



## Biodiversity Net Gain Assessment

Avalon House, 72 Lower Mortlake Road, Richmond TW9 2JY

Barings Real Estate

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### 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 Baring Real Estate to undertake a Biodiversity Net Gain (BNG) Assessment at Avalon House, 72 Lower Mortlake Road, Richmond TW9 2JY (hereafter referred to as “the site”). The assessment was required “Remove the existing roof, and construct a rooftop extension at the fourth floor, rear extensions to floors ground to four, provision of terraced amenity spaces to floors two to four, recladding and remodelling the façade and improvements to the Lower Mortlake Road entrance, landscaping improvements to the rear carparking area, provision of end of journey and cycle parking facilities, and associated building servicing and sustainability improvements.” (hereafter referred to as “the proposed development”).

The current proposed plan results in a 17.30% net gain in habitat units. This is more than the 10% target of biodiversity net gain. It is recommended that 0.00422 km of ornamental, non-native hedgerows be planted to meet the 10% net gain in hedgerow units.

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## 1.0 Introduction and Context

### 1.1 Background

Arbtech Consulting Limited was instructed by Barings Real Estate to undertake a Biodiversity Net Gain (BNG) Assessment at Avalon House, Mortlake Road, Richmond, TW9 2JY (hereafter referred to as “the site”). The assessment was required to “Remove the existing roof, and construct a rooftop extension at the fourth floor, rear extensions to floors ground to four, provision of terraced amenity spaces to floors two to four, recladding and remodelling the façade and improvements to the Lower Mortlake Road entrance, landscaping improvements to the rear carparking area, provision of end of journey and cycle parking facilities, and associated building servicing and sustainability improvements.” (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:

- Defra Statutory Biodiversity Metric
- PEA/PRA report for the site

### 1.2 Site Location, Geology and Landscape Context

The site is located at National Grid Reference TQ 18530 75443 and has an area of approximately 0.33ha comprising of developed land; sealed surface and vegetated garden with a single ornamental hedgerow. It is surrounded by residential roads with Richmond Park NNR, SSSI and SAC to the South and Syon Park SSSI to the Northwest. The wider landscape comprises of several local nature reserves, priority deciduous woodland, wood pasture and parkland. A site location plan is provided in Appendix 2.

### 1.3 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 Environment Act (2021) states biodiversity net gain is mandatory for sites over 0.5ha as of February 2024. The requirement for biodiversity net gain is also enshrined within the National Planning Policy Framework (NPPF, 2021). The DEFRA Statutory Biodiversity Metric is the widely accepted 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.

## **2.0 Methodology**

### **2.1 Baseline Biodiversity Value**

The baseline BNG Calculation was informed by Preliminary Ecology Appraisal (Arbtech, 2024). A baseline habitat plan is provided in Appendix 3.

### **Habitat Classification**

The PEA classified the habitats on site according to The UK Habitat Classification Habitat Definitions Version 2.0 (The UK Habitat Classification Working Group, July 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 8-1 of the Statutory Biodiversity Metric User Guide (Natural England, 2023).

### **Habitat Condition**

Habitat condition was assessed using the relevant condition assessment sheets found in the Statutory Biodiversity Metric User Guide (Natural England, 2023).

### **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 London Borough Richmond Upon Thames Council Local Plan



## **2.2 Post Development Biodiversity Value**

The post development BNG Calculation was informed by Proposed Development 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, July 2023) and the information provided within the Proposed Development 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 8-1 of the Statutory Biodiversity Metric User Guide (Natural England, 2023).

### **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, 2023). 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 London Borough Richmond Upon Thames Council Local Plan

### ***2.3 Limitations***

The PEA was carried out during the sub-optimal season for habitat classification and condition assessments, however given the types of habitat present on site, as well as the current use and management of the site this is not considered a major limitation. Where any data for a specific criteria for conditions assessments is not available the criteria is assumed to be a pass in order to compensate for the lack of data.

### 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

Habitat	Area / Length	Description	Condition Assessment	Strategic Significance
Developed land; sealed surface – u1b6	0.29577 ha	The majority of the site consists of developed land, with sealed surfaces including car parking, and tarmac paving walkways. There is also a single commercial building on site.	N/A	Area/compensation not in local strategy/ no local strategy. Low Strategic Significance.  Habitat is not included in local biodiversity action plan.
Vegetated garden - 828	0.03273 ha	There are patches of vegetated garden surrounding the building which contained introduced shrub and two small young Japanese Cherry trees with no features.	N/A	Area/compensation not in local strategy/ no local strategy. Low Strategic Significance.  Habitat is not included in local biodiversity action plan.
Non-native and ornamental hedgerow – h2b	0.01762 km 0.02 units	A single ornamental hedgerow is located along the southern elevation of the building which has limited ecological value.	Poor	Area/compensation not in local strategy/ no local strategy. Low Strategic Significance.  Habitat is not included in local biodiversity action plan.

#### 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 vegetated garden.

Table 2: Post Development Biodiversity Value

Habitat	Area / Length	Description	Target Condition	Strategic Significance
Vegetated garden - 828	0.0242 ha retained (0.05 units) 0.00652 ha created (0.01 units)	Areas of introduced shrubs and grasses will be planted surrounding the building and car park.	N/A	Area/compensation not in local strategy/ no local strategy. Low Strategic Significance.  Habitat is not included in local biodiversity action plan.
Developed land; sealed surface – u1b6	0.23864 ha retained 0.05914 ha created	Additional car park and a small extension will be created.	N/A	Area/compensation not in local strategy/ no local strategy. Low Strategic Significance.  Habitat is not included in local biodiversity action plan.
Non-native and ornamental hedgerow – h2b	0.01762 km retained 0.02 units	The hedgerow will be retained	Poor	Area/compensation not in local strategy/ no local strategy. Low Strategic Significance.  Habitat is not included in local biodiversity action plan.
Facade-bound green wall	0.01222 ha 0.002 units	Green walls will be created in two places along the building. A medium will be used with climbing and vine plants being used to go up the side of the building. It is recommended that native species be used to enhance biodiversity.	Poor.	Area/compensation not in local strategy/ no local strategy. Low Strategic Significance.  Habitat is not included in local biodiversity action plan.

### 3.3 Change in Biodiversity Value of the Site

Full details are provided in the Defra Biodiversity Metric 4.0. The headline results are presented in Appendix 6.

#### Areas of Habitat

The baseline habitat value of the site is 0.07 units, comprising 0.07 units of vegetated garden and developed land, sealed surface.

The post development habitat value of the site is 0.08 units, comprising the creation of buildings and hardstanding (no value) and vegetated garden (0.01 units)

This results in a net change in biodiversity of 17.3% (i.e. a net gain).

**Hedgerows**

The baseline hedgerow value of the site is 0.02 units of ornamental non-native hedgerow.

The post development habitat value of the site is 0.02 units of the retained hedgerow.

This results in a net change in biodiversity of 0%.

## **4.0 Recommendations to Deliver BNG**

### ***4.1 Discussion***

The current proposed plan results in a 17.30% net gain in habitat units. This is more than the 10% target of biodiversity net gain. It is recommended that 0.00422 km of ornamental, non-native hedgerows be planted to meet the 10% net gain in hedgerow units.

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.

### ***4.2 Post Development***

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.

## 5.0 Bibliography

- 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](http://jncc.defra.gov.uk/PDF/pub10_handbookforphase1habitatsurvey.pdf)
- Natural England (2023). The Biodiversity Metric 4.0 (JP039).
- Natural England (2023). The Biodiversity Metric 4.0 User Guide (JP039).
- Natural England (2023). The Biodiversity Metric 4.0 Technical Annex 1 - Condition Assessment Sheets and Methodology (JP039).
- Natural England (2023). The Biodiversity Metric 4.0 Technical Annex 2 – Technical Information (JP039).
- The UK Habitat Classification Habitat Definitions Version 2.0 (The UK Habitat Classification Working Group, July 2023)

### Appendix 1: Proposed Development Plan

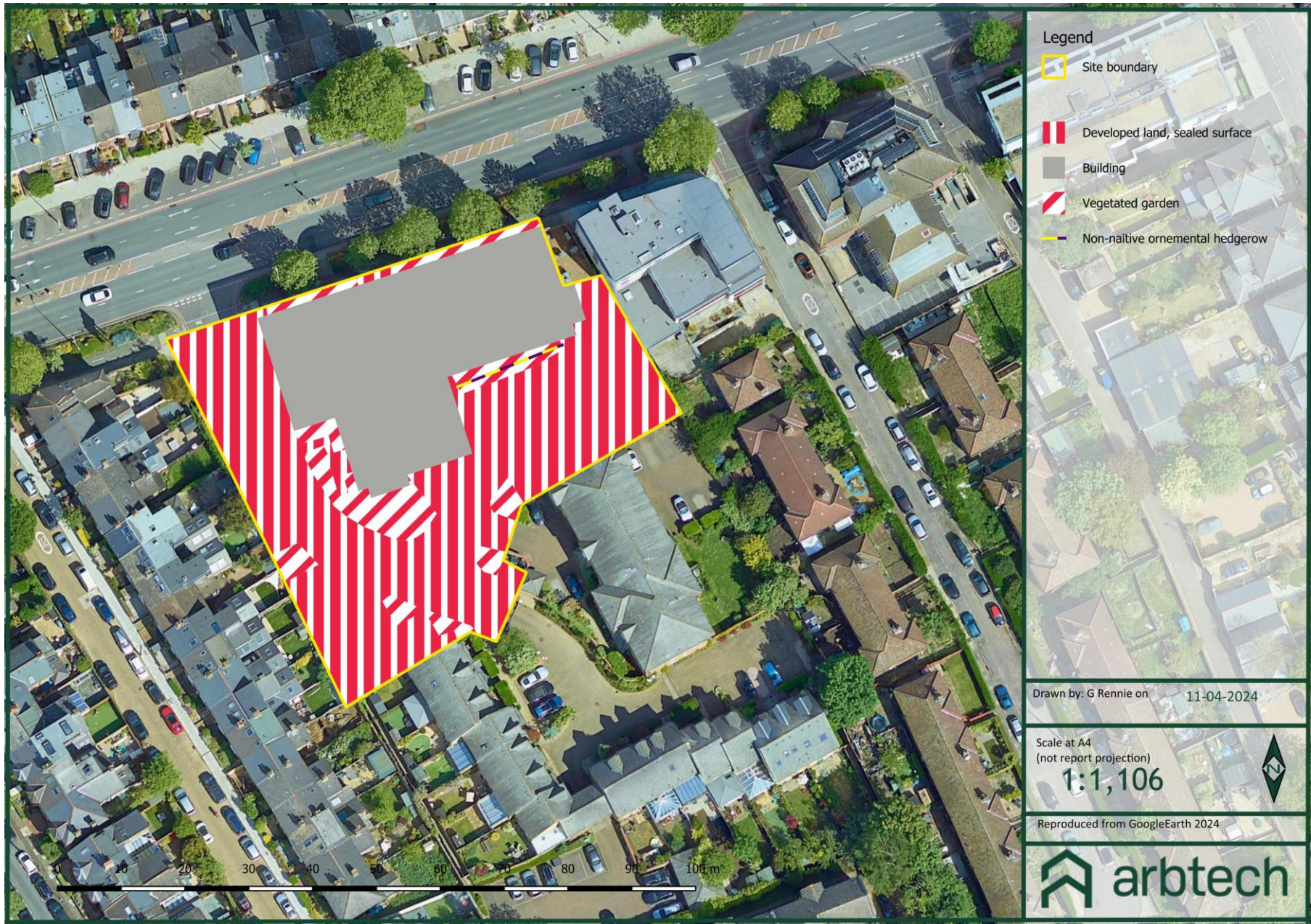




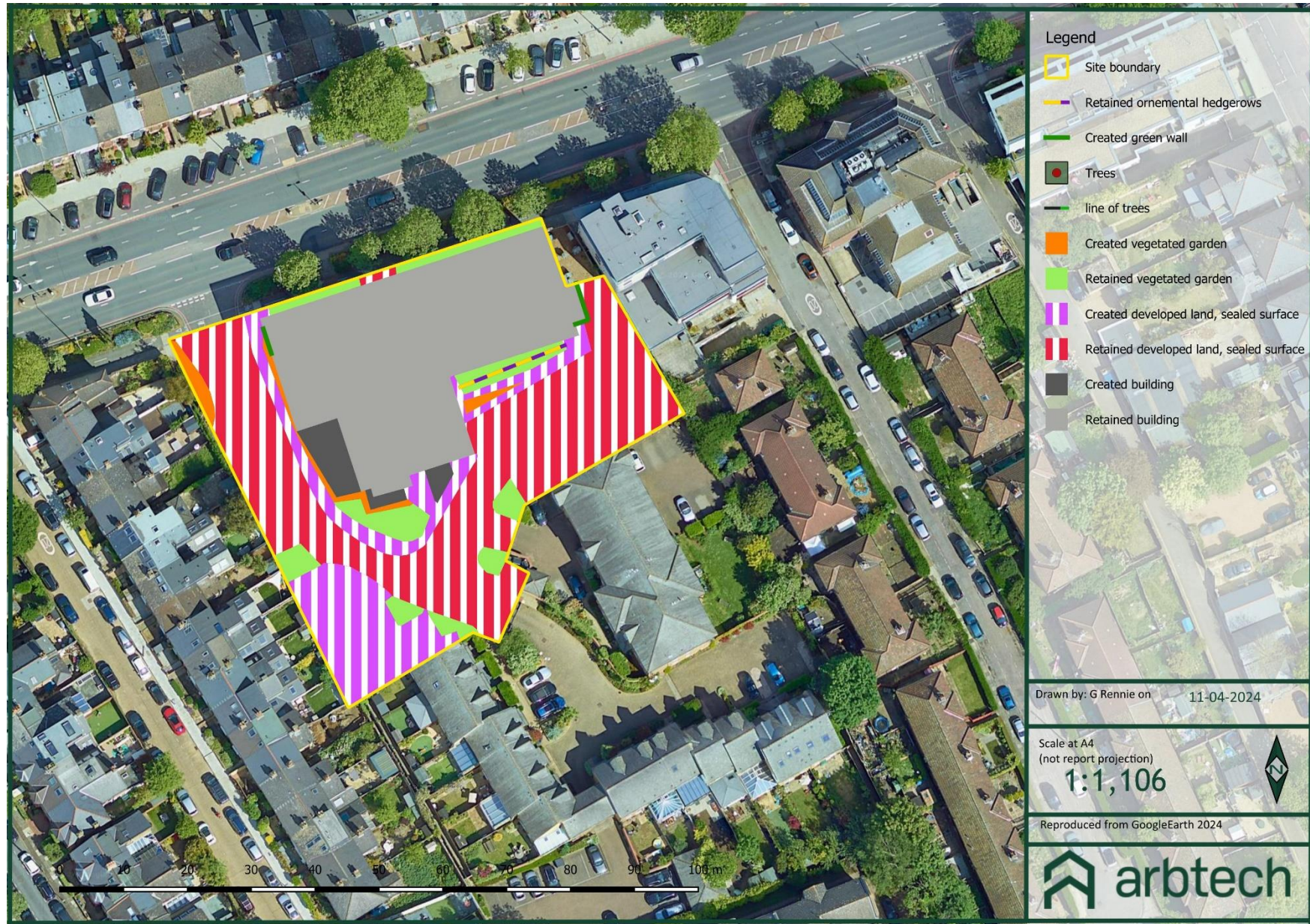
### Appendix 2: Site Location Plan



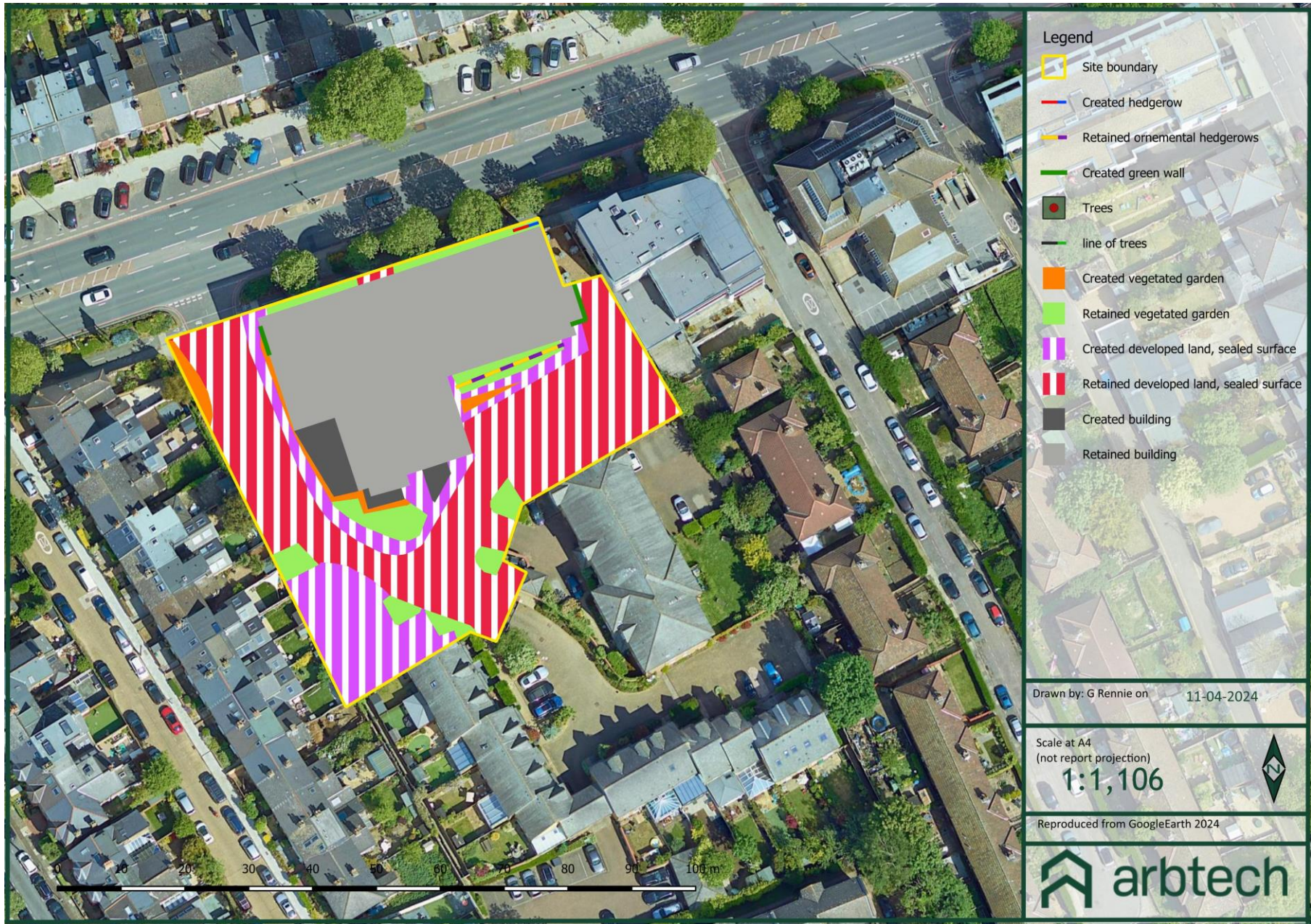
### Appendix 3: Baseline Habitat Plan



Appendix 4a: Post Development Habitat Plan



### Appendix 4b: Recommended Post Development Habitat Plan



### Appendix 5: Headline BNG Results

The Statutory Metric is provided as a separate excel spreadsheet.

FINAL RESULTS				
<b>Total net unit change</b> (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>			0.01
	<i>Hedgerow units</i>			0.00
	<i>Watercourse units</i>			0.00
<b>Total net % change</b> (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>			17.30%
	<i>Hedgerow units</i>			0.00%
	<i>Watercourse units</i>			0.00%
<b>Trading rules satisfied?</b>		Yes ✓		
<b>Unit Type</b>	<b>Target</b>	<b>Baseline Units</b>	<b>Units Required</b>	<b>Unit Deficit</b>
<i>Habitat units</i>	10.00%	0.07	0.07	0.00
<i>Hedgerow units</i>	10.00%	0.02	0.02	0.00
<i>Watercourse units</i>	10.00%	0.00	0.00	0.00

Total net gain achieved is less than target set ▲

No additional area habitat units required to meet target ✓

No additional watercourse units required to meet target ✓