Katie Belbin BA (Hons)
Graduate Ecologist
katiebelbin@arbtech.co.uk
Arbtech Consulting Ltd
arbtech.co.uk

Biodiversity Net Gain Assessment

Survey site:

Land adjoining Liberty House, Strand Way, Lower Earley, Wokingham RG6 4EA

Client:

Reading Almshouse Charity

Report date:

26th February 2025

Project:

This report is prepared to inform a planning application with Wokingham Borough Council. The proposal is described as:

- The erection of three blocks of housing, each comprising of six apartments with associated ancillary development, hardstanding, landscaping and footpaths.

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 Reading Almshouse Charity to undertake a Biodiversity Net Gain (BNG) Assessment at Land adjoining Liberty House, Wokingham, RG6 4EA (hereafter referred to as "the site"). The assessment was required to inform a planning application for the erection of three blocks of housing, each comprising of six apartments with associated ancillary development, hardstanding, landscaping and footpaths. (hereafter referred to as "the proposed development").

Area-based Habitat

- The baseline habitat value of the site is 1.27 units, comprising 0.46 units of poor condition modified grassland, 0.17 units of moderate condition modified grassland, 0.05 units of bramble scrub, 0.32 units of moderate condition individual trees, 0.27 units of good condition individual trees and developed land; sealed surface (no value).
- The post development habitat value of the site is 1.46 units, 0.35 units of poor condition modified grassland enhanced to moderate condition, 0.04 units of retained moderate condition modified grassland, 0.48 units of moderate condition individual trees, 0.27 units of good condition individual trees, 0.13 units of moderate condition mixed scrub, 0.01 units of introduced shrubs and developed land; sealed surface (no value).

- **The development results in a +12.19% (i.e. a net grain) This meets the minimum 10% gain required.**

Hedgerow

- The baseline hedgerow value of the site is 0.45 units, comprising 0.38 units of species rich native hedgerow and 0.06 units of no native and ornamental hedgerow.
- The post development hedgerow value of the site is 0.52 units, comprising 0.26 units of species rich native hedgerow and 0.26 units of created species rich native hedgerow.

- **The development results in a +17.06% (i.e. a net grain). This meets the minimum 10% gain required.**

Recommendations to Deliver BNG

Post Development

The current proposed plan results in a +12.19% net gain in habitat units and +17.06% net gain in hedgerow units this meets the minimum 10% gain target required for 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.

It should be noted that all landscaping across the site will be undertaken by a management company, including landscaped areas associated with the new dwellings (flats), due to the created/retained greenspaces being communal.

Contents

1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by Reading Almshouse Charity to undertake a Biodiversity Net Gain (BNG) Assessment at Land adjoining Liberty House, Wokingham, RG6 4EA (hereafter referred to as "the site"). The assessment was required to inform a planning application for the erection of three blocks of housing, each comprising of six apartments with associated ancillary development, hardstanding, landscaping and footpaths. (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
- Preliminary Ecological Appraisal (PEA) (Arbtech Ltd, December 2024)
- Arboricultural Method Statement (Arbtech Ltd, February 2025)
- Arboricultural Survey to BS5837:2012 (Arbtech Ltd, February 2025)

1.2 Site Location, Geology and Landscape Context

The site is located at National Grid Reference SU 75137 70182 and has an area of approximately 0.297ha. The site is characterised by a frequently mown grassland field. The site is dominated by modified grassland, along the northeastern boundary lies a species rich, native hedgerow, stretching along with southeastern boundary is a line of trees with a small area of bramble scrub and on the southwestern boundary comprises of a non – native hedgerow. The site is located within a urban context, ~5km southeast of Reading city centre. Aerial imagery shows the local landscape surrounding the site is a mosaic of residential properties and a few recreation grounds and parks to the west, north and east of the site and arable land to the south of the site. Parcels of deciduous woodland and coastal and floodplain grazing marsh are located in close proximity to the site, such features likely enhance the area for a variety of species, including bats, amphibians and reptiles. 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 Ecological Appraisal (PEA) report carried out by Arbtech Ltd on the 10th of December 2024.
- Arboricultural Method Statement report carried out by Arbtech Ltd on the 27th of February 2025.
- Arboricultural Survey to BS5837:2012 report carried out by Arbtech Ltd on the 27th of February 2025.

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 Wokingham Borough Council Local Plan.

2.2 Post Development Biodiversity Value

The post development BNG Calculation was informed by Wokingham Borough Council Local 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 Wokingham Borough Council Local 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 Wokingham Borough Council Local Plan

2.3 Limitations

No known limitations.

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
Modified grassland, frequently mown - [g4,108]	0.230ha	The majority of the grassland onsite comprises perennial ryegrass [D] (*Lolium perenne*), cock's foot [R] (*Dactylis glomerata*), cow parsley [F] (*Anthriscus sylvestris*), yarrow [F] (*Achillea millefolium*) and creeping buttercup [D] (*Ranunculus repens*).The height of the grass was extremely short (5cm-7cm) due to frequent mowing and land management. No scrub or bracken is present within the grassland and there is an absence of invasive species. Physical damage to the grassland is estimated at over 5% due to area of green waste made up of dead leaves and grass cuttings on the southern corner of the site. 0.104ha of this habitat is to be retained and enhanced.	Poor – See **Appendix 5a.**	Low strategic significance – Area/compensation not in local strategy.
Modified grassland, sward type mosaic - [g4,127]	0.043ha	An area of grassland along the southeastern and northeastern boundary of the site is left unmanaged and features additional species of perennial ryegrass [D] (*Lolium perenne*), cock's foot [R] (*Dactylis glomerata*), cow parsley [F] (*Anthriscus sylvestris*), creeping buttercup [F] (*Ranunculus repens*), common ragwort [R] (*Jacobaea vulgaris*), common dandelion [O] (*Taraxacum officinale),* Spear thistle [O] (*Cirsium vulgare*), Yorkshire fog [A] (Holcus lanatus), common nettle [D] (*Urtica dioica*), cleavers [F] (*Galium aparine*), purple dead nettle [R] (*Lamium purpureum*), bitter dock [O] (*Rumex obtusifolius*). This area features a varied sward height and greater species diversity, also with no invasive species recorded. No bare ground or damage was present within this section of the grassland. 0.021ha of this habitat is to be retained.	Moderate - See **Appendix 5a.**	Low strategic significance – Area/compensation not in local strategy.
Bramble scrub – [h3d]	0.012 ha	In the understory of the line of trees on site, lies a small parcel of bramble scrub (*Rubus fruticosus*), located in the centre on the southeastern boundary of the site. It is predominantly surrounded by modified grassland towards the	Poor (No assessment required;	Low strategic significance – Area/compensation not in local strategy.

<table>
<tr><td></td><td></td><td>northwest and a public footpath on the southeast. The other woody species are listed below (line of trees) that are in and adjacent to this area of bramble, the scrub is mixed with a low number of grass species, including perennial ryegrass [D] (Lolium perenne), cock's foot [R] (Dactylis glomerata), cow parsley [F] (Anthriscus sylvestris) and yarrow [F] (Achillea millefolium).

This habitat is to be removed.</td><td>condition fixed at poor)</td><td></td></tr>
<tr><td>Species-rich, native hedgerow – [h2a5]</td><td>0.029 km</td><td>A species-rich hedgerow is present on the northeastern boundary of the site. Species comprise of European beech [D] (Fagus sylvatica), common hawthorn [F] (Crataegus monogyna), blackthorn [O] (Prunus spinosa), European horse-chestnut [R] (Aesculus hippocastanum), common hazel [F] (Corylus avellana), bramble [R] (Rubus fruticosus) and field maple [R] (Acer campestre).

0.02km of this habitat is to be retained.</td><td>Good - See Appendix 5a.</td><td>Medium strategic significance – Location ecologically desirable but not in local strategy.</td></tr>
<tr><td>Non-native and ornamental hedgerow – [h2b]</td><td>0.064 km</td><td>A hedgerow is present on the modified grassland on the southwestern boundary of the site. The hedgerow comprises entirely of laurel [D] (Laurus nobilis).

This habitat is to be removed.</td><td>Poor (No assessment required; condition fixed at poor)</td><td>Low strategic significance – Area/compensation not in local strategy.</td></tr>
<tr><td>Scattered Trees – [32]</td><td>Moderate area - 0.0366 ha

Good area – 0.0204 ha</td><td>Present on the southeastern, northwestern and southwestern boundary of the site are seven scattered trees, these consist of;
<table>
<tr><th colspan="6">Table 2 – Trees within the redline boundary</th><th></th></tr>
<tr><th>Tree Reference</th><th>Species</th><th>Height</th><th>DBH (Diameter at breast hight)</th><th>BNG Size</th><th>Condition Assessment</th><th>Being retained</th></tr>
<tr><td>T1</td><td>European ash (Fraxinus excelsior)</td><td>5m</td><td>250mm in diameter</td><td>Small</td><td>Moderate</td><td>Yes</td></tr>
<tr><td>T2</td><td>European ash</td><td>6m</td><td>150mm in diameter</td><td>Small</td><td>Moderate</td><td>Yes</td></tr>
</table></td><td>Condition assessments in table 2 and see Appendix 5a.</td><td>Medium strategic significance – Location ecologically desirable but not in local strategy.</td></tr>
</table>

		T3	Silver Birch (Betula pendula)	4m	7mm in diameter	Small	Moderate	Yes		
		T4	Field maple (*Acer campestre*)	9m	270cm in diameter	Small	Good	Yes		
		T5	Field maple	9m	200mm in diameter	Small	Good	Yes		
		T6	Field maple	9m	250mm in diameter	Small	Good	Yes		
		T7	Field maple	9m	150mm in diameter	Small	Good	Yes		
		T8	Field maple	6m	150mm in diameter	Small	Good	No		
		T9	Cherry (*Prunus sp*)	10m	250mm in diameter	Small	Moderate	No		
		T10	Field maple	10m	250mm in diameter	Small	Moderate	Yes		
		T11	Beech	10m	250mm in diameter	Small	Moderate	Yes		
		T12	Japanese maple (*Acer japonicum*)	4m	100mm in diameter	Small	Moderate	Yes		
		T13	Japanese maple	4m	100mm in diameter	Small	Moderate	Yes		
		T14	Cherry	6m	270mm in diameter	Small	Moderate	No		

Developed land/sealed surface – [**u1b]**	0.012ha	Concrete pathways are located between Liberty House and the adjacent land. 0.012ha of this habitat is to be retained.	N/A - Other	Low strategic significance – Area/compensation not in local strategy.

3.2 Post Development Habitats

Table 3 details the post development 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 5b**.

Table 3: Post Development Biodiversity Value

Habitat	Area / Length	Description	Target Condition	Strategic Significance
Buildings – [u1b5]	0.059ha	Three new two-story dwellings, as described in the proposed plan.	N/A - Other	Low strategic significance – Area/compensation not in local strategy.
Developed land; sealed surface – [u1b] - retained	0.012ha	Retained footpaths as described in Table 1: Baseline Biodiversity Value and PEA.	N/A - Other	Low strategic significance – Area/compensation not in local strategy.
Developed land; sealed surface – [u1b] – created	0.064ha	The creation of Hardstanding driveways, parking spaces, paths and patios. as described in the proposed plan.	N/A - Other	Low strategic significance – Area/compensation not in local strategy.
Modified grassland, frequently mown - [g4,108] – Retained and enhanced	0.104ha	Enhanced grassland from poor to moderate. **It should be noted that all landscaping across the site will be undertaken by a management company, including landscaped areas associated with the new dwellings, due to the created/retained greenspaces being communal.**	Moderate	Low strategic significance – Area/compensation not in local strategy.
Modified grassland, sward type mosaic - [g4,127] - Retained	0.031ha	Retained grassland as described in Table 1: Baseline Biodiversity Value and PEA. **It should be noted that all landscaping across the site will be undertaken by a management company, including landscaped areas associated with the new dwellings, due to the created/retained greenspaces being communal.**	Moderate - See **Appendix 5b.**	Low strategic significance – Area/compensation not in local strategy.

<table>
<tr>
<td>Species-rich, native hedgerow – [h2a5] - Retained</td>
<td>0.020 km</td>
<td>Retained grassland as described in Table 1: Baseline Biodiversity Value and PEA.</td>
<td>Good - See Appendix 5b.</td>
<td>Medium strategic significance – Location ecologically desirable but not in local strategy.</td>
</tr>
<tr>
<td>Scattered Trees – [32] - Urban trees. - Retained</td>
<td>Moderate area - 0.0285 ha

Good area – 0.0163 ha</td>
<td>Ten scattered trees, will be retained, these consist of;
<table>
<tr><th colspan="6">Table 4 – Trees within the redline boundary</th><th></th></tr>
<tr><th>Tree Reference</th><th>Species</th><th>Height</th><th>DBH (Diameter at breast hight)</th><th>BNG Size</th><th>Condition Assessment</th><th>Being retained</th></tr>
<tr><td>T1</td><td>European ash (Fraxinus excelsior)</td><td>5m</td><td>250mm in diameter</td><td>Small</td><td>Moderate</td><td>Yes</td></tr>
<tr><td>T2</td><td>European ash</td><td>6m</td><td>150mm in diameter</td><td>Small</td><td>Moderate</td><td>Yes</td></tr>
<tr><td>T3</td><td>Silver Birch (Betula pendula)</td><td>4m</td><td>7mm in diameter</td><td>Small</td><td>Moderate</td><td>Yes</td></tr>
<tr><td>T4</td><td>Field maple (Acer campestre)</td><td>9m</td><td>270cm in diameter</td><td>Small</td><td>Good</td><td>Yes</td></tr>
<tr><td>T5</td><td>Field maple</td><td>9m</td><td>200mm in diameter</td><td>Small</td><td>Good</td><td>Yes</td></tr>
<tr><td>T6</td><td>Field maple</td><td>9m</td><td>250mm in diameter</td><td>Small</td><td>Good</td><td>Yes</td></tr>
<tr><td>T7</td><td>Field maple</td><td>9m</td><td>150mm in diameter</td><td>Small</td><td>Good</td><td>Yes</td></tr>
<tr><td>T8</td><td>Field maple</td><td>6m</td><td>150mm in diameter</td><td>Small</td><td>Good</td><td>No</td></tr>
</table>
</td>
<td>Condition assessments in table 4 and see Appendix 5b.</td>
<td>Medium strategic significance – Location ecologically desirable but not in local strategy.</td>
</tr>
</table>

		T9	Cherry (*Prunus sp*)	10m	250mm in diameter	Small	Moderate	No		
		T10	Field maple	10m	250mm in diameter	Small	Moderate	Yes		
		T11	Beech	10m	250mm in diameter	Small	Moderate	Yes		
		T12	Japanese maple (*Acer japonicum*)	4m	100mm in diameter	Small	Moderate	Yes		
		T13	Japanese maple	4m	100mm in diameter	Small	Moderate	Yes		
		T14	Cherry	6m	270mm in diameter	Small	Moderate	No		
Urban Tree – [32] - Created	0.1018ha	25 small trees to be planted. Species planted will include birch, oak, field maple, hazel and whitebeam. As described in the proposed plan.							Moderate	Medium strategic significance – Location ecologically desirable but not in local strategy.
Species-rich, native hedgerow – [h2a5] - Created	0.061 km	61m of native hedgerow consisting of species such as hawthorn, blackthorn, hazel elder, holly, cherry, and travellers joy could be planted. As described in the proposed plan.							Poor	Medium strategic significance – Location ecologically desirable but not in local strategy.
Modified Grassland - [g4] – Created	0.012ha	To replace the area of bramble being removed and to match the surrounding grassland already on site. As described in the proposed plan. **It should be noted that all landscaping across the site will be undertaken by a management company, including landscaped areas associated with the new dwellings, due to the created/retained greenspaces being communal.**							Moderate	Low strategic significance – Area/compensation not in local strategy.
Mixed Scrub – [h3h] - Created	0.019ha	A small area of mixed bramble scrub will be planted within the southwestern corner of the site. This planted area generates 0.13 units and therefore satisfies the 0.05 units of scrub habitat required to meet trading rules. As described in the proposed plan.							Moderate	Low strategic significance – Area/compensation not in local strategy.

Introduced shrub - [847] - Created	0.006ha	Non-native Introduced shrubs planting surrounding the new dwellings. As described in the proposed plan.	N/A	Low strategic significance – Area/compensation not in local strategy.

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

- The baseline habitat value of the site is 1.27 units, comprising 0.46 units of poor condition modified grassland, 0.17 units of moderate condition modified grassland, 0.05 units of bramble scrub, 0.32 units of moderate condition individual trees, 0.27 units of good condition individual trees and developed land; sealed surface (no value).
- The post development habitat value of the site is 1.46 units, 0.35 units of poor condition modified grassland enhanced to moderate condition, 0.04 units of retained moderate condition modified grassland, 0.48 units of moderate condition individual trees, 0.27 units of good condition individual trees, 0.13 units of moderate condition mixed scrub, 0.01 units of introduced shrubs and developed land; sealed surface (no value).

- **The development results in a +12.19% (i.e. a net gain). This meets the minimum 10% gain required.**

Hedgerow

- The baseline hedgerow value of the site is 0.45 units, comprising 0.38 units of species rich native hedgerow and 0.06 units of no native and ornamental hedgerow.
- The post development hedgerow value of the site is 0.52 units, comprising 0.26 units of species rich native hedgerow and 0.26 units of created species rich native hedgerow.

- **The development results in a +17.06% (i.e. a net grain). This meets the minimum 10% gain required.**

4.0 Recommendations to Deliver BNG

4.1 Post Development

The current proposed plan results in a +12.19% net gain in habitat units and +17.06% net gain in hedgerow units this meets the minimum 10% gain target required for biodiversity net gain.

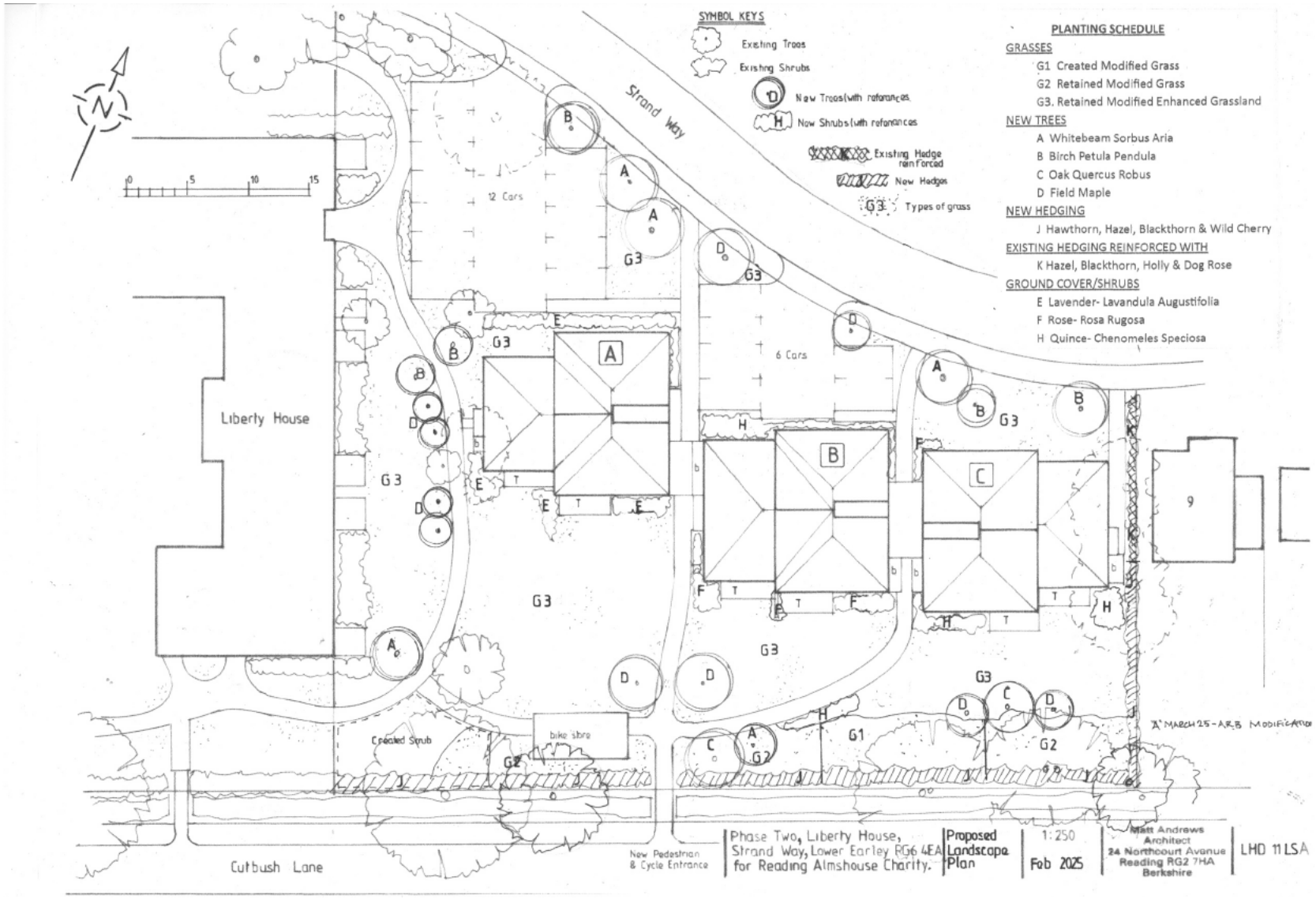
A Biodiversity Net Gain (BNG) Management Plan must be produced for the site. This should include recommendations for the implementation, management and monitoring of the site for at least 30 years.

It should be noted that all landscaping across the site will be undertaken by a management company, including landscaped areas associated with the new dwellings (flats), due to the created/retained greenspaces being communal.

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
- Natural England (2023). The Statutory Biodiversity Metric (JP039).
- Natural England (2023). The Statutory Biodiversity Metric User Guide (JP039).
- Natural England (2023). The Statutory Biodiversity Metric Technical Annex 1 - Condition Assessment Sheets and Methodology (JP039).
- Natural England (2023). The Statutory Biodiversity Metric Technical Annex 2 – Technical Information (JP039).
- The UK Habitat Classification Habitat Definitions Version 2.0 (The UK Habitat Classification Working Group, July 2023)
- Preliminary Ecological Appraisal (PEA) (Arbtech Ltd, December 2024)
- Arboricultural Method Statement (Arbtech Ltd, February 2025)
- Arboricultural Survey to BS5837:2012 (Arbtech Ltd, February 2025)

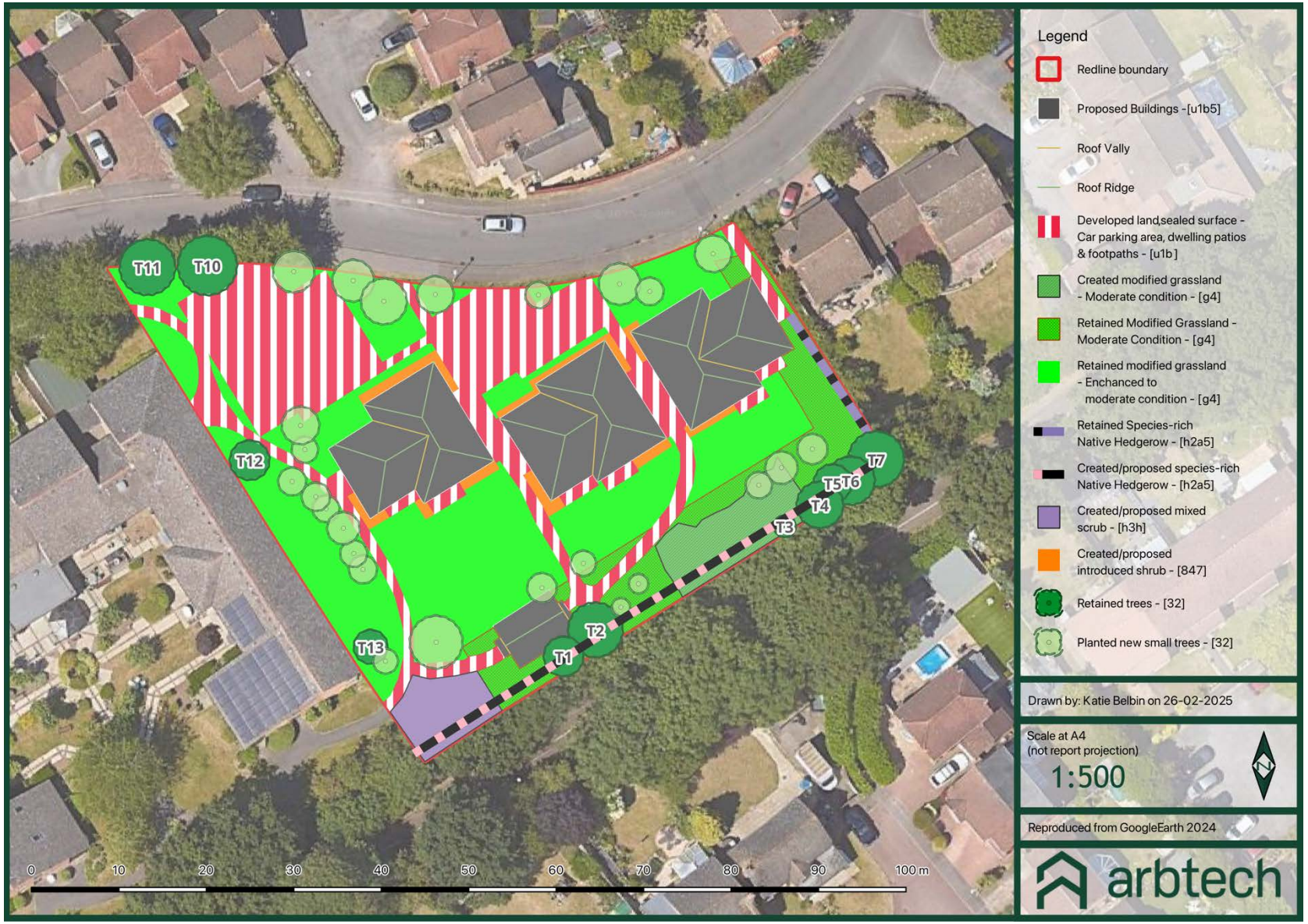
Appendix 1: Proposed Development Plan



Appendix 2: Site Location Plan

Appendix 3: Baseline Habitat Plan

Appendix 4: Post Development Habitat Plan



Appendix 5a: Habitat Condition Assessment Sheets - Baseline

Modified grassland, frequently mown - [g4,108]					
Condition Assessment Criteria		**Criterion passed (Yes or No)**	**Condition Assessment Result**	**Metric Score**	**Score Achieved ×/✓**
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (these may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.**	N	**Good** Passes 6 or 7 criteria including passing essential criterion A	3	
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	N	**Moderate** Passes 4 or 5 criteria including passing essential criterion A	2	
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present).	Y	**Poor** Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	1	✓
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Y	**Score achieved:**		POOR
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	Y			
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Y			
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Y			

Modified grassland, sward type mosaic - [g4,127]					
Condition Assessment Criteria		**Criterion passed (Yes or No)**	**Condition Assessment Result**	**Metric Score**	**Score Achieved ×/✓**
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (these may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.**	Y	**Good** Passes 6 or 7 criteria including passing essential criterion A	3	
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	Y	**Moderate** Passes 4 or 5 criteria including passing essential criterion A	2	✓
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present).	N	**Poor** Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	1	
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	N	**Score achieved:**		MODERATE
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	Y			
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Y			
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Y			

Attributes and functional groupings (A, B, C, D and E)		Spices-rich, native hedgerow – [h2a5] Criteria - the minimum requirements for 'favourable condition'	Criterion passed (Yes or No)	Condition Assessment Result	Metric Score	Score Achieved ×/✓
Core groups - applicable to all hedgerow types						
A1.	Height	>1.5 m average along length	Y	Good	No more than 2 failures in total; **AND** No more than 1 failure in any functional group.	✓
A2.	Width	>1.5 m average along length	N	Moderate	No more than 4 failures in total; **AND** Does not fail both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and C2 = Moderate condition).	
B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	Y	Poor	Fails a total of more than 4 attributes; **OR** Fails both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	
B2.	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	N	Score Achieved:		**GOOD**
C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	Y			
C2.	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	Y			
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	Y			
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	Y			

Condition Assessment Criteria – Individual Trees							Condition Assessment Result	Metric Score	Score Achieved ×/✓
		T1	**T2**	**T3**	**T4-T8**	**T9 – T14**	Good Passes 5 or 6 criteria	3	✓
A	The tree is a native species (or at least 70% within the block are native species).	Y	Y	Y	Y	N			
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Y	Y	Y	Y	Y	Moderate Passes 3 or 4 criteria	2	✓
							Poor Passes 2 or fewer criteria	1	
C	The tree is mature (or more than 50% within the block are mature)[1].	Y	Y	N	Y	N	**Score achieved:**		
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	N	Y	Y	Y	Y			
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N	N	N	N	N			
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	N	N	Y	Y	Y			
Number of criteria passed		3 - Mod	4 - Mod	3 - Mod	5 - Good	3 - Mod			

Appendix 5b: Habitat Condition Assessment Sheets – Post Development

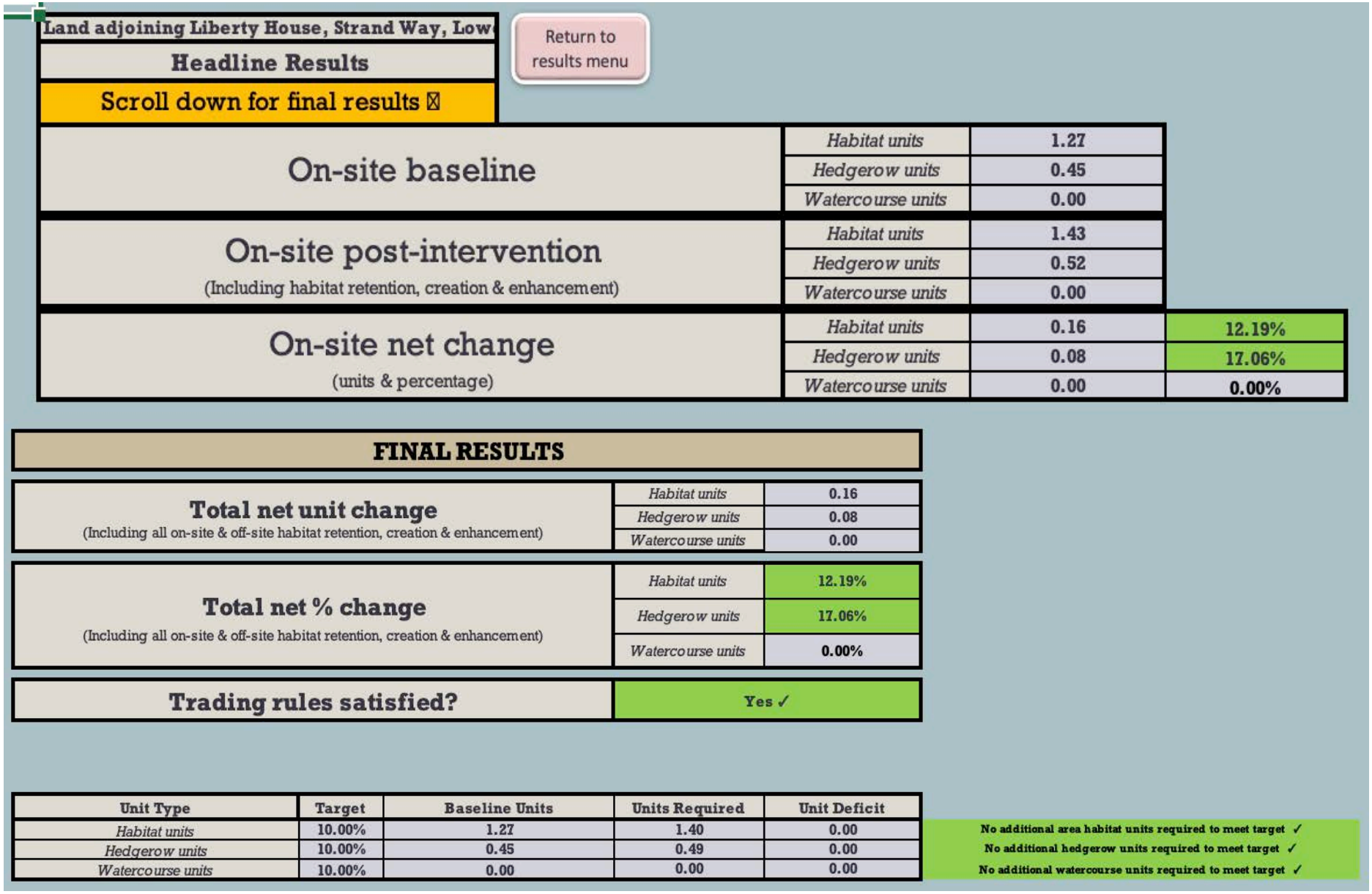
Condition Assessment Criteria – All new individual trees.			Condition Assessment Result	Metric Score	Score Achieved ×/✓
			Good Passes 5 or 6 criteria	3	
A	The tree is a native species (or at least 70% within the block are native species).	Y			
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	N	Moderate Passes 3 or 4 criteria	2	✓
			Poor Passes 2 or fewer criteria	1	
C	The tree is mature (or more than 50% within the block are mature)[1].	N	**Score achieved:**	**Moderate**	
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Y			
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N			
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y			
Number of criteria passed		3 - Mod			

Attributes and functional groupings (A, B, C, D and E)		Spices-rich, native hedgerow – [h2a5] Criteria - the minimum requirements for 'favourable condition'	Criterion passed (Yes or No)	Condition Assessment Result	Metric Score	Score Achieved ×/✓
Core groups - applicable to all hedgerow types						
A1.	Height	>1.5 m average along length	Y	Good	No more than 2 failures in total; **AND** No more than 1 failure in any functional group.	
A2.	Width	>1.5 m average along length	N	Moderate	No more than 4 failures in total; **AND** Does not fail both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and C2 = Moderate condition).	
B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	N	Poor	Fails a total of more than 4 attributes; **OR** Fails both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	✓
B2.	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	N	Score Achieved:		Poor
C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	Y			
C2.	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	Y			
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	Y			
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	Y			

Enhanced modified grassland – From poor to Moderate					
Condition Assessment Criteria		**Criterion passed (Yes or No)**	**Condition Assessment Result**	**Metric Score**	**Score Achieved ×/✓**
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (these may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.**	Y	**Good** Passes 6 or 7 criteria including passing essential criterion A	3	
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	Y	**Moderate** Passes 4 or 5 criteria including passing essential criterion A	2	✓
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present).	N	**Poor** Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	1	
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	N	**Score achieved:**		MODERATE
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	Y			
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Y			
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Y			

Appendix 6: Headline BNG Results

The Defra Statutory Biodiversity Metric is provided as a separate excel spreadsheet.



Land adjoining Liberty House, Strand Way, Low

Return to results menu

Headline Results

Scroll down for final results

On-site baseline	*Habitat units*	1.27	
	Hedgerow units	0.45	
	Watercourse units	0.00	
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	1.43	
	Hedgerow units	0.52	
	Watercourse units	0.00	
On-site net change (units & percentage)	*Habitat units*	0.16	12.19%
	Hedgerow units	0.08	17.06%
	Watercourse units	0.00	0.00%

FINAL RESULTS

Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	0.16
	Hedgerow units	0.08
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	12.19%
	Hedgerow units	17.06%
	Watercourse units	0.00%
Trading rules satisfied?		Yes ✓

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Habitat units	10.00%	1.27	1.40	0.00	No additional area habitat units required to meet target ✓
Hedgerow units	10.00%	0.45	0.49	0.00	No additional hedgerow units required to meet target ✓
Watercourse units	10.00%	0.00	0.00	0.00	No additional watercourse units required to meet target ✓

Limitations and Copyright

Legal

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.

Version control			
Status	**Issue**	**Name**	**Date**
Draft	0.1	Katie Belbin BA (Hons), Graduate Ecologist	07/01/2025
Review	0.2	Leah Cook, Consultant Ecologist	08/01/2025
Final	1.0	Katie Belbin BA (Hons), Graduate Ecologist	13/01/2025
Updated	1.2	Katie Belbin BA (Hons), Graduate Ecologist	03/03/2025
Review	1.3	Georgina BSc (Hons), MSc, QCIEEM. Consultant Ecologist	03/03/2025
Final	2.0	Katie Belbin BA (Hons), Graduate Ecologist	03/03/2025