

Report

BIODIVERSITY NET GAIN (BNG) ASSESSMENT



Expert-Led, Science-Driven, Impact-Focused



BIODIVERSITY NET GAIN ASSESSMENT REPORT

FOR

**Land adjacent to 88-108 South
Parade, Cleckheaton, BD19 3AF**

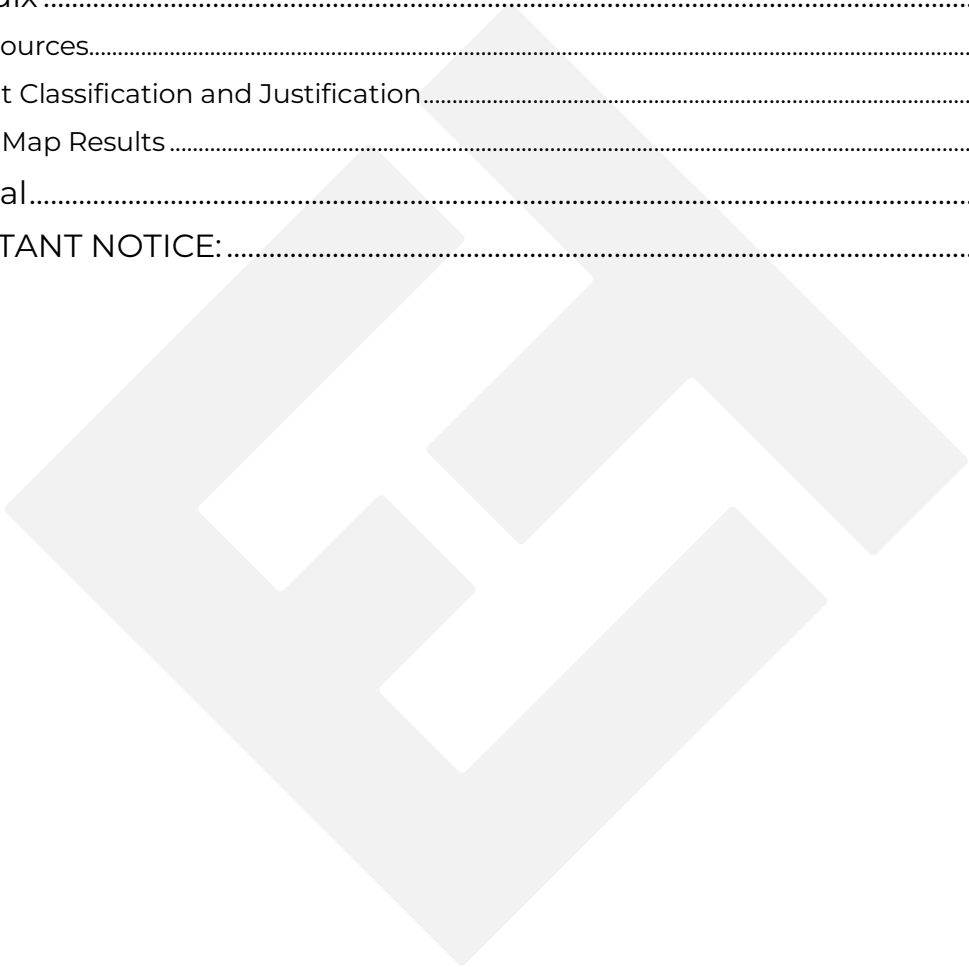
**in collaboration with
BARNES HOMES**





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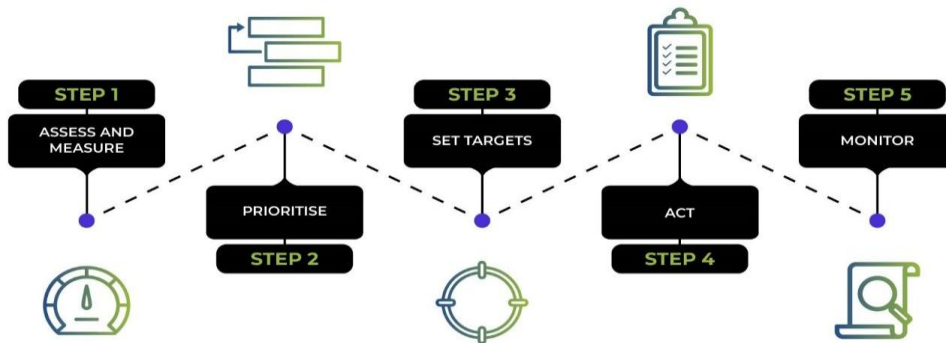


Nomenclature

Nomenclature	Description
Baseline Assessment	Before a development project begins, a baseline assessment is conducted to determine the existing biodiversity of the project site. This assessment establishes the current state of habitats, species, and ecosystem functions.
Biodiversity	The variety of life within a defined area for example, globally or in a specific habitat which can be described by a variety of metrics including species abundance or the living plant index and which we are dependent on to provide us with food, clean water and many more essentials.
Biodiversity Net Gain	A concept that aims to ensure that development projects have a positive impact on biodiversity by enhancing or creating habitats.
Biodiversity Net Gain (BNG) Assessment	The quantification of the overall positive impact on biodiversity resulting from a specific activity or project. While biodiversity gain refers to the increase in the numbers, genetic variability, and species variety in a given area, BNG goes a step further by assessing whether the difference between biodiversity losses and gains leads to a net positive impact.
Biodiversity Units	A measure to describe the level of biodiversity present on a given site.
DEFRA Statutory (Official) Biodiversity Metric	Is a tool developed by the UK Government that provides a standardised approach to quantifying changes in biodiversity resulting from development activities. It assigns values to different habitats and species based on their ecological importance, and it allows for the calculation of a numerical score that reflects the overall biodiversity impact of a development.
Habitat	The specific environment or type of ecosystem in which a particular species of organism lives. Habitats can range from forests and wetlands to grasslands and urban areas.
Habitat Condition	The state or quality of a habitat, taking into consideration factors such as biodiversity, ecological processes, and overall health. Habitat condition assessment is essential in determining the effectiveness of conservation or restoration efforts.
Habitat Distinctiveness	The unique characteristics and features that differentiate one habitat from another. Distinctiveness is often assessed based on the diversity of species, ecological functions, and physical attributes of a habitat.
Habitat Strategic Significance	The local importance of a habitat determined by assessing both its geographic location and the specific type of habitat it represents. This evaluation helps in understanding the unique value and contribution of the habitat in its surrounding ecosystem.
Local Planning Authority (LPA)	The local government body that is empowered by law to exercise urban planning functions for a particular area/council. They are the government body whom approve and validate planning permissions and Biodiversity Net Gain compliance
On-Site	Refers to activities, impacts, or features that occur within the boundaries of a specific development or project site.
Off-Site	Relates to actions or effects that occur outside the boundaries of the development or project site. Off-site measures in Biodiversity Net Gain may involve compensatory actions, such as creating or enhancing habitats in a different location to offset any biodiversity loss caused by the development.
Small Site	A small residential site is a development which is less than 1 hectare with less than 9 dwellings, or where the number of dwellings is unknown an area of less than 0.5 hectares. A small commercial site is a development which has created floor space of less than 1,000 m ² or with a total site area of less than 1 hectare.
Major Development	A major development is any development, either residential or non-residential, which falls out of the requirements of a small site. This means more than 9 dwellings or greater than 0.5 hectares for residential developments or greater than 1,000 m ² floor space, or over a hectare for non-residential developments.

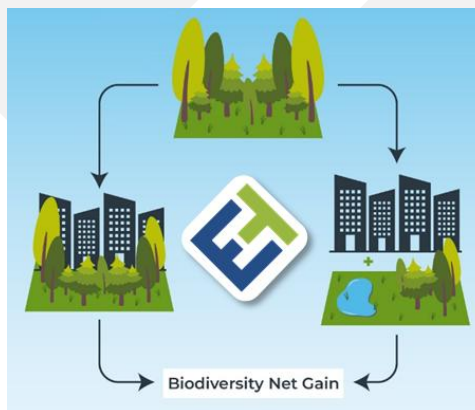
Methodology and Quantification Standards

This Biodiversity Net Gain (BNG) report has been completed using methodology consistent with the Science Based Targets for Nature (SBTN), Nature Positive Initiatives, and DEFRA Regulations.



Science-Based Targets for Nature Steps which Tunley Environmental's Biodiversity Net Gain (BNG) services aligns with to achieve reduced impact on Nature.

Biodiversity was quantified using the DEFRA (Department for Environment, Food & Rural Affairs) statutory (official) biodiversity metric as a tool to assess and measure biodiversity in the context of development projects. This metric is specifically designed to assist in quantification of the impact that development activities have on biodiversity and determine whether Biodiversity Net Gain (BNG) is achieved. Where BNG refers to the idea that the biodiversity value of a site should be enhanced due to development, ensuring a "net gain" in ecological terms. Tunley have completed all calculations within small site metric along with any required documents such as habitat condition. These additional documents will be submitted alongside this form in the excel format for LPA approval.



Tunley Environmental's conceptualisation of Biodiversity Net Gain.

Where applicable, the equivalent small site biodiversity metric was utilised for developments under the requirements for the statutory (official) biodiversity metric. The BNG assessment was further completed using methodology consistent with the international standard BS 8683:2021 (Process for designing and implementing BNG). Information on data sources and assumptions made to support this analysis are provided in Appendix A.



Executive Summary

Biodiversity is the foundation of the global economy. The World Economic Forum (WEF) estimates that over 50% of the world's GDP—equivalent to £33 trillion—depends significantly on nature and the services it provides. Yet biodiversity is amid a severe global crisis.

In response to this crisis, the UK government enacted the *Environment Act 2021*, which introduces a legally mandated approach to Biodiversity Net Gain (BNG) in England. BNG requires that most new developments leave biodiversity in a measurably better state than before. It aims to ensure that development projects not only minimise harm but actively deliver positive outcomes for nature. Through on-site or off-site habitat creation, enhancement, or restoration, BNG seeks to reverse biodiversity loss and embed ecological recovery as a standard component of land use planning and development.

Tunley Environmental have conducted an independent assessment to quantify the biodiversity value of the site before and after development to assess biodiversity of the site by implementing the small site metric. Using data provided by Barnes Homes and their client, the baseline 'area habitat' biodiversity units of the site were calculated to be 0.220 area habitat units which is over an area of 352 m². This is comprised of vegetated garden and a tree. The baseline 'hedgerow habitat' biodiversity units of the site were calculated to be 0.152 hedgerow and line of tree units. This is comprised of three native hedgerows.

Within the proposed development there are plans to create vegetated garden and developed land; sealed surface. The post-development results indicate that the site will only reach 0.004 area habitat units and 0.152 hedgerow and line of tree habitat units (Figure 1). These changes do not result in compliance with 10% BNG. Therefore, the developer is committed to purchase offsite credits to ensure the delivery of the 10% BNG required (Small site metric: Sheet 8).

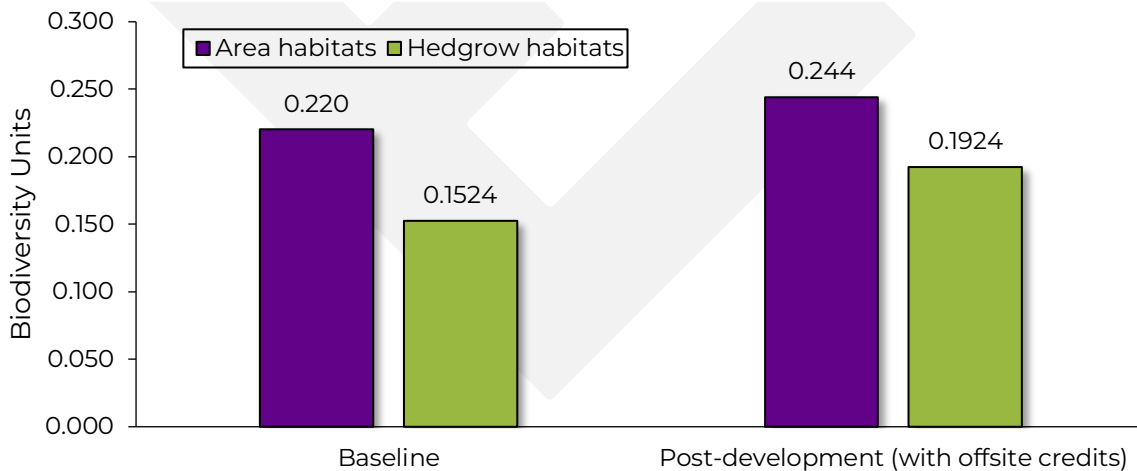


Figure 1. Total biodiversity units of the site, before and after development.



Introduction

Tunley Environmental has conducted an independent Biodiversity Net Gain (BNG) assessment to identify and quantify the biodiversity of the site before and after the development. This BNG assessment calculates the biodiversity value of the land by evaluating the number of habitats present, the habitat types, size, condition, and location. These data inputs are utilised within the small site metric to quantify the biodiversity units present before development.

Below shows the most recent aerial image of the site at the site (



Figure 2).



Figure 2. Aerial image of the site at Land adjacent to 99-108 South Parada, Cleckheaton, BD19 3AF.



Baseline Results

This baseline assessment is conducted to determine the existing biodiversity on the project site. This assessment establishes the current state of habitats, species, and ecosystem functions.

The baseline assessment for the site was conducted by analysing site photos to distinguish habitat types as well as implementing Google Earth to accurately analyse site plans alongside dimensions to yield overall meters of the project site by habitat type. Some example images are shown in sheet 4 of the small site metric.

A map of the habitats identified from these images is overlaid into the aerial image above in Figure 3.



Figure 3. Baseline Habitat of Land adjacent to 99-108 South Parada, Cleckheaton, BD19 3AF.

For the proposed site for development, 0.220 biodiversity units were identified pre-development (Figure 3 and Small site metric: Sheet 5). The [UK habitat classification \(UKHab\)](#) system is utilised to define habitats inputted within the metric.

Biodiversity Net Gain Results

The site aims to consider biodiversity impact by the creation of vegetated garden and retention of hedgerows to account for any biodiversity net loss due to construction, as well as to improve the site for the users of this site whilst still contributing to BNG goals (Figure 4).



Figure 4. Post-development Habitat Map at Land adjacent to 99-108 South Parada, Cleckheaton, BD19 3AF.

Of the area 'habitats' that will be lost during development, the BNG plan creates a variety of different area 'habitats' in its stead, which include vegetated garden and developed land; sealed surface (Small site metric: Sheet 5). Within 'hedges and lines of trees' habitats, all baseline habitats are retained in the development plans (Small site metric: Sheet 6). These habitats do not ensure that the 10% minimum net gain target for biodiversity will be met as evidenced in headline results section of the summary metric (Small site metric: Sheet 8).

The developer will purchase offsite credits to ensure that the 10% BNG uplift for both area habitats and hedgerow habitats will be met (Figure 5).

Off-site Biodiversity Unit proposal

We can supply the off-site Biodiversity Units you require from our Sheffield and Hartlepool Habitat Banks which are secured under a conservation covenant with RSK Biocensus and listed on the biodiversity gain sites register under the references: BGS-050924002 and BGS-090725003. Learn more about the Habitat Bank via our [BNG network](#).

Table 1 – Habitat Biodiversity Units

Biodiversity Unit type impacted	Distinctiveness	Number of Units impacted	Unit type provided	Distinctiveness	Habitat Bank	Proximity	Number of Units provided	Total cost (exc. VAT)
Individual trees	Medium	0.15	Lowland meadows	Very high	SHEF01	Local	0.15	£4,650.00
Residual biodiversity habitat	Low	0.07	Lowland meadows	Very high	SHEF01	Local	0.07	£1,855.00
Net gain target habitat (10%)	N/A	0.02	Lowland meadows	Very high	SHEF01	Local	0.02	£530.00
TOTAL		0.24				TOTAL	0.24	

Table 2 – Hedgerow Biodiversity Units

Biodiversity Unit type impacted	Distinctiveness	Number of Units impacted	Unit type provided	Distinctiveness	Habitat Bank	Proximity	Number of Units provided	Total cost (exc. VAT)
Net gain target hedgerow (10%)	N/A	0.02	Species-rich native hedgerow	Medium	HP01	National	0.02	£600.00
Subtotal		0.02				Subtotal	0.02	£600.00
Spatial risk offset hedgerow	N/A	0.00	Species-rich native hedgerow	Medium	HP01	National	0.02	£600.00
TOTAL		0.02				TOTAL	0.04	£8,235.00

This table outlines the indicative costs for Biodiversity Units based on your metric. These costs cover the entire 30-year BNG period in a one-off payment. There are no additional fees (e.g. legal or agency costs) or ongoing/recurring payments. We undertake the liability for all habitat maintenance and management, giving you a 'clean break'.

Figure 5. Evidence of offsite BNG credit quote.



Conclusion

The BNG assessment by Tunley Environmental have confirmed the site at Land adjacent to 99-108 South Parada, Cleckheaton, BD19 3AF will not reach the national standard of 10% biodiversity net gain. Therefore, the developer will purchased offsite credits to ensure the delivery of the 10% BNG requirement.

BNG approaches offer a pathway to not only safeguard the intricate web of life on Earth but also to preserve the essential ecosystem services that underpin the global economy and human prosperity. As the urgency of addressing biodiversity loss intensifies, a comprehensive strategy that integrates conservation, sustainable development, and restoration efforts is essential to ensure a resilient and biodiverse future for the planet.





Appendix

Data Sources

All data results were analysed through the small site metric from DEFRA. The excel version of the metric will also be submitted alongside this report for further evidence and LPA approval and for compliance with BNG regulations.

Headline Results		
Headline		BNG Targets Not Met ▲
Trading Rules		Trading Rules Not Satisfied ▲
Next steps		Scheme alterations or offsite units required
Baseline Units	Area habitat units	0.2202
	Hedgerow units	0.1524
	Watercourse units	Zero Units Baseline
Post-development Units	Area habitat units	0.0043
	Hedgerow units	0.1524
	Watercourse units	0.0000
Total net unit change	Area habitat units	-0.2159 ▲
	Hedgerow units	0.0000 ▲
	Watercourse units	0.0000
Total net % change	Area habitat units	-98.06% ▲
	Hedgerow units	0.00% ▲
	Watercourse units	% target not appropriate
Area habitat units required to meet target		0.2379
Hedgerow units required to meet target		0.0152
Watercourse units required to meet target		0.0000

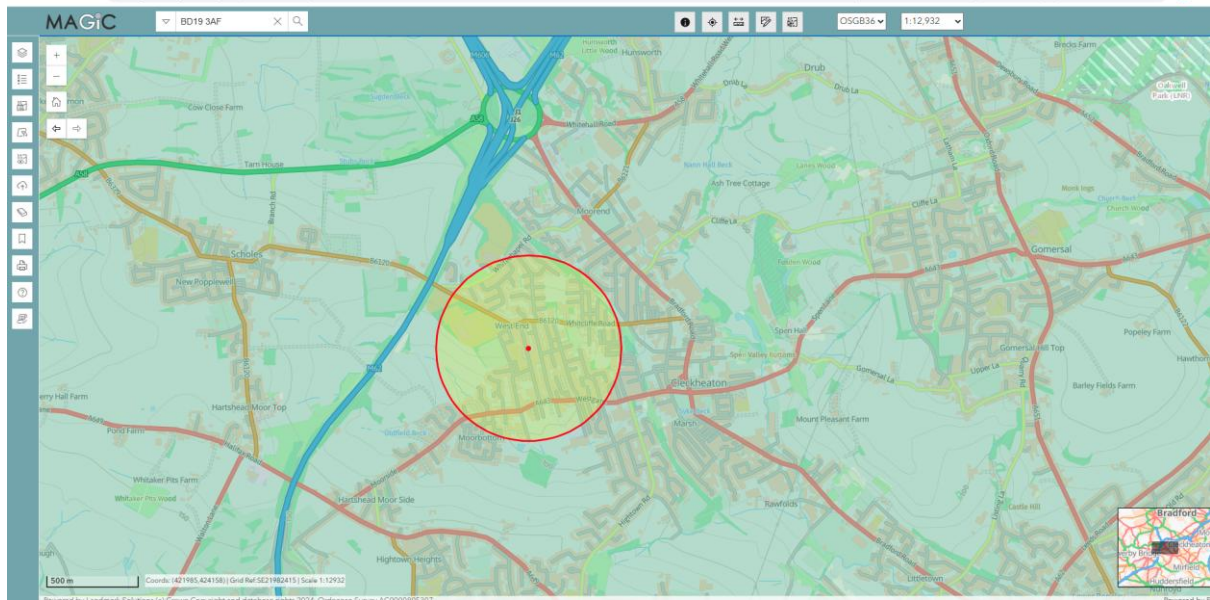
Habitat Classification and Justification

We conducted a thorough assessment of all habitat types utilising the guidelines outlined in "The UK Habitat Classification Version 2" (UKHab). UKHab serves as a comprehensive, hierarchical system that integrates seamlessly with existing classifications in the UK and Europe. It's architecture, inclusive of primary habitats and secondary codes, enhances the accuracy and consistency of habitat assessments by allowing for the direct attachment of additional features such as habitat mosaics and management strategies. This approach not only facilitates the integration of legacy datasets but also enables efficient sharing of habitat data at regional, national, and international levels. BNG Compliance adheres to these classifications, ensuring consistency and compliance with ecological standards. It's essential that a trained and certified ecologist completes the assessment. For more information, please visit: [UKHab](#).



Magic Map Results

There are no priority habitats on site but the site is within 500 m radius of deciduous woodland. In consequence, the proposed development will not have a negative impact on any priority habitats or designated sites.





Approval

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Revision History:	Change Description:	Changed by:	Date:	Approved by:	Date:
B					
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