure of the other neutral grassland.
Does the scheme meet net gain requirements?	The current scheme meets the 10% mandatory net gain requirements set out within the Environment Act 2021 and achieves the no net loss through development goals detailed by Horsham District Council.



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1 INTRODUCTION

1.1 Purpose of the Report

There has been a mandatory requirement for all new developments to demonstrate 'net gains' in biodiversity from the 12th of February 2024, following the release of updated National Planning Policy Framework¹ by the Department of Housing, Communities and Local Government and the Environment Act 2021². A mandatory value of 10% net gain in biodiversity value for all developments (that do not meet exemption criteria) is required under the Environment Act 2021.

This document includes a baseline 'Biodiversity Impact Calculation' (BIC) for the proposed development at Stone Pits. The calculation utilises the Statutory Biodiversity Metric and assigns 'biodiversity units' to the pre-existing habitats contained within a proposed development site and those that are predicted to be lost, restored and/or created once the development has been constructed. This allows an objective comparison to be made between the existing biodiversity value of a given site and the predicted biodiversity value post development, with the net change in biodiversity value subsequently quantified.

The purpose of this document is to present the findings of the BIC based on the most up-to date existing habitat survey information and the most current outline plans for the proposed development of the site. BICs provide an evidence base for discussions between the ecological consultant, developer and the local planning authority regarding on-site avoidance, on-site mitigation and off-site compensation requirements.

This report will be used in relation to a proposal for the addition of three glamping pods to be added to the grassland site. Given the likelihood of proposed changes in the design scheme, some of the recommendations will potentially be subject to change. The results of the BIC are deemed accurate for the most recent layout plan.

This report was commissioned and produced at the request of Lee Sheward, the owner of the property.

¹ HM Government (2023). National Planning Policy Framework. Department for Housing, Communities and Local Government. Available online at: https://assets.publishing.service.gov.uk/media/65a11af7e8f5ec000f1f8c46/NPPF_December_2023.pdf

² HM Government (2021). Environment Act 2021 Available online at: <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>



1.2 Background

The site measures 0.34ha in area, and comprises of a field of pasture that serves no commercial farming purpose and is simply mown through the summer months.

The site was subject to a Preliminary Ecological Appraisal undertaken by Paul Whitby on the 28th July 2025. The full site address is Stone Pits Manor, Marringdean Road, Billingshurst, West Sussex, RH14 9HE, and the sites central grid reference being TQ 095 242.

Habitats (UKHAB) within the site and along the site boundaries are shown in (Figure 1), these include:

- Other neutral grassland
- Artificial unvegetated unsealed surface; and
- Sparsely vegetated urban land

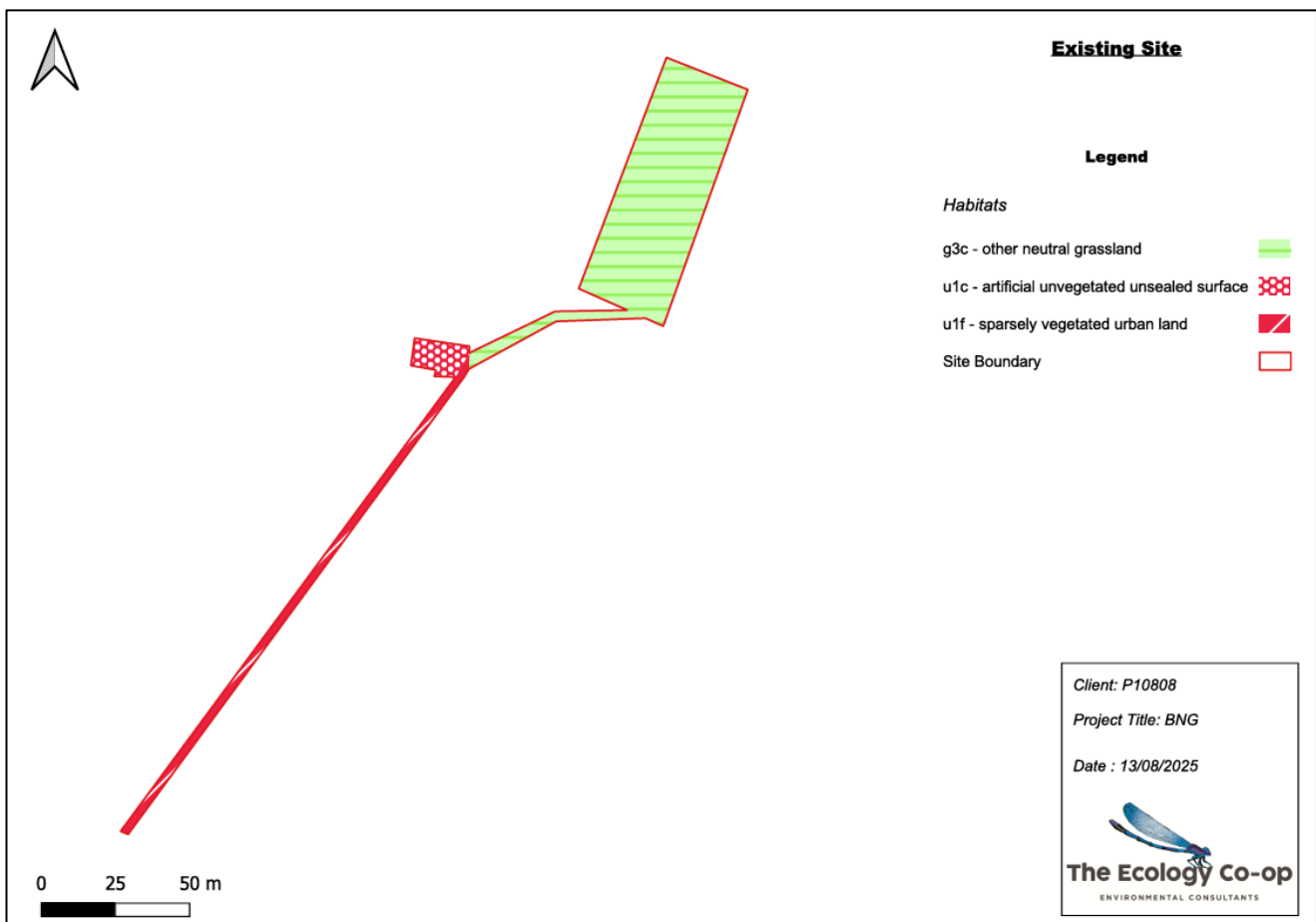


Figure 1. UKHAB map showing existing habitats within the site. The site boundary is indicated with a red line. Produced using QGIS software.

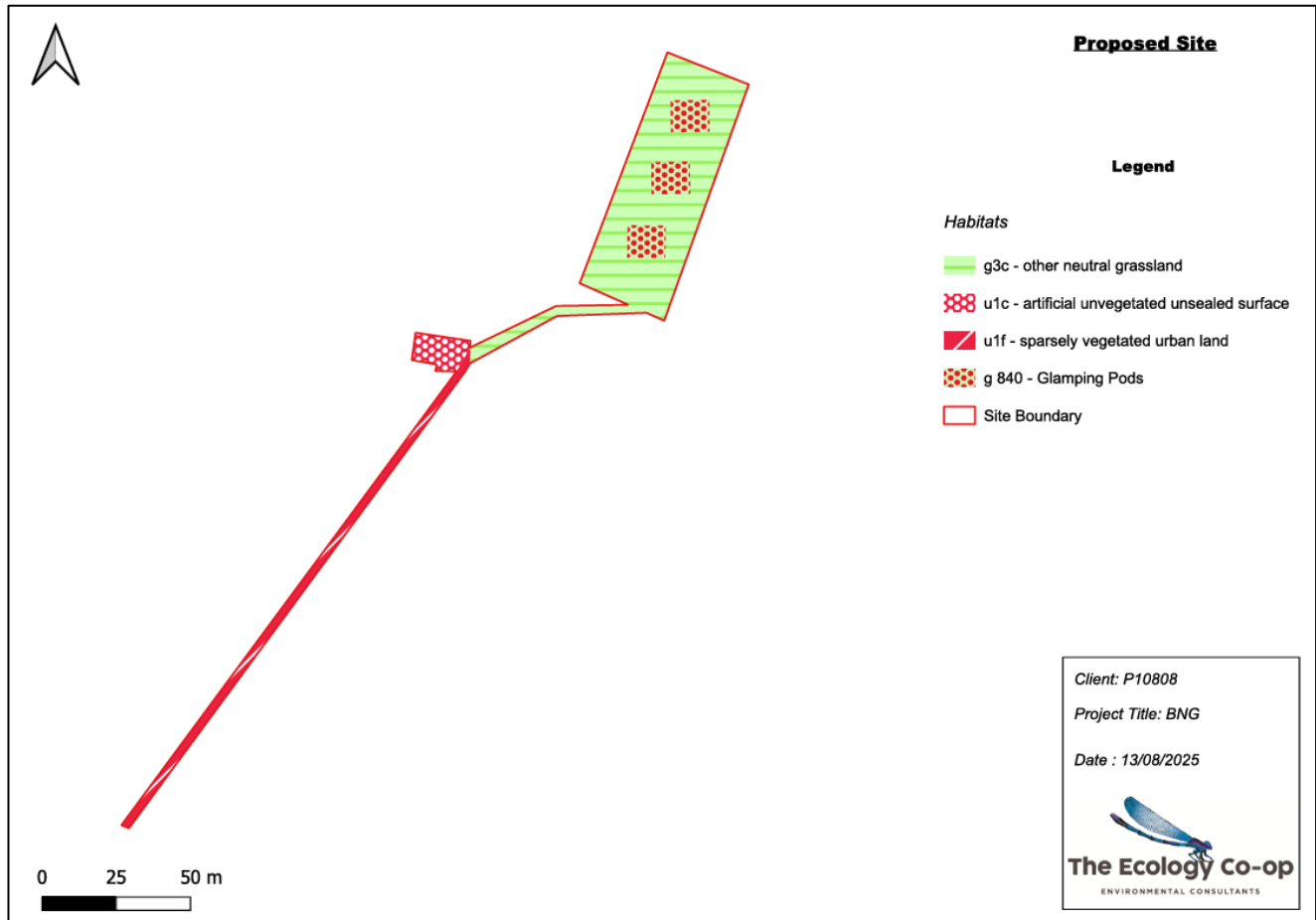


Figure 2. UKHAB map showing proposed habitats within the site. The site boundary is indicated with a red line. Produced using QGIS software.



1.3 Summary of Previous Survey Work

A Preliminary Ecological Appraisal with UKHab³, completed by The Ecology Co-op on the 28th July 2025, identified the potential for common reptiles and amphibians to be present on the site, however the proposals pose a very low impact risk, given the scale of the proposal and minimal earthworks requirement.

1.4 Policy and Legislation

NPPF (2024)

The NPPF sets out the Government's view on how planners should balance nature conservation with development and helps ensure that Government meets its biodiversity commitments with regards to the operation of the planning system.

Paragraph 187d, states that planning policies and decisions should contribute to and enhance the local environment by:

- *"minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures."*

Paragraph 192b, states that to protect and enhance biodiversity and geodiversity, plans should;

- *"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."*

Paragraph 193d, states that when determining planning applications, authorities should apply the following principle:

- *"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."*

Environment Act (2021)

The Environment Act sets a target of halting the decline in species through the inclusion of a legally binding 2030 species abundance target. Aiming to restore natural habitats and enhance biodiversity, the Act requires new developments to improve or create habitats for nature (through mechanisms such as mandatory Biodiversity Net Gain), and tackle deforestation. Going forwards, UK businesses will need to look closely at their supply chains as amongst other measures they will be prohibited from using commodities associated with wide-scale deforestation. Woodland protection measures are also strengthened through the Act.

Local Policy

Policy 25 (Strategic Policy: The Natural Environment and Landscape Character) of the current District Planning

³ The Ecology Co-op (2025). Preliminary Ecological Appraisal UKHab survey. – Land at Stone Pits Manor



Policy Framework from Horsham District Council⁴ notes that it will support development proposals which:

“Maintains and enhances the existing network of geological sites and biodiversity, including safeguarding existing designated sites and species, and ensures no net loss of wider biodiversity and provides net gains in biodiversity where possible”.

2 METHODOLOGY

This Biodiversity Impact Calculation uses the Statutory Biodiversity Metric calculation tool published by Natural England⁵. This is used to calculate ‘habitat units’ and ‘hedgerow units’ by multiplying the area (ha) or lengths (km), ‘distinctiveness’ (habitat type), ‘condition’ (quality), and strategic significance (location in relation to the authority’s local strategy) of each habitat parcel.

The calculation provides a negative value to the biodiversity units where habitat is being directly lost to development. Where habitats are enhanced or created on-site, or off-site, the calculation gives a positive value but adds risk factors that account for uncertainty - difficulty in creating new habitats and time delays while they establish; habitats that are more difficult to restore or that will take a long time to reach a set target condition will score lower and therefore make a smaller positive contribution.

Where on-site gains are equal to or larger than the losses, the project is deemed to have neutral biodiversity impact or biodiversity ‘net gain’ respectively.

Where on-site gains do not outweigh on-site losses and a biodiversity ‘net loss’ is calculated, this becomes an ‘offset requirement’. Offsets can be provided by further habitat creation or enhancement in-situ or elsewhere and are assessed using the same metric to balance the predicted gains against the losses to ensure no net loss will be achieved. It follows that a biodiversity net gain can still be achieved by providing higher biodiversity gains through the offset than the net loss resulting from the development.

Note that the metric does not allow for ‘trading down’; one of the key principles in measuring biodiversity net losses or gains is that habitats of high ecological importance cannot be offset by the creation of larger areas of habitats with lower value. The Statutory Biodiversity Metric calculation tool includes a ‘trading down correction’ that deducts the number of biodiversity units that are not accounted for through the creation of equivalent high distinctive habitats than that lost. For example, the loss of a small area of lowland meadow priority habitat (high distinctiveness) will not be offset by a larger area of modified grassland (medium distinctiveness) and will only be offset by an equivalent area of habitat of the same distinctiveness or higher.

2.1 Data Sources

This calculation uses the most up to date survey information, using botanical data and specific condition

⁴ Horsham District Council (2015) Horsham District Planning Framework (excluding South Downs National Park). Available online at: [Horsham District Planning Framework 2015](#)

⁵ Natural England (2023) *The Statutory Biodiversity Metric – Calculation Tool*. Available online at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>



assessments gathered during the site visit on the 28th of July 2025. The areas of each habitat category were measured using GIS mapping tools (QGIS). Condition assessments were made in accordance with the Statutory Biodiversity Metric condition assessments document⁶ and the Statutory Biodiversity Metric: draft user guide⁷. Applying the precautionary principle, a presumption for the higher condition was used where there was any uncertainty in the condition of existing habitats.

To predict habitat/hedgerow units supported after by the site after completion of the development, the aerial imagery was overlaid by the proposed scheme layout (see Figure 2). This allowed direct losses of habitats to be measured where the built environment overlaps with pre-existing habitat, with gardens and amenity areas treated separately. The habitats that are 'created' after development are assumed to achieve the highest level of condition as appropriate; a separate landscape and enhancement plan should be produced to ensure this condition is achieved.

The Statutory Biodiversity Metric calculation tool uses a separate calculator spreadsheet for linear features. This works under the same principles as above but replaces areas of habitat with linear length of a feature. It should be noted that because linear features often have higher ecological importance, linear habitats are assigned higher distinctiveness and must be offset with other linear features. The hedgerow units generated for linear features are not equivalent or interchangeable with biodiversity calculations for areas of habitat.

3 RESULTS

3.1 Existing Habitats Assessment

A summary of habitats and condition assessments is provided in Table 1. Full results of condition assessments for habitats which require it (using the Statutory Biodiversity Metric condition assessment document) are provided in Appendix 1.

Overall, the on-site calculated baseline is 2.2 habitat units.

Table 1. Existing habitat conditions for land at Stone Pits Manor.

Habitats		Condition Assessments
UK Habitat (UKHAB) Classification System	Location/Reference (habitat parcels split if multiple areas with different condition assessments)	Condition
Other Neutral Grassland (g3c)	Glamping site	Moderate
Artificial unvegetated, unsealed surface (u1c)	Small existing vehicle parking area	N/A
Artificial unvegetated unsealed surface (u1f)	Access track	N/A

⁶ Natural England (2023) *Statutory Biodiversity Metric Condition Assessments* Available online at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>

⁷ Natural England (2023). *Statutory Biodiversity Metric draft user guide*. Available online at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>



3.2 Habitat Losses and Gains

The proposed development scheme at this site will result in the loss of:

On-site

The proposed development scheme at this site will retain:

- 0.066ha of Artificial unvegetated unsealed surface (car parking area and access track).

The proposed development scheme at this site will enhance:

- 0.233ha of Other neutral grassland from moderate to good condition

Post intervention the following habitats will be created:

- 0.042ha of bare ground in poor condition

The overall results of the calculations are presented in Table 2. Please refer to the Statutory Biodiversity Metric calculation tool supplied with this document (submitted separately) for full details of the calculation.

In order to achieve the indicated biodiversity gain values, a management plan will need to be set out that demonstrates how the other neutral grassland habitat will be improved in condition from 'Moderate' to 'Good' condition (see Appendix 1 for a summary of condition assessment scores). This management would need to demonstrate how a more varied sward structure would be achieved by a change to the current sward management, including cutting and gathering of the sward no more than twice per year, where possible utilising a rotation in cutting, so that the desired sward variance is present through the year.

Table 2. Headline results of the Biodiversity Impact Calculation for the proposed development at Stone Pits Manor.

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.65
	Hedgerow units	0.00
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	29.52%
	Hedgerow units	0.00%
	Watercourse units	0.00%
Trading rules satisfied?	Yes ✓	

4 CONCLUSIONS

The Statutory Biodiversity Metric calculation has demonstrated that the proposed scheme will results in a likely net gain of **0.65 habitat units (29.52%)**

Should you need any further advice on the information provided above, please do not hesitate to contact The Ecology Co-op.





APPENDIX 1 – Habitat Condition Assessment Scores

Other Neutral Grassland habitat condition scores.

Score: 2	Result: Moderate
Condition Criteria Assessment for Grasslandhigh	
A. The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by UKHab for the specific grassland habitat type are consistently present. Notes A reasonable assemblage of species, though forbs/herbs could make up higher overall content of sward.	TRUE
B. Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed. Notes Recently cut and gathered, so hard to say what sward variety would be, however lack of grazing and early cut makes it unlikely	FALSE
C. Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens. Notes No bare ground identified	FALSE
D. Cover of bracken <i>Pteridium aquilinum</i> less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg) less than 5%. Notes Some patches of brambles, but not sufficient to qualify as scrub habitat	TRUE
E. Combined cover of species indicative of sub-optimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.	TRUE
F. There are 10 or more vascular plant species per m2 present, including forbs that are characteristic of the habitat type (species referenced in criterion 5 above cannot contribute towards this count). Notes This appears the case, despite recent mowing making identification challenging	TRUE