

Pre-development report

Biodiversity Net Gain Feasibility Assessment

Site: Land at Motte and Bailey, Pirton, Hitchin, SG5 3QD

Client: Cordage 46 Group

Date: October 2025

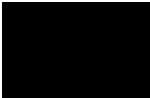




Contact Details:

Brynley Andrews Associates Ltd
Yeovil Somerset BA229BG

Tel: 01935 864537
Email: Brynley.andrews@gmail.com
web: www.brynleyandrewsassociates.com

BNG Feasibility Assessment	
Site	Land at Motte and Bailey, 1 Great Green, Pirton, Hitchin, SG5 3QD. Grid Reference: TL 14575 31610
Client	Cordage 46 Group Ltd
Date:	October 2025 (report written)
Author:	Alex Wallace M.Sc.
Reviewers	Brynley Andrews C.Env., M.Sc., B.Sc. M.Arbor.A
BAA ref	R.BNG.Feasibility.Motte.And.Bailey.v2
Authors Signature	

Declaration of any conflict of interest: the author has no local or financial interest in the site, or any party involved with the site.

Disclaimer: This report has been produced by Brynley Andrews Associates within the terms of the contract with the client and taking account of the resources devoted to it by agreement with the client. We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above. This report is confidential to the client, and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

VALIDITY OF DATA: The findings of this study are valid for a period of 12 months from the date of survey. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified and experienced ecologist.

Contents

Section	Details	page
1	Executive summary	4
2	Introduction	5-6
3	Methodology	7
4	Comparison of Site Habitats 2020-2025	8
5	Baseline Habitat Assessment	9
6	Development Scenario Modelling	10-11
7	Conclusion	12
8	References	13
9	Appendix 1 – North Herts BNG Context	14

1.0 Executive Summary

Site Name	Land at Motte and Bailey, 1 Great Green, Pirton, Hitchin, North Hertfordshire
Site Address	Post code: SG5 3QD Grid reference: TL 14575 31610
Purpose of the Report	To calculate the value of on-site habitats using the statutory biodiversity metric and identify required measures for satisfying the statutory 10% BNG uplift.
Planning Status	This report assesses pre-application BNG design decisions.
Site Area	0.1656 ha
Metric Used	Statutory Small Sites Metric Calculation Tool (Natural England, July 2024)
BNG Baseline Value	Habitat Units: 0.2772 Hedgerow Units: 0.0345 Watercourse Units: N/A
Post-development On-site Value	Habitat Units: 0.1474 Hedgerow Units: 0.0385
Development Plans	Erection of a house with associated parking and garden, on what is presently amenity grass and hard standing.
Irreplaceable Habitats	None on site.
Feasibility of +10% Uplift On-site	Habitat creation on-site to reach gain would be impractical and unreasonable due to the low likelihood of successful maintenance of quality habitat on such small tracts of land. The site is already very developed with a scarcity of opportunity for creating the amount of habitat needed. Hedgerow gain can be achieved with 10m of new native hedgerow. Recommendation: Purchase 0.1575 Habitat Units of high distinctiveness habitat from a site on the biodiversity gain register.

2.0 Introduction

2.1 Purpose of the Report: This feasibility assessment runs the proposed development design through the statutory Small Sites Metric (SSM) v.1.2.3 to demonstrate how it can satisfy the national requirement of at least 10% biodiversity net gain. It quantifies the site's baseline biodiversity value, models development impacts, and evaluates realistic options for on-site habitat creation or enhancement. Where on-site measures are insufficient, the report identifies the residual unit shortfall and how this can be met via the Biodiversity Gain Register. Compliance with trading rules, 30-year management obligations, and relevant Statutory Metric User Guide rules are addressed.

2.2 Site Location and Context: The 0.1656 ha site comprises the active Motte & Bailey pub with its pub house building, beer garden/children's play area, and parking area. The site is bounded by residential gardens to the east and south, a village road to the north and west. Existing habitats are dominated by hard standing and buildings (pub house and outbuilding). The most important habitat on site is a single mature lime tree of medium size, with the vegetated garden area also contributing some value to the baseline ecological condition.

2.3 Project Proposal: The proposal is for a single dwelling with garden, driveway and landscaping. Development will reduce greenspace from 514m² to 254m². The Lime tree is projected for removal; removal will incur a 0.1498-unit loss requiring like-for-like replacement or higher distinctiveness habitat compensation. Three small trees are to be planted as compensation, but this will not be enough to address the shortfall. The lawson cypress hedging, after some is cleared for access, will be replaced by new native planting, delivering hedgerow net gain. However, the metric shows that the development results in a habitat unit shortfall. To comply with the statutory +10% requirement, the development must purchase 0.1575 units off-site.

2.4 Habitat Plan

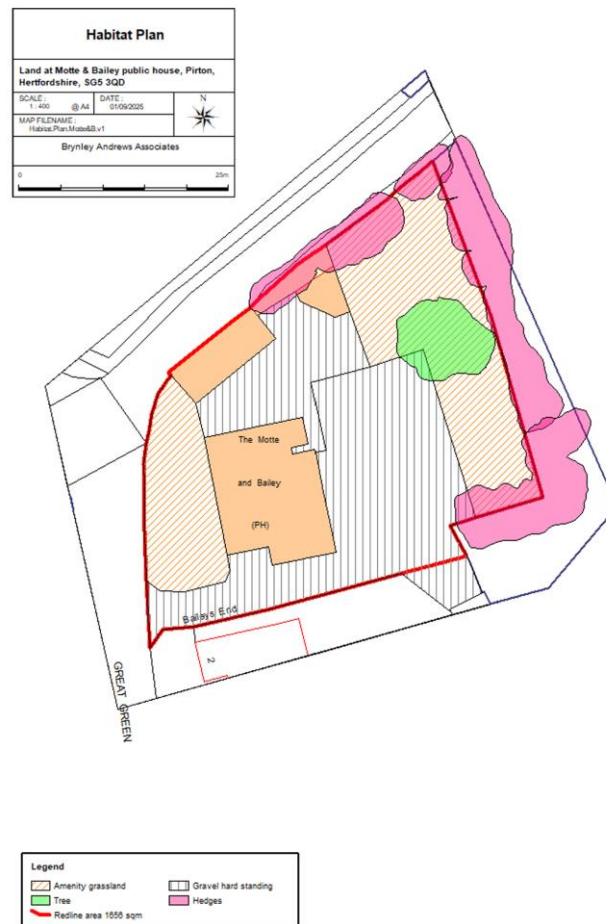


Figure 1: The baseline condition of the site

3.0 Proposed design: The red-line is only illustrative – the red line boundary is as in Habitat Plan above. Below is only the northeast area of the site.

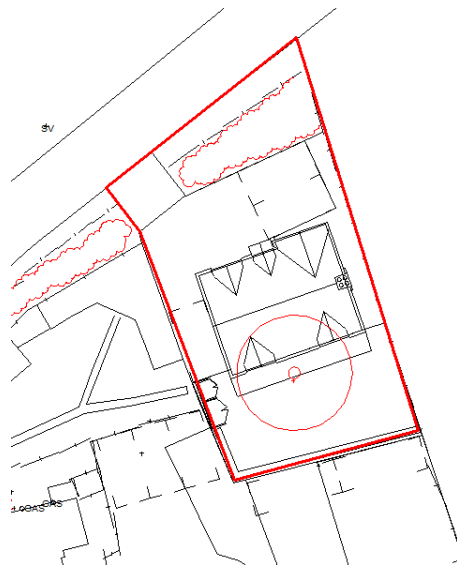


Figure 2: Proposed design

4.0 Methodology

4.1 Baseline Habitat Survey

The habitat survey was undertaken on the 27th August 2025, by Brynley Andrews CEnv MSc and Alexander Wallace MSc aIEMA. These have established an ecological baseline value, following the UK Hab classification system, the *Small Sites Metric: User Guide* (DEFRA) and current CIEEM best-practice guidance.

4.2 Biodiversity Metric Methodology

The Small Sites Metric (SSM) was selected because the plot is below the 1-hectare threshold, will accommodate less than ten dwellings (a single residence), and the proposed built footprint is less than 1,000 m², which means that it satisfies all 3 of the requisite criteria to use the simpler metric calculation tool. The SSM was applied precisely as set out in its user guide. All area habitats and linear features (hedgerows) were mapped, and the metric spreadsheet was used to calculate habitat and hedgerow units for both the baseline and the proposed design scenario.

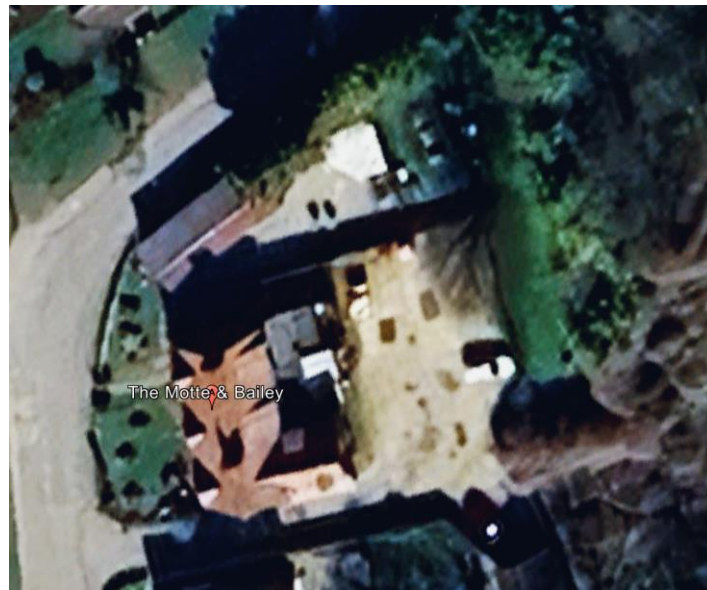
4.3 Trading rules were applied so any losses are replaced by habitats of equal or higher distinctiveness. Target conditions were set realistically and strategic significance was assigned as High for all habitats due to North Herts' policy for Pirton, Hitchin area in which the Motte and Bailey is located. The SSM treats area and hedgerow units separately, each requiring at least +10% net gain and not interchangeable.

4.4 To confirm that the baseline genuinely reflects existing conditions, historical satellite imagery was reviewed. This showed that there had been no habitat degradation since January 2020. The Town and Country Planning Act requires the ecological baseline value to represent the habitat immediately before any unauthorised loss or deterioration occurring on or after 30 January 2020. "Unauthorised degradation" refers to any habitat loss or deterioration not permitted by an existing planning consent. The metric calculation tool on excel was completed for this report and must be rerun when design revisions alter habitat extents, types, or timing.

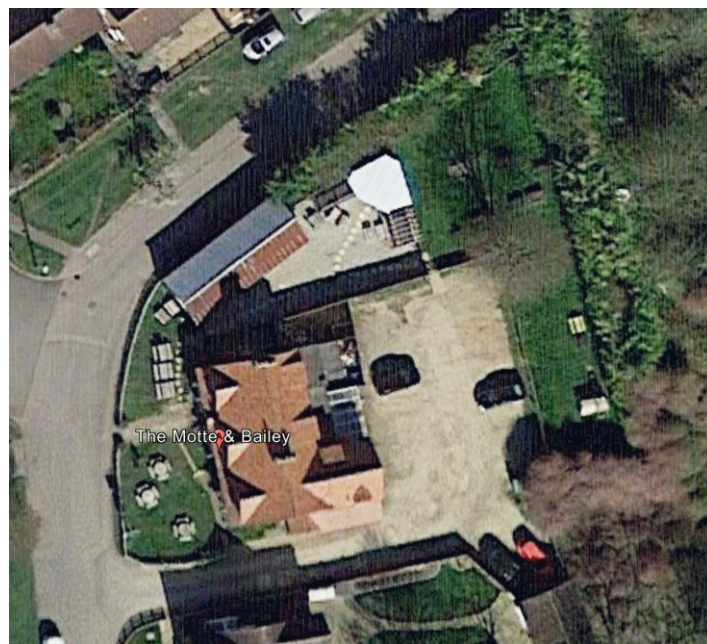
5.0 Comparison of Site Habitats 2020 - 2025

5.1 A review of 2020 and 2025 satellite imagery was completed to observe any potential habitat degradation, i.e. tree removal, that would suppress the BNG baseline value, in accordance with paragraph 6 of Schedule 7A to the Town and Country Planning Act. No habitat degradation was visible.

5.2 The site in 2025:



5.3 The site in 2020:



6.0 Baseline Habitat Assessment

6.1 The existing site comprises buildings, hardstanding, and amenity landscaping, with relatively low baseline biodiversity value. The table below summarizes the baseline habitats on-site, their areas, and the biodiversity units they generate as calculated using the DEFRA Small Sites Metric v1.2.3. As shown, most of the site consists of sealed surfaces (buildings, patio, car park) which have no habitat value. Vegetated areas comprise 514 m² of mown grass and ornamental shrubbery, best categorised together in the metric as vegetated garden. There is a further ~30 m of Leyland cypress hedgerow, and one mature Lime, that is medium sized and medium distinctiveness. The baseline biodiversity values are 0.2772 area habitat units and 0.0345 hedgerow units, with no watercourse units. More than half of the total on-site habitat value derives from the single lime tree. All habitats are in the range of very-low to medium distinctiveness; none are irreplaceable or subject to a strategic significance multiplier according to the North Herts criteria.

6.2 Summary Table of Habitats

Habitat Type	Area (m ²)	Baseline Units	Notes
Developed land; sealed surface (hardstanding)	786	0	Car park, patio, decking, gravel
Vegetated garden (amenity grassland)	514	0.12	Mown lawn (pub beer garden / children's play area) – low distinctiveness
Developed land; sealed surface (building)	266	0	Pub building footprint
Developed land; sealed surface (outbuilding)	50	0.	Outbuilding footprint
Introduced shrub (ornamental beds)	40	0.01	Ornamental flowerbeds
Urban tree	163	0.1498	Lime tree

Table 1: Baseline habitat areas and biodiversity units.

6.3 In conclusion, the baseline area habitat value is 0.2772 biodiversity units, reflecting the small size and low ecological quality of on-site habitats. There are 0.1498 biodiversity units attributable to one mature Common Lime. Baseline hedgerow length is ~30m, consisting of ornamental/non-native hedge species, equating to 0.0345 hedgerow units in the metric. Overall, the site's baseline biodiversity units are low, with the only notable feature being the mature Lime tree which contributes more than half of the site's habitat value.

7.0 Development Scenario Modelling

7.1 This section models multiple development scenarios to understand how Biodiversity Net Gain (BNG) could be achieved, either entirely on-site or with off-site contributions. A key factor in these scenarios is the fate of the Lime tree – its retention or removal significantly affects the units lost or required. Under the DEFRA metric's trading rules, if a medium-distinctiveness habitat (such as a mature tree) is lost, it must be replaced with the same or higher distinctiveness habitat on a like-for-like (or better) basis up to the point of no net loss. In practice, this means the loss of the Lime tree's units must be compensated by creating an equivalent amount of new tree habitat units (e.g. planting new trees) before net gain requirements are even considered. Below, three scenarios are outlined: two achieving net gain entirely on-site (with the Lime tree either removed or retained) and one scenario where off-site units are needed to make up a shortfall.

Scenario 1: On-Site Net Gain with Lime Tree Removed

7.2 In this scenario, the mature Lime tree is removed to accommodate the development, and all required habitat compensation and enhancements are provided on-site to achieve net gain. Removing this tree causes the loss of approximately 0.15 biodiversity units. According to the metric calculations, each new young tree contributes only a small fraction of a unit. To offset the loss of the Lime on a like-for-like basis, 13 new trees would need to be planted on-site. This would then satisfy the trading rule that requires no net loss of tree habitat units.

7.3 After addressing the trading rule for the tree loss, further habitat creation is necessary to achieve an overall net gain 10% above the baseline. The on-site enhancements would focus on creating high-distinctiveness habitats in the remaining available space. The calculations indicate that approximately 80m² of new 'other neutral grassland' in good ecological condition.

7.4 With 13 new trees planted and ~80 m² of species-rich grassland created on-site, this scenario would achieve the required BNG on-site. The site design would need to accommodate the planting of many trees where they can be monitored and legally protected long-term, as well as set aside a sizable area for meadow-theme habitat.

7.5 **Not recommended for this site:** Planting 13 new trees and 80m² of good-condition grassland would not be easily accommodated without compromising build footprints, access/visibility splays and would create a very long-term maintenance burden with a high

risk of unit under-delivery if trees fail. When trees fail to establish, they must under BNG rules be replaced with a tree of the same size as the one that failed.

Scenario 2: On-Site Net Gain with Lime Tree Retained

7.6 Retaining the Lime carries the baseline 0.1498 tree units forward and avoids a like-for-like replacement burden. To reach +10% overall, only light enhancements are needed: plant ~2 small native trees (e.g. rowan, wild cherry, birch) and create ~55 m² of wildflower-rich grassland to add area units. Outcome: trading rules are satisfied (no tree loss), and the +10% BNG is achieved on-site with minimal new habitat.

7.7 **Not going to be pursued on this site:** This option is ecologically best but not feasible in design terms given crown-spread/RPA conflicts with build. On that basis the applicant has decided not to adopt this scenario. Scenario 3 is the practical route to deliver BNG.

Scenario 3: Off-Site Biodiversity Gain (Lime Tree Removed with Minimal On-Site Mitigation)

7.8 Removing the Lime removes ~0.15 tree units. Basic on-site planting (e.g. 3 small trees) would be well below the ~13 small trees needed to replace that loss, and without meaningful new grassland the site would also miss the +10% target. The shortfall is 0.1575 habitat units, to be met by purchasing units from a registered off-site provider.

7.9 **This scenario follows the Proposed Design:** Removing the Lime enables the required layout while any small on-site planting is kept proportionate, giving measurable delivery with lower risk and management burden on a constrained plot.

Hedgerow Considerations

7.10 In addition to area habitats and trees, hedgerow units are calculated separately in the metric and must also show a net gain. The site's baseline includes ~30 metres of existing hedgerow (ornamental cypress). Removing 20-30m of this for access would require planting an additional 10m of native hedgerow, which is worth significantly more unit per metre.

8.0 Conclusion

8.1 This is a small, hard-landscaped plot where a single lime accounts for over half of the baseline value (0.1498 of 0.2772 habitat units), so while retention would be ecologically optimal, it is not being pursued because it conflicts with the chosen layout.

8.2 On that basis the most proportionate and auditable route to achieving net gain for this site is scenario 3 (see section 7); remove the lime and keep on-site planting modest, but procure the leftover 0.1575 habitat units via a local habitat bank on the Biodiversity Gain Register, while delivering hedgerow net gain through 10m of new native hedgerow.

9.0 References

Guidance Documents:

Natural England (2024) *Statutory Biodiversity Metric – User Guide*.

Environment Act 2021 and associated BNG Regulations.

National Planning Policy Framework

CIEEM/CIRIA/IEMA (2016; 2019) *Biodiversity Net Gain: Good Practice Principles and A Practical Guide*.

BS 42020:2013 *Biodiversity – Code of Practice for Planning and Development*.

BS 8683:2021 *Process for Designing and Implementing Biodiversity Net Gain*.

Appendix 1 – North Herts BNG Context

North Herts BNG Policy: For the most part, North Herts aligns with national policy, i.e. it has 'Areas of Particular Importance for Biodiversity' - sites of high nature value that influence BNG calculations. However, the North Herts draft Local Nature Recovery Strategy is distinctive, in that it has mapped specific habitat creation targets according to area, on storymap.arcgis.com, in order to promote the "greatest positive impact on helping nature".

Grasslands

Grassland 1

Manage existing grassland and heathland to maintain the biodiversity of existing good quality habitats and enhance poor quality sites.



Grassland 2

Create more good quality chalk grassland



Grassland 3

Create more good quality neutral grassland



Figure 3: Motte & Bailey displayed at centre of LNRS map, showing habitat desired in specific local areas