



Biodiversity Net Gain Assessment

Premier Inn, Sheffield Barnsley (M1 J36), Maple Rd, Tankersley, Barnsley, S75 3DL
Whitbread Group PLC

Status	Issue	Name	Date
Draft	1	Mel Reid BSc (Hons) MRes MRSB, Senior Consultant	17/05/2024
Reviewed	1.1	Mel Reid BSc (Hons) MRes MRSB, Senior Consultant	17/05/2024
Final	2	Mel Reid BSc (Hons) MRes MRSB, Senior Consultant	17/05/2024
Updated	3	Mel Reid BSc (Hons) MRes MRSB, Senior Consultant	24/05/2024
Updated	4	Mel Reid BSc (Hons) MRes MRSB, Senior Consultant	25/09/2024

Arbtech Consultant's Contact Details:

Mel Reid BSc (Hons) MRes MRSB
Senior Consultant

Tel: 07711591700 **Email:** melreid@arbtech.co.uk

<https://arbtech.co.uk>

Limitations and Copyright

Arbtech Consulting Limited has prepared this report for the sole use of the above-named client or their agents in accordance with our General Terms and Conditions, under which our services are performed. It is expressly stated that no other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us. This report may not be relied upon by any other party without the prior and express written agreement of Arbtech Consulting Limited. The conclusions and recommendations contained in this report are based upon information provided by third parties. Information obtained from third parties has not been independently verified by Arbtech Consulting Limited.

© This report is the copyright of Arbtech Consulting Limited. Any unauthorised reproduction or usage by any person other than the addressee is strictly prohibited.

Industry Guidelines and Standards

This report has been written with due consideration to:

- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management, Construction Industry Research and Information Association & Institute of Environmental Management and Assessment (2019). Biodiversity Net Gain – Good Practice Principles for Development.

Proportionality

The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.

The desk studies and field surveys undertaken to provide a Preliminary Ecological Appraisal (PEA) might in some cases be all that is necessary.

(BS 42020, 2013)

Executive Summary

Arbtech Consulting Limited was instructed by Whitbread Group PLC to undertake a Biodiversity Net Gain (BNG) Assessment at Premier Inn, Sheffield Barnsley (M1 J36), Maple Rd, Tankersley, Barnsley, S75 3DL (hereafter referred to as “the site”). The assessment was required to inform a planning application for extension of existing hotel comprising the construction of an annex within an area of carparking (hereafter referred to as “the proposed development”).

The baseline area-based habitat value of the site is 3.54 units, comprising buildings, hard standing, other neutral grassland and trees. The post development habitat value of the site is 3.94 units comprising the retention of existing building, hard standing, grassland and trees, as well as the enhancement of some grassland, native scrub planting, introduced shrubs and new tree planting. This results in an overall net change in **habitat value of +11.24%**.

The baseline linear-based habitat value of the site is 1.13 units, comprising native hedgerows. The post development hedgerow value of the site is 1.34 units comprising the retention of existing hedgerows and the planting of new native hedgerow. This results in an overall net change in **hedgerow value of +17.70%**.

Contents

1.0 Introduction and Context..... 6

1.1 Site Location, Geology and Landscape Context..... 6

1.2 BNG Informative 6

1.3 Scope of this Report..... 7

2.0 Methodology..... 8

2.1 Baseline Biodiversity Value 8

2.2 Post Development Biodiversity Value 9

2.3 Limitations..... 10

3.0 Results..... 11

3.1 Baseline Habitats..... 11

3.2 Post Development Habitats..... 15

3.3 Change in Biodiversity Value of the Site 17

4.0 Recommendations to Deliver BNG..... 18

4.1 Discussion..... 18

5.0 Bibliography..... 19

Appendix 1: Proposed Development Plan 20

Appendix 2: Site Location Plan 21

Appendix 3a: Baseline Habitat Plan..... 22

Appendix 3b: Post Development Habitat Plan 23

1.0 Introduction and Context

Arbtech Consulting Limited was instructed by Whitbread Group PLC to undertake a Biodiversity Net Gain (BNG) Assessment at Premier Inn, Sheffield Barnsley (M1 J36), Maple Rd, Tankersley, Barnsley, S75 3DL (hereafter referred to as “the site”). The assessment was required to inform a planning application for the extension of existing hotel comprising the construction of an annex within an area of carparking (hereafter referred to as “the proposed development”). A plan showing the proposed development is provided in Appendix 1.

This report should be read in conjunction with the following documents:

- ❖ Statutory Metric Calculation - Premier Inn, Sheffield Barnsley, S75 3DL - v1 - 17-05-24 (Arbtech Consulting Ltd., 2024)
- ❖ Preliminary Ecological Appraisal (PEA): PEA-PRA -Premier Inn Sheffield Barnsley (M1 J36), S75 3DL - V1 (Arbtech Consulting Ltd., 2024)

1.1 Site Location, Geology and Landscape Context

The survey site is centred on National Grid Reference SK 33548 99104 and has an area of approximately 1.1ha. The site consists of a Premier Inn hotel adjoined to a Brewers Fayre restaurant, with associated car parking, grassland, hedgerows, scattered trees and shrubs. The site is located with an industrial estate next to the roundabout for the A616 and the A61. The surrounding habitats predominantly include woodland and arable fields to the south and east of the site, and the industrial estate is located to the north of the site. A site location plan is provided in Appendix 2.

1.2 BNG Informative

BNG is a specific, measurable outcome of project activities that deliver demonstrable and quantifiable benefits to biodiversity compared to the baseline situation. In order to achieve BNG, a project must be able to demonstrate that it has followed all 10 of the Principles of Biodiversity Net Gain (as outlined in the *British Standard 8683:2021 Process for Designing and Implementing Biodiversity Net Gain*).

The legalised Environment Act (2021) requires developments in England to demonstrate a measurable net gain in biodiversity and sets a target of a minimum of +10% BNG for all developments. It also stipulates that a management plan with a minimum 30-year term, should be adopted to ensure biodiversity net gain can be delivered. The requirement for biodiversity net gain is also enshrined within the National Planning Policy Framework (NPPF, 2023). As of 12th February 2024, BNG has become mandatory. The DEFRA Statutory Biodiversity Metric is the latest and final version of the metric tool used to calculate BNG. It enables the calculation of habitat value pre- and post-development in order to determine the overall change in biodiversity value as a result of the proposed development. The Biodiversity Metric has separate BNG assessments for areas of habitat, hedgerows and watercourses.

The biodiversity value of a site should be maximised. However, it may not always be possible to achieve a +10% biodiversity net gain within a site and therefore the Statutory Biodiversity Metric can also account for offsite habitat creation, where land is available. Alternatively, developers can seek to provide an agreed financial contribution to an appropriate third party (such as the Local Authority, the UK Government or another landowner) to deliver the required biodiversity net gain elsewhere on their behalf.

1.3 Scope of this Report

This report assesses the biodiversity value of the site pre-development and outlines the minimum biodiversity units required to achieve a +10% net gain.

2.0 Methodology

2.1 Baseline Biodiversity Value

The baseline BNG Calculation was informed by a PEA (Arbtech Consulting Ltd., 2024). A baseline habitat plan is provided in Appendix 3.

Habitat Classification

The PEA classified the habitats on site according to UK Habitat Classification User Manual (UK Habitat Classification Working Group, 2023).

Habitat Area/Length

The area or length of each habitat was calculated using QGIS software. In calculating the area or length of each habitat, habitats which occur as two or more isolated parcels across the site were combined, where they were deemed to be of a similar composition and condition. Distinctions were made between habitats to be retained (i.e. left as found in baseline), enhanced (i.e. improved condition) or lost (i.e. destroyed by proposed development).

Areas of scattered trees were calculated using the Tree Helper tool within the Statutory Biodiversity Metric. Class sizes for urban trees are set out in Table 14 of the Statutory Biodiversity Metric User Guide (Natural England, 2024).

Habitat Condition

Habitat condition was assessed using the relevant condition assessment sheets found in the Statutory Biodiversity Metric Condition Assessment Supplement (Natural England, 2024).

Strategic Significance

Strategic significance was assigned for each habitat based upon a review of the following:

- ❖ Ecological value
- ❖ Function within the landscape
- ❖ Any site or habitat allocations under the Barnsley Metropolitan Borough Council Local Plan

2.2 Post Development Biodiversity Value

The post development BNG Calculation was informed by the proposed site plan which is included in Appendix 1. A post development habitat plan is provided in Appendix 4.

Habitat Classification

Proposed habitats were translated to their equivalents in the UK Habitat Classification using The UK Habitat Classification Habitat Definitions Version 2.0 (The UK Habitat Classification Working Group, 2023) and the information provided within the proposed site plan.

Habitat Area/Length

The area or length of each proposed habitat was calculated using qGIS software. In calculating the area or length of each habitat, habitats which occur as two or more isolated parcels across the site were combined, where they were deemed to be of similar composition and condition. Distinctions were made between habitats to be retained (i.e. left as found in baseline), enhanced (i.e. improved condition) or newly created.

Areas of scattered trees were calculated using the Tree Helper tool within the Statutory Biodiversity Metric. Class sizes for urban trees are set out in Table 14 of the Statutory Biodiversity Metric User Guide (Natural England, 2024).

Habitat Condition

Target habitat condition for each proposed habitat was determined assessed using the Temporal Multipliers Tool and the Enhancement Temporal Multipliers Tool included in the Statutory Biodiversity Metric spreadsheet as well as the relevant condition assessment sheets found in the Statutory Biodiversity Metric User Guide (Natural England, 2024). This is based on the assumption that a 30-year management plan will be adopted for the site.

Strategic Significance

Strategic significance was assigned for each proposed habitat based upon a review of the following:

- ❖ Likely ecological value
- ❖ Function within the landscape
- ❖ Any site or habitat allocations under the Barnsley Metropolitan Borough Council Local Plan

2.3 Limitations

There were no specific limitations to the assessment.

3.0 Results

3.1 Baseline Habitats

Table 1 details the baseline habitats present within the site along with their area/length, condition and strategic significance. A full condition assessment for each habitat (where relevant) is provided in Appendix 5a.

Table 1: Baseline Biodiversity Value

Type	Habitat	Area (ha) / Length (km)	Description	Condition Assessment	Strategic Significance
Area-Based	u1b Developed land, sealed surface	0.2265ha	The site has by tarmac car parking and access roads, all of which are kerbed and surround mainly the south and east of the site.	Habitat condition pre-determined as ' N/A ' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	Low Strategic Significance Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).
	u1b5 Buildings	0.1196ha	There is the hotel and restaurant building in the centre of the site which is further described in the "Bats" table.	Habitat condition pre-determined as ' N/A ' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	Low Strategic Significance Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).

	<p>g4 Modified grassland</p>	0.14ha	<p>There are several small areas of grassland on site, with a large area to the east and south, all of which are regularly managed and maintained at a sward height of around 5cm. No bramble, bracken or invasive species was found within the grassland. The bare ground coverage is around 1% as there are a few sections near to the car park where visitors have walked on the grassland.</p> <p>There is no sign of physical damage from machinery or excess poaching, however the grassland is clearly regularly managed and therefore will be regularly trampled by machinery. The species richness is moderate but the distribution is low with perennial ryegrass, red fescue and creeping bent dominating the grassland. The forb species coverage is around 10% of the grassland. Species present within the grassland include perennial ryegrass (A), red fescue (A), common bent (A), soft brome (O), common daisy (F), white clover (A), dandelion agg. (F), creeping buttercup (F), mouse ear chickweed (F), common ragwort (O), thyme leaved speedwell (O), rosebay willowherb (O), lesser trefoil (O), mouse ear hawkweed (O), dove's-foot crane's-bill (O), sow thistle (O) and feathermoss sp. (O).</p>	<p><i>Poor: passes 4 of 7 criteria excluding essential criterion A.</i></p> <p>Assessed using the 'Grasslands Low Distinctiveness' habitat type condition sheet.</p>	<p>Low Strategic Significance</p> <p>Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).</p>
--	---	--------	---	---	---

	<p>32 Urban trees</p>	<p>0.4072ha (based on 48 x small trees and 13 x medium trees)</p>	<p>There are around 10 trees located within the grassland, most of which are native silver birch (F), field maple (F), and a few non-native species such as mountain ash (F) and staghorn sumac (R). Three of these trees in the centre of the site are proposed to be impacted. The three trees are a semi mature silver birch that is around 5m tall, an early mature birch that is 11m tall and a staghorn sumac that is around 3m tall. These three trees are small with a trunk diameter of less than 30cm. There is no evidence of damage or vandalism to the trees, and there doesn't appear to be sufficient damage from machinery or pesticides. None of the trees appear to have niches for invertebrates or bats as all the trees are quite young, and the bark of the scattered trees appears intact with no knot holes or cracks present. There is a small amount of ivy at the base of the semi mature silver birch which could provide a niche for invertebrates. The foliage on the trees is dense enough for birds to nest within the branches.</p>	<p>Moderate: passes 4 of 6 criteria.</p> <p>Assessed using the 'Individual Trees' habitat type condition</p>	<p>Low Strategic Significance</p> <p>Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).</p>
--	----------------------------------	---	--	---	---

Linear-Based	h2a Native Hedgerow	0.1891km	<p>There is a large native hedgerow along the eastern, southern and western boundary of the site, which is located between the car park of the hotel and the A616 road. The hedgerow consists of predominantly native species, including mature trees and some younger saplings of hawthorn (A), hornbeam (F), willow sp. (F), beech (F), silver birch (F), field maple (O), alder (O), sycamore (O), and some scrub species are present including bramble (A) and dogrose sp. (F).</p> <p>The hedgerow is approximately 7m wide, 10m tall and around 240m long. The canopy is continuous with minimal gaps present, and there are no gaps along the base of the hedgerow. The ground vegetation is undisturbed as the bramble and willowherb has dominated the ground floor of the hedgerow.</p> <p>The hedgerow is located between the A616 to the south and the car park of the site to the north, and is connected to a larger area of hedgerows and trees to the west. This is connected to the wider landscape and this pocket of woodland does extend further, but is then surrounded by arable fields which therefore isolates the woodland pocket.</p> <p>There does not appear to be any damage to the hedgerow, and no invasive species are present.</p>	<p>Good: <i>passes 9 of 10 criteria.</i></p> <p>Assessed using the 'Species Rich Hedgerow' habitat type condition sheet.</p>	<p>Low Strategic Significance</p> <p>Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).</p>
--------------	-------------------------------	----------	---	---	---

3.2 Post Development Habitats

Table 2 details the post development habitats present within the site along with their area/length, condition and strategic significance. An assessment of the anticipated condition for each habitat (where relevant) is provided in Appendix 5b, which is based on the assumption that a 30 year management plan will be implemented for the site. The proposed development will result in the loss of grassland and trees.

Table 2: Post Development Biodiversity Value

Type	Habitat	Area (ha) / Length (km)	Description	Condition Assessment	Strategic Significance
Area-Based	u1b Developed land, sealed surface	0.1696ha (retained) 0.003ha (new)	Existing hard standing retained and new hard standing.	Habitat condition pre-determined as ' N/A ' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	Low Strategic Significance Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).
	u1b5 Buildings	0.1196ha (retained) 0.0284ha (new)	Existing buildings and new building.	Habitat condition pre-determined as ' N/A ' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	Low Strategic Significance Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).
	g4 Modified grassland	0.0936ha (retained)	Existing grassland retained.	Existing grassland to maintain current condition (poor).	Low Strategic Significance Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).

	g3c Other neutral grassland	0.0189ha (enhanced) 0.0226ha (new)	An area of existing grassland enhanced from modified grassland to other neutral grassland to be achieved by a wildflower seed mix to create a higher species diversity	New and enhanced grassland anticipated to reach moderate condition (criteria A, C, D & E can be achieved via an appropriate seed mix and ongoing management)	Low Strategic Significance Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).
	h3h Mixed scrub	0.0208ha	New native scrub planting.	Anticipated to reach moderate condition.	Low Strategic Significance Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).
	847 Introduced shrubs	0.01ha	New areas of non-native shrubs	Habitat condition pre-determined as ' N/A ' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	Low Strategic Significance Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).
	32 Urban trees	0.3949ha (retained) 0.0529ha (new)	Three small trees (T10, T11 and T12) will be removed to facilitate the new building, with all other trees on site retained. Thirteen new trees to be planted on site.	Existing trees to maintain current condition (moderate) and new trees anticipated to reach moderate condition.	Low Strategic Significance Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).

Linear-Based	h2a Native Hedgerow	0.1891km (retained) 0.06km (new)	Existing hedgerow retained and 60m of new hedgerow to be planted	Existing hedgerow to maintain current condition (good) and new hedgerow anticipated to reach good condition.	Low Strategic Significance Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).
--------------	-------------------------------	---	--	--	--

3.3 Change in Biodiversity Value of the Site

Full details are provided in the DEFRA Statutory Biodiversity Metric. The headline results are presented in Appendix 6.

Area-Based Habitat Units

The baseline area-based habitat value of the site is 3.54 units, comprising buildings, hard standing, other neutral grassland and trees. The post development habitat value of the site is 3.94 units comprising the retention of existing building, hard standing, grassland and trees, as well as the enhancement of some grassland, native scrub planting, introduced shrubs and new tree planting. This results in an overall net change in habitat value of +11.24%.

Linear-Based Habitat Units

The baseline linear-based habitat value of the site is 1.13 units, comprising native hedgerows. The post development hedgerow value of the site is 1.34 units comprising the retention of existing hedgerows and the planting of new native hedgerow. This results in an overall net change in hedgerow value of +17.70%.

4.0 Recommendations to Deliver BNG

4.1 Discussion

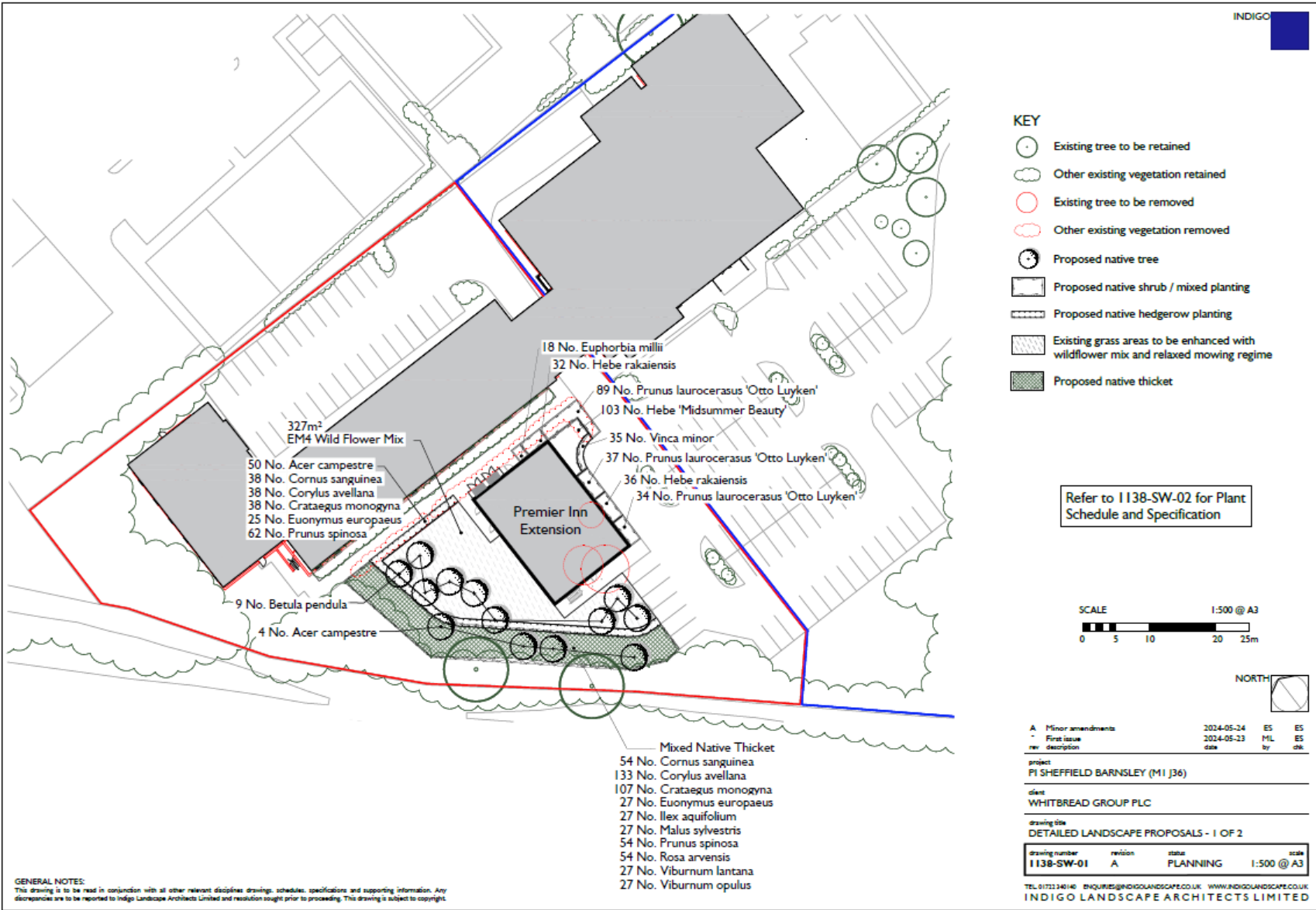
The current proposed plan results in a 11.24% net gain in habitat units and a 17.70% net gain in hedgerow units. This is more than the 10% target of biodiversity net gain.

A Biodiversity Net Gain (BNG) Management Plan must be produced for the site. This should include recommendations for the implementation, management and monitoring of the site for at least 30 years to ensure that biodiversity net gain is delivered.

5.0 Bibliography

- Arbtech Consulting Ltd. (2024). Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA): Premier Inn, Sheffield Barnsley (M1 J36), Maple Rd, Tankersley, Barnsley, S75 3DL.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.
- CIEEM-CIRIA-IEMA (2019) Biodiversity Net Gain – Good Practice Principles for Development.
- Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey a technique for environmental audit.
http://jncc.defra.gov.uk/PDF/pub10_handbookforphase1habitatsurvey.pdf
- National Planning Policy Framework (2023). <https://www.gov.uk/government/publications/national-planning-policy-framework--2>
- Natural England (2024). The Statutory Biodiversity Metric User Guide. <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>
- Natural England (2024). The Statutory Biodiversity Metric. <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>
- UK Habitat Classification Working Group (2023). UK Habitat Classification – Habitat Definitions V2.0.
- East Riding Local Plan (2012-2029) Adopted 2016: <https://downloads.eastriding.org.uk/corporate/pages/east-riding-local-plan/Strategy%20Document%20-%20Adopted%20April%202016%20lo.pdf>

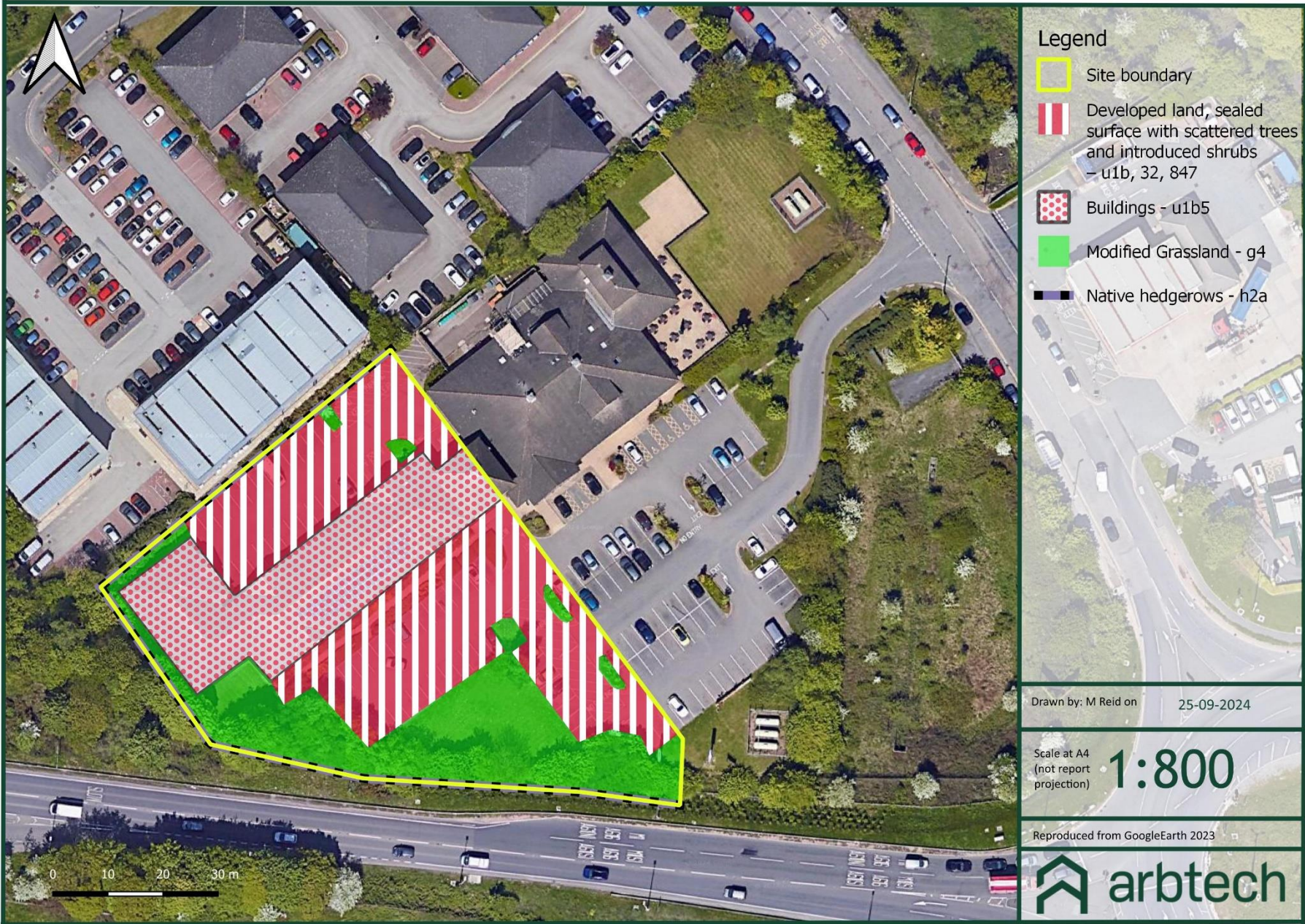
Appendix 1: Proposed Development Plan



Appendix 2: Site Location Plan



Appendix 3a: Baseline Habitat Plan



Appendix 3b: Post Development Habitat Plan

