

Biodiversity Net Gain Assessment

Survey site:

Dene Holm, Deneholm, Road, Northfleet, Gravesend, DA11 8JY

Client:

Anchorage Prop Ltd

Survey date:

18th November 2024

Project:

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

‘To convert the existing building to 23 x residential flats, with landscaping and new car parking spaces.’

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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 Anchorage Prop Ltd to undertake a Biodiversity Net Gain (BNG) Assessment at Dene Holm, Deneholm, Road, Northfleet, Gravesend, DA11 8JY (hereafter referred to as “the site”). The assessment was required to inform a planning application for the conversion of the existing building to 23 x residential flats, with landscaping and new car parking spaces (hereafter referred to as “the proposed development”).

The baseline habitat value of the site is 3.03 units, comprising 0.02 of vegetated garden, 1.46 of other neutral grassland, 0.21 of moderate urban trees and 1.34 of good urban trees.

The post development area-based habitat value of the site is 3.45 units, comprising:

- The retention of 0.01 vegetated garden, 0.09 other neutral grassland, 0.18 of moderate urban trees and 1.34 of good urban trees.
- The creation of 0.03 vegetated garden, 0.04 of modified grassland, 0.07 other neutral grassland and 0.24 of poor urban trees.
- The enhancement of 1.47 other neutral grassland.

This results in a net change in biodiversity of 13.8%, i.e. a net gain.

The baseline linear habitat value of the site is 0.3 units, comprising 0.3 of line of trees.

The post development linear-based habitat value of the site is 0.47 units, comprising:

- The retention of 0.3 of line of trees.
- The creation of 0.17 of native hedgerow.

This results in a net change in biodiversity of 57.47%, i.e. a net gain.

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1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by Anchorage Prop Ltd to undertake a Biodiversity Net Gain (BNG) Assessment at Dene Holm, Deneholm, Road, Northfleet, Gravesend, DA11 8JY (hereafter referred to as “the site”). The assessment was required to inform a planning application for the conversion of the existing building to 23 x residential flats, with landscaping and new car parking spaces (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 – Dene Holm, DA11 8JY (Arbtech, 2024)

1.2 Site Location, Geology and Landscape Context

The site is located at National Grid Reference TQ 63448 72355 and has an area of approximately 0.47ha.

The site consists of a care dwelling at the centre of the site, the associated concrete parking and pathways to provide access, and gardens. The site is in constant use and under frequent management. The underlying soil and geology of the site represent freely draining slightly acid loamy soils atop the Thanet formation – Sand.

The wider landscape comprises residential and commercial development in close proximity to the A2. The northern landscape is dominated by residential development, but the southern landscape beyond the A2 comprises arable land. The nearest waterbody is Sawyer’s Lake located 1,535m northwest of the site. The River Thames is located 2,125m north of the site. 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 PEA – Dene Holm, DA11 8JY (Arbtech, 2024). A baseline habitat plan is provided in Appendix 3.

Habitat Classification

The PEA – Dene Holm, DA11 8JY (Arbtech, 2024) 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 Gravesham Local Plan Core Strategy (2014)

2.2 Post Development Biodiversity Value

The post development BNG Calculation was informed by Gravesham Local Plan Core Strategy (2014) 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 Gravesham Local Plan Core Strategy (2014).

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).

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 Gravesham Local Plan Core Strategy (2014)

2.3 Limitations

No specific limitations for the report.

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
Area-based habitats	Buildings	0.15529 ha	There are three buildings on site; one is a residential dwelling, the second is a garage, and the third is a storage building.	N/A	Low strategic significance. Area/compensation not in local strategy/ no local strategy.
	Developed Land, Sealed Surface	0.12255 ha	Surrounding the building and providing access throughout is a concrete driveway and pathways.	N/A	Low strategic significance. Area/compensation not in local strategy/ no local strategy.
	Vegetated Garden	0.00911 ha	The buildings are bordered with vegetated gardens with ornamental plants such as red-hot pokers, cotoneaster, firethorn.	N/A	Low strategic significance. Area/compensation not in local strategy/ no local strategy.
	Other Neutral Grassland	0.18222 ha	Bordering the site are small areas of other neutral grassland. The vegetation is frequently managed in the rear garden, but other areas have been left with less management meaning the sward length varies from 15 – 40cm. The grass is dominated by Yorkshire fog, perennial rye and common bent. Cock's foot and timothy are frequent. There is an accompanying suite of herbaceous flora, including greater plantain [A], common ragwort [A], yarrow [F], white clover [F], creeping buttercup	Moderate. The grassland passes 4/6 criteria but neither of the essential criterion.	Low strategic significance. Area/compensation not in local strategy/ no local strategy.

			[F], dandelion [F], willowherb [O], common nettle [O], sweet violet [O], bedstraw [R] and purple deadnettle [R]. Throughout the grass lawns are scattered shrubs including dogwood, jasmine, lilac and clusterberry.		
	Urban Trees	0.0244 ha	T1 – Cherry T4 – Norway Maple T7 – Cherry T8 – Elder T10 – Cypress T11 – Elder	Moderate.	Location ecologically desirable but not in local strategy. Medium strategic significance. Trees are ecologically desirable and as they're in an urban area they provide foraging and commuting habitats for protected species such as nesting birds, bats and small mammals.
	Urban Trees	0.1018	T2 – Sycamore T3 – Norway Maple T5 – Ash Leaved Maple T6 – Ash Leaved Maple T9 – Hawthorn	Good.	Location ecologically desirable but not in local strategy. Medium strategic significance. Trees are ecologically desirable and as they're in an urban area they provide foraging and commuting habitats for protected species such as nesting birds, bats and small mammals.

Linear-based habitats	Line of Trees	0.068 km	Within the garden in the southwestern corner of the site is a line of trees dominated by laurel and goat willow.	Moderate. Less than 70% of the species are native and there is not an undisturbed strip of at least 6m both sides of the line of trees.	Location ecologically desirable but not in local strategy. Medium strategic significance. Trees are ecologically desirable and as they're in an urban area they provide foraging and commuting habitats for protected species such as nesting birds, bats and small mammals.
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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 gain of 0.42 area-based habitat units and a gain of 0.17 linear-based habitat units.

Table 2: Post Development Biodiversity Value

Habitat			Area / Length	Description	Target Condition	Strategic Significance
Area-based habitats	Retained	Buildings	0.12607 ha	The main building will be retained on site and converted.	N/A	Low strategic significance. Area/compensation not in local strategy/ no local strategy.
		Developed Land, Sealed Surface	0.10842 ha	Surrounding the building and providing access throughout is a concrete driveway and pathways.	N/A	Low strategic significance. Area/compensation not in local strategy/ no local strategy.
		Vegetated Garden	0.00642 ha	The buildings are bordered with vegetated gardens with ornamental plants such as red-hot pokers, cotoneaster, firethorn.	N/A	Low strategic significance. Area/compensation not in local strategy/ no local strategy.
		Other Neutral Grassland	0.001146 ha	Bordering the site are small areas of other neutral grassland. The vegetation is frequently managed in the rear	The grassland will be retained in its current condition and used communally by the residents.	Low strategic significance. Area/compensation not in local strategy/ no local strategy.

				garden, but other areas have been left with less management meaning the sward length varies from 15 – 40cm. The grass is dominated by Yorkshire fog, perennial rye and common bent. Cock's foot and timothy are frequent. There is an accompanying suite of herbaceous flora, including greater plantain [A], common ragwort [A], yarrow [F], white clover [F], creeping buttercup [F], dandelion [F], willowherb [O], common nettle [O], sweet violet [O], bedstraw [R] and purple deadnettle [R]. Throughout the grass lawns are scattered shrubs including dogwood, jasmine, lilac and clusterberry.		
		Urban Trees	0.0204 ha	T4 – Norway Maple T7 – Cherry T8 – Elder T10 – Cypress T11 – Elder	Moderate.	Location ecologically desirable but not in local strategy. Medium strategic significance. Trees are ecologically desirable and as they're in an urban area they provide foraging and commuting habitats for protected species such as nesting birds, bats and small mammals.
		Urban Trees	0.1018 ha	T2 – Sycamore T3 – Norway Maple T5 – Ash Leaved Maple T6 – Ash Leaved Maple T9 – Hawthorn	Good.	Location ecologically desirable but not in local strategy. Medium strategic significance. Trees are ecologically desirable and as they're in an urban area they provide

						foraging and commuting habitats for protected species such as nesting birds, bats and small mammals.
	Created	Developed Land, Sealed Surface	0.04588 ha	More concrete will be laid to create further car parking.	N/A	Low strategic significance. Area/compensation not in local strategy/ no local strategy.
		Vegetated Garden	0.01522 ha	Further flower beds with ornamental shrubs will be planted around the building and in the communal garden to the SE.	N/A	Low strategic significance. Area/compensation not in local strategy/ no local strategy.
		Modified Grassland	0.01173 ha	Small areas of modified grassland will be created outside of the individual homes and maintained to a short sward length.	Poor	Low strategic significance. Area/compensation not in local strategy/ no local strategy.
		Other Neutral Grassland	0.01039 ha	To the SW of the building will be a communal area of grassland with vegetated garden within it.	Moderate This will be maintained to the same condition as the retained other neutral grassland.	Low strategic significance. Area/compensation not in local strategy/ no local strategy.
		Urban Trees	0.0774 ha	19 small trees will be planted throughout the site within the communal garden spaces.	Poor	Location ecologically desirable but not in local strategy. Medium strategic significance. Trees are ecologically desirable and as they're in an urban area they provide foraging and commuting habitats for protected species such as nesting birds, bats and small mammals.
Area-based	Enhanced	Other Neutral Grassland	0.13399 ha	The other neutral grassland that borders the perimeters of the site will be enhanced with the addition of wildflowers and a relaxed mowing regime.	Good.	Low strategic significance. Area/compensation not in local strategy/ no local strategy.

Linear-based habitats	Retained	Line of Trees	0.068 km	Within the garden in the southwestern corner of the site is a line of trees dominated by laurel and goat willow.	Moderate. Less than 70% of the species are native and there is not an undisturbed strip of at least 6m both sides of the line of trees.	Location ecologically desirable but not in local strategy. Medium strategic significance. Trees are ecologically desirable and as they're in an urban area they provide foraging and commuting habitats for protected species such as nesting birds, bats and small mammals.
	Created	Native Hedgerow	0.09 km	Four separate native hedgerows will be planted to provide natural borders to the site and within the communal garden. Recommended species include; hawthorn, hazel, box, privet, holly and blackthorn.	Poor. The average height will be less than 1.5m and there will only be one age class of tree present when planted.	Location ecologically desirable but not in local strategy. Medium strategic significance. Trees are ecologically desirable and as they're in an urban area they provide foraging and commuting habitats for protected species such as nesting birds, bats and small mammals.

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.

Areas of Habitat

The baseline habitat value of the site is 3.03 units, comprising 0.02 of vegetated garden, 1.46 of other neutral grassland, 0.21 of moderate urban trees and 1.34 of good urban trees.

The post development area-based habitat value of the site is 3.45 units, comprising:

- The retention of 0.01 vegetated garden, 0.09 other neutral grassland, 0.18 of moderate urban trees and 1.34 of good urban trees.
- The creation of 0.03 vegetated garden, 0.04 of modified grassland, 0.07 other neutral grassland and 0.24 of poor urban trees.
- The enhancement of 1.47 other neutral grassland.

This results in a net change in biodiversity of 13.8%, i.e. a net gain.

Hedgerows

The baseline linear habitat value of the site is 0.3 units, comprising 0.3 of line of trees.

The post development linear-based habitat value of the site is 0.47 units, comprising:

- The retention of 0.3 of line of trees.
- The creation of 0.17 of native hedgerow.

This results in a net change in biodiversity of 57.47%, i.e. a net gain.

4.0 Recommendations to Deliver BNG

4.1 Discussion

The current proposed plan results in a 13.8% net gain for area-based habitats and a 57.47% gain for linear-based habitats. Both have achieved more than the required 10% net gain.

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

- Arbtech Consulting Ltd (2024). PEA – Dene Holm, DA11 8JY
- 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)

Proposed site plan
1 : 200

Legend

- Building footprint
- Parking lot
- Proposed site boundary

Scale
1 inch = 20 feet

North Arrow

Brooks Murray
ARCHITECTS

Project Name
1000 West 10th Street

Location
Seattle, WA

Client
[Redacted]

Architect
Brooks Murray Architects

Project No.
[Redacted]

Date
[Redacted]

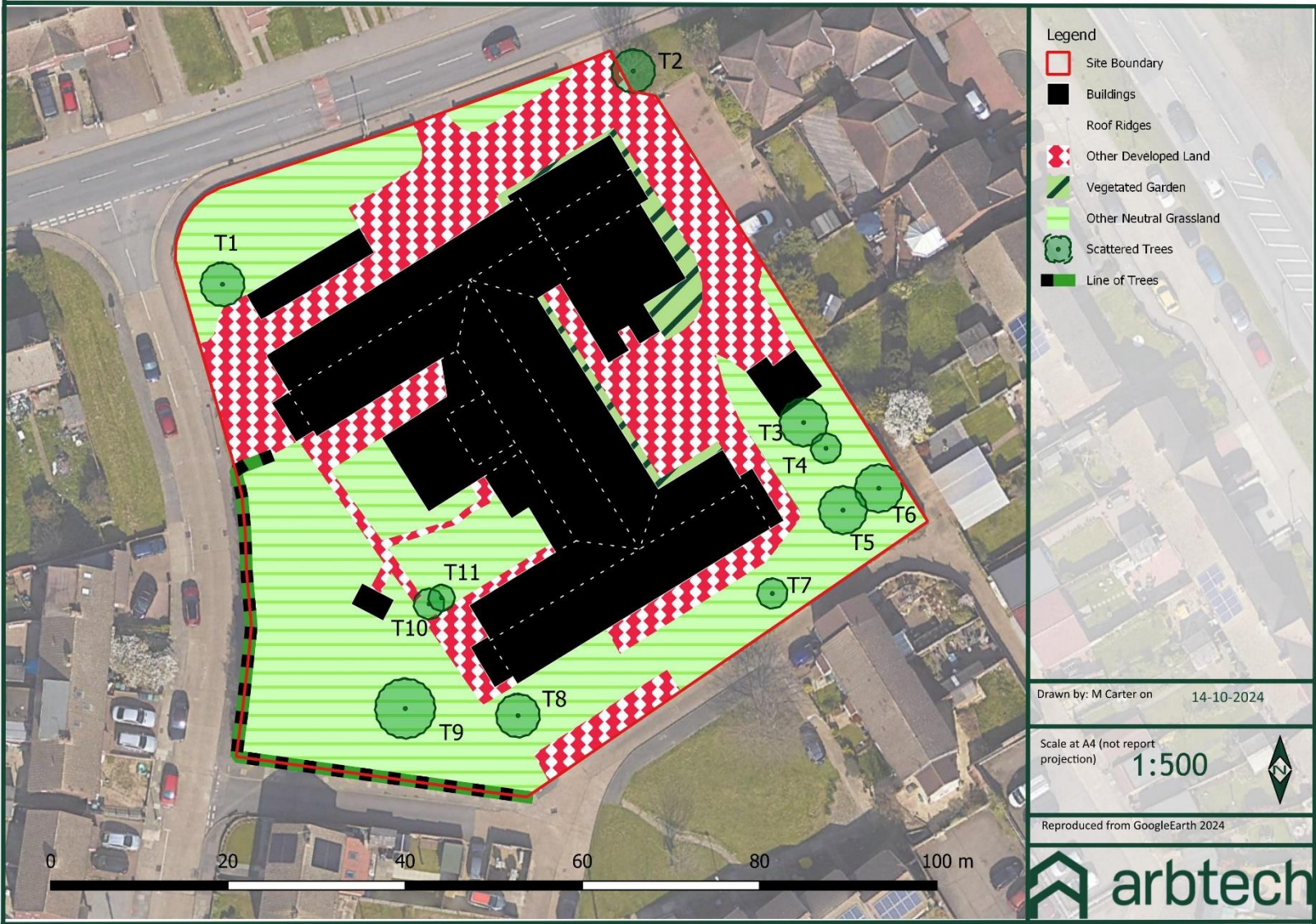
Sheet No.
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Scale
1 : 200

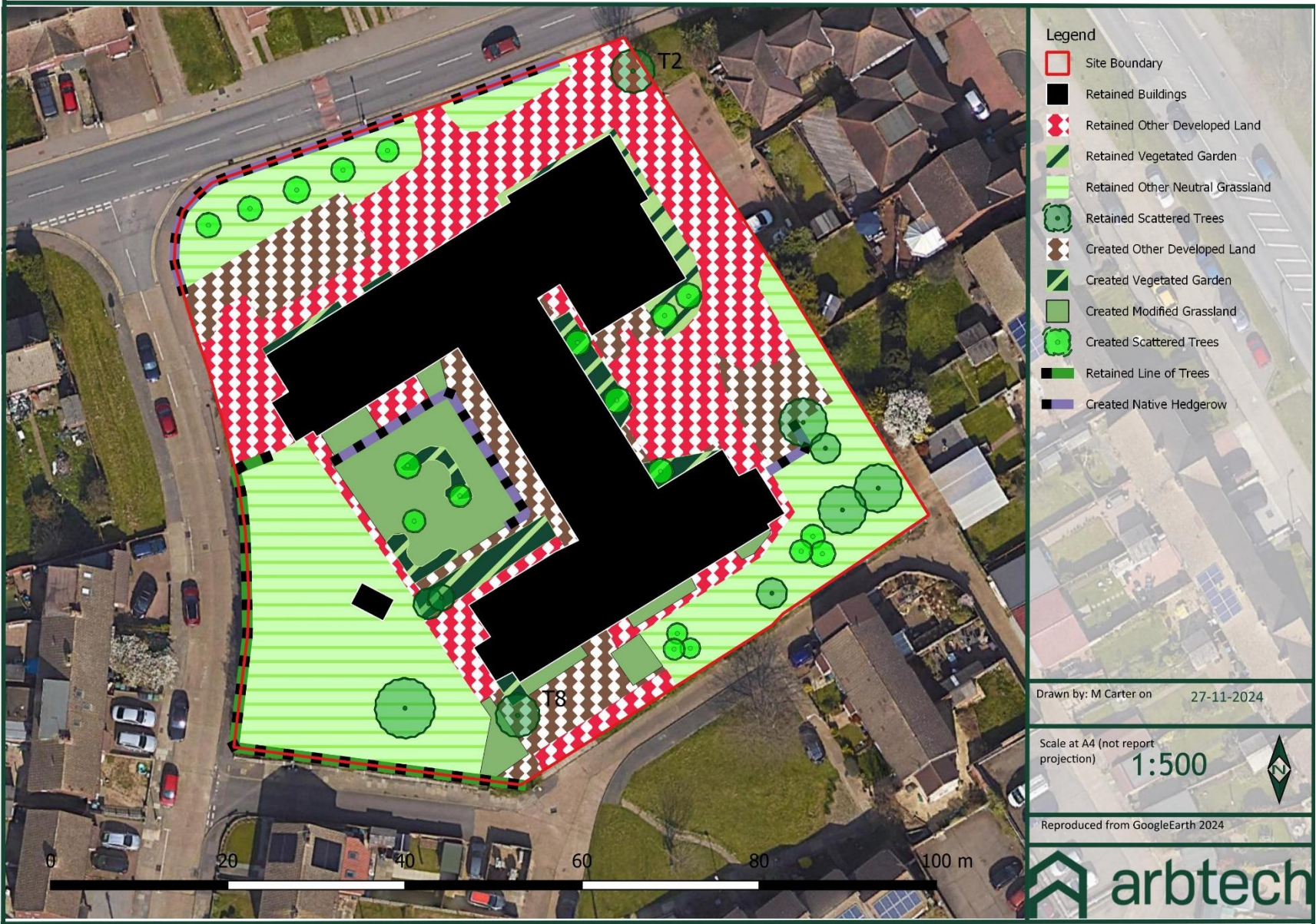
Appendix 2: Site Location Plan



Appendix 3: Baseline Habitat Plan



Appendix 4: Post Development Habitat Plan



Appendix 5a: Habitat Condition Assessment Sheets - Baseline

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)

UKhab – UK Habitat Classification

Condition Assessment Criteria		Criterion passed (Yes or No)
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description). Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	N
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 insects, birds and small mammals to live and breed.	Y
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens ² .	Y
D	Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5%.	Y
E	Combined cover of species indicative of suboptimal condition ³ and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species ⁴ (as listed on Schedule 9 of WCA ⁵) are present, this criterion is automatically failed.	Y
Additional Criterion - must be assessed for all non-acid grassland types		
F	There are 10 or more vascular plant species per m ² present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). Note - this criterion is essential for achieving Good condition for non-acid grassland types only.	N
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		N
Number of criteria passed		4
Non-acid grassland types (Result out of 6 criteria)		
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)	
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)	Y
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)	

Condition Sheet: INDIVIDUAL TREE \$ Habitat Type

Limitations (if applicable)	Habitat parcel reference									
	T1	T2	T3	T4	T5	T6	T7	T8 & T11	T9	T10
Condition Assessment Criteria	Grid reference									
	Criterion passed (Yes or No)									
A	The tree is a native species (or at least 70% within the block are native species).	Y	N	N	N	N	N	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	Y	Y	Y	Y
C	The tree is mature (or more than 50% within the block are mature) ¹ .	N	Y	Y	N	Y	Y	N	Y	N
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	Y	Y	Y	Y	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	Y	Y	N	Y	Y	N	Y	N
F	More than 20% of the tree canopy area is overhanging vegetation beneath.	Y	Y	Y	Y	Y	Y	Y	Y	Y
Number of criteria passed		4	5	5	3	5	5	4	4	3
Condition Assessment Result (out of 6 criteria)	Condition Assessment Score	Score Achieved = /								
Passes 5 or 6 criteria	Good (3)		Y	Y		Y	Y		Y	
Passes 3 or 4 criteria	Moderate (2)	Y			Y			Y		Y
Passes 2 or fewer criteria	Poor (1)									
Note that 'Fairly Good and Fairly Poor' condition categories are not available for this broad habitat type.										

Condition Sheet: LINE OF TREES Habitat Type

		survey)
Grid reference		Habitat parcel reference
Condition Assessment Criteria		Criterion passed (Yes or No)
A	At least 70% of trees are native species.	Yes
B	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Yes
C	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	Yes
D	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice ² .	No
E	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	No
Number of criteria passed		
Condition Assessment Result (out of 5 criteria)	Condition Assessment Score	Score Achieved */✓
Passes 5 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	Y
Passes 2 or fewer criteria	Poor (1)	

Appendix 5b: Habitat Condition Assessment Sheets - Proposed

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)

ukhab – UK Habitat Classification

Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (if any)
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.	No	
A Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m ² (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.		
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.	No	
C Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble <i>Rubus fruticosus</i> agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Yes	
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.	No	
E Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens) ² .	Yes	
F Cover of bracken <i>Pteridium aquilinum</i> is less than 20%.	Yes	
G There is an absence of invasive non-native plant species ³ (as listed on Schedule 9 of WCA ⁴).	Yes	
Essential criterion achieved (Yes or No)		No
Number of criteria passed		4
Condition Assessment Result (out of 7 criteria)	Condition Assessment Score	Score Achieved x/✓
Passes 6 or 7 criteria including passing essential criterion A	Good (3)	
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)	Yes
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)	

Condition Sheet: INDIVIDUAL TREES Habitat Type

Grid reference		Habitat parcel reference
Condition Assessment Criteria		Criterion passed (Yes or No)
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
C	The tree is mature (or more than 50% within the block are mature) ¹ .	N
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.	N
Number of criteria passed		2
Condition Assessment Result (out of 6 criteria)	Condition Assessment Score	Score Achieved x/✓
Passes 5 or 6 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	
Passes 2 or fewer criteria	Poor (1)	Y
Note that 'Fairly Good and Fairly Poor' condition categories are not available for this broad habitat type.		

Hedgerow favourable condition attributes				
Attributes and functional groupings (A, B, C, D and E)		Criteria - the minimum requirements for 'favourable condition'	Criteria description	Criterion pass (Yes or No)
Core groups - applicable to all hedgerow types				
A1.	Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of the shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is >1.5 m height).	YES
A2.	Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (such as blackthorn <i>Prunus spinosa</i> suckers) are only included in the width estimate when they are >0.5 m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).	NO
B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	This is the vertical 'gappiness' of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (see page 66 of the Hedgerow Survey Handbook).	YES
B2.	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	This is the horizontal 'gappiness' of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall 'gappiness' but are not subject to the >5 m criterion (as this is the typical size of a gate).	NO
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).	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow. Undisturbed ground is present for at least 90% of the hedgerow length, greater than 1 m in width and must be present along at least one side of the hedgerow. This criterion recognises the value of the hedgerow base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	NO
C2.	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	The indicator species used are nettles <i>Urtica</i> spp., cleavers <i>Gallium aparine</i> and docks <i>Rumex</i> spp. Their presence, either singly or together, does not exceed the 20% cover threshold.	YES
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 ¹) and recently introduced species.	Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives. For information on archaeophytes and neophytes see the JNCC website ² , as well as the BSBI website ³ where the 'Online Atlas of the British and Irish Flora' ⁴ contains an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website ⁵ .	YES
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (for example, excessive hedgerow cutting).	YES

Condition categories for hedgerows without trees		
Category	Category Requirements	Metric Score
Good	No more than 2 failures in total; AND No more than 1 failure in any functional group.	3
Moderate	No more than 4 failures in total; AND <u>Does not fail both attributes</u> in more than one functional group (for example, fails attributes A1, A2, B1 and C2 = Moderate condition).	2
Poor	Fails a total of more than 4 attributes; OR <u>Fails both attributes</u> in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	1
Score achieved:		Moderate

Appendix 6: Headline BNG Results

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

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	0.42
	<i>Hedgerow units</i>	0.17
	<i>Watercourse units</i>	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	13.80%
	<i>Hedgerow units</i>	57.47%
	<i>Watercourse units</i>	0.00%
Trading rules satisfied?	Yes ✓	