

Biodiversity Net Gain Assessment

Site Address:

Land off Archway Road, Huyton, Merseyside L36 9XD

Client:

Genr8 Kajima Regeneration (Huyton) Limited

Assessment Date:

26th June 2025

Project:

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

'Hybrid planning application comprising: (Part A) Detailed application for the erection of a new Council Headquarters, hotel, public realm, change of use of Cavendish Walk to flexible Class E and/or F1 uses, site-wide enabling and associated works following demolition of existing buildings. (Part B) Outline application for a mixed-use development comprising residential (Classes C2 and C3) uses, commercial and community uses (Classes E and F1), replacement car parking provision at Lathom Road, public realm and associated works, with provision for meanwhile uses

BNG assessment methodology and legislation can be found in the Arbtech Supplement: **BNG Methodology and Legislation – 2025.**

The results and recommendations contained within this report are valid for 18 months. An updated site visit and BNG assessment may be required if the report is to be used any longer than 18 months after completion.

Version Control			
Status	Issue	Name	Date
Draft	0.1	Kat Aburrow BSc, Consultant Ecologist	21/08/2025
Proof	0.2	Craig Williams BSC (Hons), MSc, DIC, MRSB, Technical Manager (Ecology)	21/08/2025
Final	1.0	Kat Aburrow BSc, Consultant Ecologist	21/08/2025
Amended	1.1	Kat Aburrow BSc, Consultant Ecologist	10/10/2025

The survey results and recommendations contained within this report are valid for 18 months. An updated site visit may be required if the report is to be used any longer than 18 months after completion.

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Site Location and Context

A baseline habitat map is provided in **Appendix 1**, a post development habitat map in **Appendix 2**, a proposed development plan in **Appendix 3**, headline BNG results in **Appendix 4**, and condition assessments in **Appendix 5**.

The survey site is centred on National Grid Reference SJ 44183 90863 and has an area of approximately 2.8ha.

The site comprises multiple buildings (B1-5), associated hardstanding and landscaping including grassland, ornamental shrubs, tree lines and hedgerows. The site is adjacent to Huyton Village Shopping Centre to the south, within the town of Huyton. The surrounding landscape is comprised of urban development including tarmacked roads subject to heavy traffic, urban buildings and residential dwellings with associated vegetated gardens. There are amenity green spaces including that associated with Lord Derby Academy situated ~400m east and Bowring Park and Golf Course situated ~800m west.

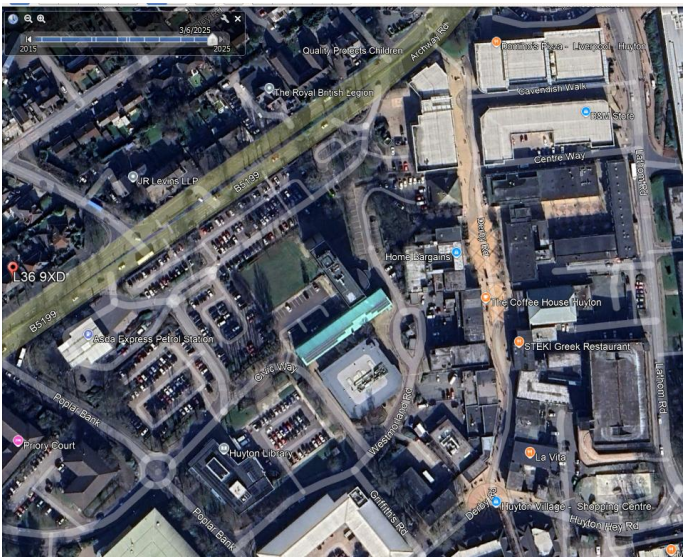
This report should be read in conjunction with the following documents:

- ❖ Statutory BNG Metric – Land of Archway Road, L36 9XD – V1 (Arbtech Consulting Ltd., 2025)
- ❖ Proposed Plan (Lucid Design Studio, 2025)
- ❖ Preliminary Ecological Appraisal (PEA) Land of Archway Road, L36 9XD – V1 (Arbtech Consulting Ltd., 2025)
- ❖ Tree Survey Report - Land of Archway Road, L36 9XD – V1 (Arbtech Consulting Ltd., 2025)

Executive Summary

- ❖ The on-site baseline generates 17.17 habitat units and 0.11 hedgerow units
- ❖ The on-site post-intervention generates 13.80 habitat units and 0.20 hedgerow units
- ❖ The on-site net change is -3.37 habitat units and 0.09 hedgerow units
- ❖ **This equates to a -19.63% loss in habitat units and a 76.61% gain in hedgerow units**
- ❖ To meet the 10% surplus a total of 18.89 habitat units must be generated meaning there is **a current deficit of 5.09 habitat units**

Introduction

BNG Informative		
Habitat Degradation Statement	Date reflected by BNG calculations	9 th October 2025
	The baseline biodiversity value of the site is derived from the site as observed during the PEA field survey (Arbtech Consulting Ltd., 2025). As evident in the screenshots of satellite imagery obtained from GoogleEarth dated 25 th June 2018 (left) and 6 th June 2025 (right), the site does not appear to have undergone any degradation. The habitats on site, and therefore biodiversity value of the site, is not considered to have undergone degradation since 30th January 2020.	
	 	
Irreplaceable Habitat Statement	No irreplaceable habitats as listed under the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations (2024) are currently present nor were present before 30 th January 2020.	
Metric Version & Publication Date	Statutory Biodiversity Metric Calculation Tool first published 29 th November 2023 with last updates to metric tools and user guides on 23 rd July 2024.	
BNG Target Uplift	+10%	

National Character Area (NCA)	58 – Merseyside Conurbation		
Strategic Significance	Liverpool Local Nature Recovery Strategy - https://www.liverpoolcityregion-ca.gov.uk/local-nature-recovery-strategy		
	Habitat	Baseline / Post-Development	Justification
	Mixed scrub	Post-development	Formally identified in local strategy on the site (Primary Measure ID: 15a)
Limitations			
Individual urban trees have been assessed for size and condition using a combination of the Preliminary Ecological Appraisal (PEA) Land of Archway Road, L36 9XD – V1 (Arbtech Consulting Ltd., 2025) and the Tree Survey Report - Land of Archway Road, L36 9XD – V1 (Arbtech Consulting Ltd., 2025).			
The current BNG assessment applies to the entirety of the site at Land off Archway Road, L36 9XD. Some of the post-development units identified within this assessment correspond to plots within outline planning applications and therefore, should these not be brought forward, this assessment should be revised to accurately reflect the post development units for this application.			

Baseline

Baseline Biodiversity Value: On-Site				
Area-Based Habitats (A-1)				
Habitat	Area (ha)	Description	Condition Assessment	Strategic Significance
Developed land; sealed surface	3.184	All buildings and hardstanding across the entire site.	Habitat condition pre-determined as ' N/A - Other ' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	Low Strategic Significance
Modified Grassland	0.321	Areas of poor condition modified grassland across the site.	Poor: passes 3 of 7 criteria excluding essential criterion A. Assessed using the 'Grasslands Low Distinctiveness' habitat type condition sheet.	Low Strategic Significance
Bramble scrub	0.023	Area of bramble scrub along the western boundary.	Habitat condition pre-determined as ' Condition assessment - N/A ' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	Low Strategic Significance
Introduced shrub	0.166	Areas of introduced shrub across the site/	Habitat condition pre-determined as ' N/A ' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	Low Strategic Significance

Urban Tree	Small: 0.9936 Medium: 1.4332 Large: 0.3664	181 urban trees across the site of varying species. A list of the individual trees and their size class (calculated using Table 14 (tree size classes) provided in The Statutory Biodiversity Metric User Guide 2024) is available in Appendix 5 (further details are available in the Tree survey report and PEA report, Arbtech 2025).	Poor condition: passes 2 or fewer criteria Moderate condition: passes either 3 or 4 criteria Assessed using the 'Individual Trees' habitat type condition sheet.	Low Strategic Significance
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Baseline Biodiversity Value: On-Site				
Linear-Based Habitats (B-1)				
Habitat	Length (km)	Description	Condition Assessment	Strategic Significance
Native hedgerow	0.028	Five native hedgerows across the site (further details are available in the Tree survey report and PEA report, Arbtech 2025).	Moderate: metric score 2 Assessed using the 'Hedgerows' habitat type condition sheet.	Low Strategic Significance

Post-Development

Post-Development Biodiversity Value: On-Site

Area-Based Habitats

	Habitat	Area (ha)	Description	Condition Assessment	Strategic Significance
Retained (A-1)	Developed land; sealed surface	1.159	Areas of retained hardstanding across the site.	Habitat condition pre-determined as ' N/A - Other ' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	Low Strategic Significance
	Urban tree	Small: 0.2158 Medium: 0.7981 Large: 0.2199	Urban trees retained across the site: 53 small trees, 48 medium trees and 6 large trees.	Moderate: passes 3 or 4 of 6 criteria. Assessed using the 'Individual Trees' habitat type condition sheet.	Low Strategic Significance
Created (A-2)	Other neutral grassland	0.072	Wildflower meadow created in the northwestern corner.	Moderate: anticipated to score 5 out of 6 criteria Assessed using the 'Grasslands Med, High and V. High Distinctiveness' habitat type condition sheet.	Low Strategic Significance
	Rain garden	0.078	Rain gardens will be created across the sites near areas of amenity grassland.	Moderate: anticipated to score 3 out of 5 criteria Assessed using the 'Urban' habitat type condition sheet.	Low Strategic Significance
	Modified grassland	0.797	Areas of amenity lawn will be created across the site.	Poor: anticipated to score 4 out of 7 criteria Assessed using the 'Urban' habitat type condition sheet.	Low Strategic Significance

	Developed land; sealed surface	1.436	New buildings and associated hardstanding for the development.	Habitat condition pre-determined as ' N/A - Other ' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	Low Strategic Significance
	Urban tree	0.6229	176 small urban trees will be planted across the site	Moderate: anticipated to pass 2 or fewer criteria Assessed using the 'Individual Trees' habitat type condition sheet.	Low Strategic Significance
Enhanced (A-3)	Mixed scrub	0.023	Area of bramble scrub will be enhanced to mixed scrub.	Moderate: anticipated to pass 3 of 5 criteria Assessed using the 'Scrub' habitat type condition sheet.	Low Strategic Significance

Post-Development Biodiversity Value: On-Site

Linear-Based Habitats

	Habitat	Length (km)	Description	Condition Assessment	Strategic Significance
Retained (B-1)	Native hedgerow	0.021	3 Native hedgerows will be retained.	See 'Biodiversity baseline' section above.	
Created (B-2)	Native hedgerow	0.034	11 native hedgerows will be planted across the site.	Moderate: anticipated to score 2 Assessed using the 'Hedgerows' habitat type condition sheet	Low Strategic Significance

Change of Biodiversity Value

		Biodiversity Units		
		Area-Based	Linear-Based	Watercourse-Based
On-Site	Baseline	17.17	0.11	N/A
	Post-Development	13.80	0.20	N/A
	Net Change	-3.37	0.09	N/A
Overall Net Change		-19.63%	76.61%	N/A

Results, Discussion, and Next Steps

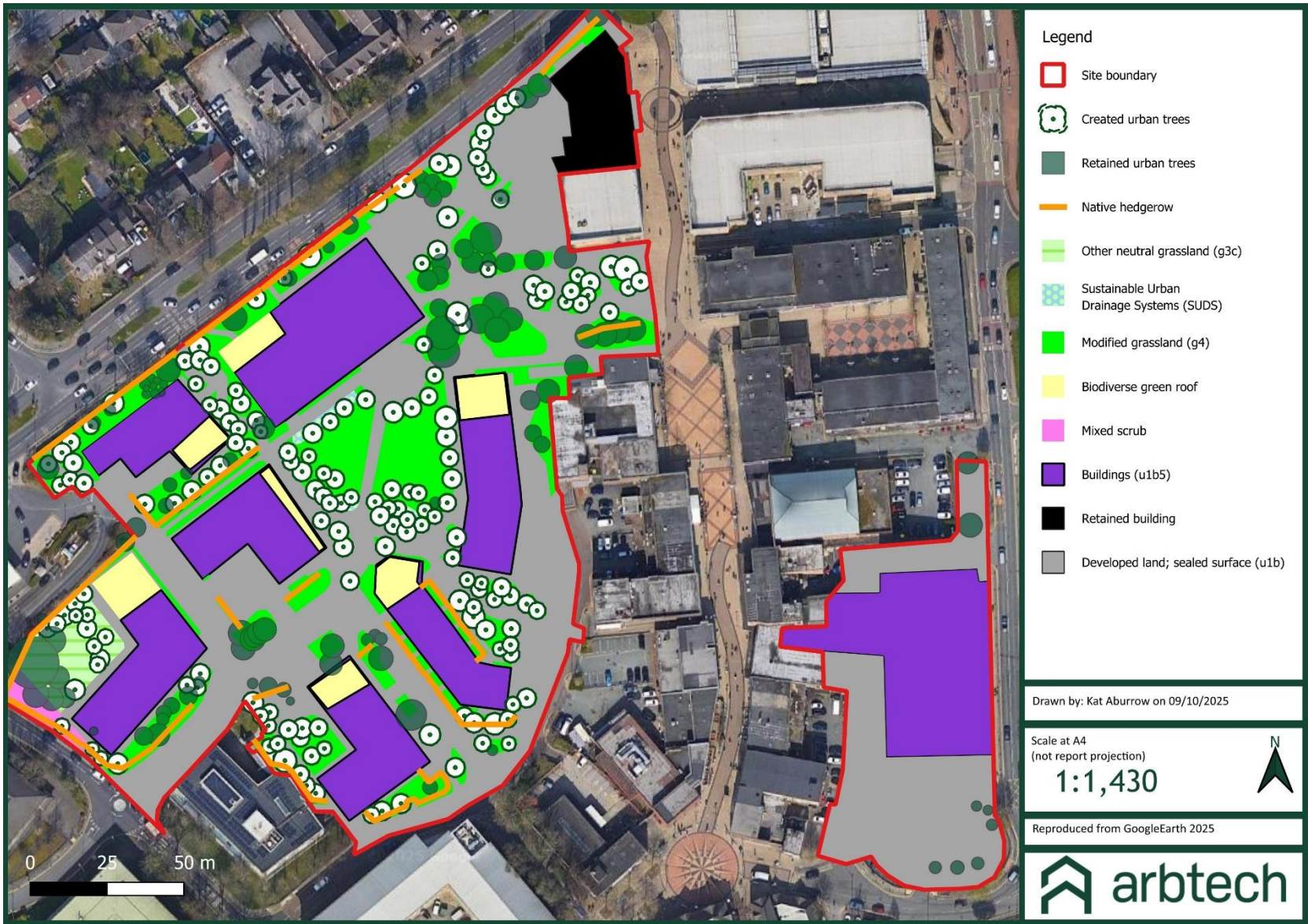
BNG Informative																		
Results	The current landscaping proposal generates a net loss of area-based habitat units (-19.63%) and a net gain of linear-based habitat units (+76.61%) with unmet trading rules. In line with the Statutory Biodiversity Metric User Guide (2024), any loss of a habitat must be replaced on a like-for-like or like-for-better principle. At present, trading conditions are not satisfied for the loss of 74no. urban trees (medium distinctiveness). In order to achieve a +10% biodiversity net gain for area-based habitats, a minimum area-based unit score of 18.89 will need to be achieved. At present, there is a unit deficit of 5.09 its. However, to meet trading rules 5.29 individual tree units are required, making this the <i>de facto</i> unit requirement.																	
Recommendations and Next Steps	Based on the proposed plans, it is unlikely that net gain will be achieved by ways of further habitat creation/enhancement without significant changes to the proposals on site or require unfeasible commitments off-site. As such, a financial contribution to off-site ecological enhancements (i.e. purchasing biodiversity units) within an approved scheme is required to make up the +10% net gain for area-based habitat units. The mechanism for securing this off-setting will need to be proposed to and confirmed by the LPA and would be linked to the application through a planning obligation Section 106 (s106) agreement. The proposed habitat compensation must be of an appropriate distinctiveness to meet the trading rules of BNG. A summary as to what off-site units will be required is detailed in the table below. <table><tr><th></th><th>Distinctiveness</th><th>Broad Habitat Group</th><th>Habitat</th><th>Units Required</th></tr><tr><td rowspan="2">Area-Based</td><td>Medium</td><td>Individual Trees</td><td>Urban Tree</td><td>5.29</td></tr><tr><td colspan="3">Total</td><td>5.29</td></tr></table>					Distinctiveness	Broad Habitat Group	Habitat	Units Required	Area-Based	Medium	Individual Trees	Urban Tree	5.29	Total			5.29
	Distinctiveness	Broad Habitat Group	Habitat	Units Required														
Area-Based	Medium	Individual Trees	Urban Tree	5.29														
	Total			5.29														

Pre-Commencement	A Biodiversity Gain Plan (BGP) and Habitat Management and Monitoring Plan (HMMP) must be produced for the site for a significant habitat proposed. 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.
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Appendix 1: Baseline Habitat Plan



Appendix 2: Post-Development Habitat Plan



Appendix 3: Proposed Development Plan



Appendix 4: Headline BNG Results

FINAL RESULTS				
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-3.37		
	Hedgerow units	0.09		
	Watercourse units	0.00		
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-19.63%	Total net gain achieved is less than target set ▲	
	Hedgerow units	76.61%		
	Watercourse units	0.00%		
Trading rules satisfied?	No - Check Trading Summaries ▲			
Unit Type	Target	Baseline Units	Units Required	Unit Deficit
Habitat units	10.00%	17.17	18.89	5.09
Hedgerow units	10.00%	0.11	0.12	0.00
Watercourse units	10.00%	0.00	0.00	0.00
				No additional hedgerow units required to meet target ✓
				No additional watercourse units required to meet target ✓
Input errors/rule breaks present in metric ▲				

Appendix 5: Individual tree DBH, size and condition

Tree No.	DBH	Size	Condition
1	38	medium	Moderate
2	35	medium	Moderate
3	35	medium	Moderate
4	70	large	Moderate
5	70	large	Moderate
6	74	large	Moderate
7	20	small	Moderate
8	31	medium	Moderate
9	33	medium	Moderate
10	33	medium	Moderate
11	30	small	Moderate
12	33	medium	Moderate
13	31	medium	Moderate
14	32	medium	Moderate
15	19	small	Moderate
16	37	medium	Moderate
17	37	medium	Moderate
18	27	small	Moderate
19	34	medium	Moderate
20	35	medium	Moderate
21	22	small	Moderate
22	27	small	Moderate
23	19	small	Moderate
24	21	small	Moderate
25	34	medium	Moderate
26	27	small	Moderate
27	20	small	Moderate
28	28	small	Moderate
29	18	small	Moderate
30	32	medium	Moderate
31	39	medium	Moderate
32	19	small	Moderate
33	19	small	Moderate
34	19	small	Moderate
35	16	small	Moderate
36	28	small	Moderate
37	15	small	Moderate
38	60	medium	Moderate
39	22	small	Moderate
40	49	medium	Moderate
41	35	medium	Moderate
42	52	medium	Moderate
43	22	small	Moderate
44	81	large	Moderate

45	21	small	Moderate
46	16	small	Moderate
47	22	small	Moderate
48	35	medium	Moderate
49	35	medium	Moderate
50	28	small	Moderate
51	50	medium	Moderate
52	93	large	Moderate
53	33	medium	Moderate
54	78	large	Moderate
55	14	small	Moderate
56	14	small	Moderate
57	14	small	Moderate
58	14	small	Moderate
59	12	small	Moderate
60	25	small	Moderate
61	27	small	Moderate
62	19	small	Moderate
63	18	small	Moderate
64	18	small	Moderate
65	18	small	Moderate
66	10	small	Moderate
67	29	small	Moderate
68	29	small	Moderate
69	20	small	Moderate
70	20	small	Moderate
71	27	small	Moderate
72	27	small	Moderate
73	27	small	Moderate
74	23	small	Moderate
75	29	small	Moderate
76	31	medium	Moderate
77	33	medium	Moderate
78	45	medium	Moderate
79	43	medium	Moderate
80	37	medium	Moderate
81	72	large	Moderate
82	10	small	Moderate
83	17	small	Moderate
84	13	small	Moderate
85	76	large	Moderate
86	29	small	Moderate
87	38	medium	Moderate
88	31	medium	Moderate
89	34	medium	Moderate

90	75	large	Moderate
91	14	small	Moderate
92	30	small	Moderate
93	30	small	Moderate
94	31	medium	Moderate
95	20	small	Moderate
96	15	small	Moderate
97	30	small	Moderate
98	50	medium	Moderate
99	50	medium	Moderate
100	22	small	Moderate
101	22	small	Moderate
102	42	medium	Moderate
103	35	medium	Moderate
104	68	large	Moderate
105	15	small	Moderate
106	16	small	Moderate
107	14	small	Moderate
108	15	small	Moderate
109	23	small	Moderate
110	15	small	Moderate
111	32	medium	Moderate
112	30	small	Moderate
113	31	medium	Poor
114	31	medium	Poor
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170	40	medium	Poor
171	40	medium	Poor
172	40	medium	Poor
173	40	medium	Poor
174	25	small	Poor
175	25	small	Poor
176	25	small	Poor
177	25	small	Poor
178	40	medium	Poor
179	40	medium	Poor
180	40	medium	Poor
181	40	medium	Poor
182	40	medium	Poor

Appendix 6a: Baseline Habitat Condition Assessment Sheets

Urban Trees; assessed using 'Individual Trees' habitat type condition sheet:

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
A	The tree is a native species (or more than 70% within the block are native species).	N	Less than 70% of trees on site are native (1no. native, 1no. non-native).
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	Trees are individual trees and thus automatically pass this criterion.
C	The tree is mature (or more than 50% within the block are mature).	Y	Mostly mature trees on site.
D	There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Y	Little to no evidence of adverse anthropogenic impacts; all trees have retained >75% of their expected canopy.
E	Natural Ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	Y	Knot holes and ivy present on trees
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	N	Less than 20% of the tree canopy area has vegetation underneath.
Number of criteria passed			4
Condition Assessment Result		Condition Assessment Score	
Passes 5 or 6 of 6 criteria		Good (3)	
Passes 3 or 4 of 6 criteria		Moderate (2)	
Passes 0, 1 or 2 of 6 criteria		Poor (1)	

Urban Trees; assessed using 'Individual Trees' habitat type condition sheet:

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
A	The tree is a native species (or more than 70% within the block are native species).	N	Less than 70% of trees on site are native (1no. native, 1no. non-native).
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	Trees are individual trees and thus automatically pass this criterion.
C	The tree is mature (or more than 50% within the block are mature).	N	Mostly mature trees on site.
D	There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Y	Little to no evidence of adverse anthropogenic impacts; all trees have retained >75% of their expected canopy.
E	Natural Ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N	Knot holes and ivy present on trees
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	N	Less than 20% of the tree canopy area has vegetation underneath.
Number of criteria passed			2
Condition Assessment Result		Condition Assessment Score	Score Achieved ✓
Passes 5 or 6 of 6 criteria		Good (3)	
Passes 3 or 4 of 6 criteria		Moderate (2)	✓
Passes 0, 1 or 2 of 6 criteria		Poor (1)	

Modified Grassland; assessed using 'Grasslands Low Distinctiveness' habitat type condition sheet:

Condition Assessment Criteria:		Condition passed (Yes or No)	Notes/Justification
A	There must be 6-8 vascular plant species per m ² , including at least 2 forbs. Note – this criterion is essential for achieving moderate condition.	N	Fewer than 6 vascular plant species per m ² .
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	Sward height is uniform
C	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Y	No scattered scrub present (less than 20% coverage).
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	Physical damage present in more than 5% of total grassland area.
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	Y	Bare ground cover between 1% and 10%.
F	Cover of bracken less than 20%.	Y	No bracken observed (less than 20% coverage).
G	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	Y	Absence of invasive species.
Essential criterion achieved (Y/N)			N
Number of criteria passed			4
Condition Assessment Result	Condition Assessment Score	Score Achieved ✓	
Passes 6 or 7 of 7 criteria including passing essential criterion A	Good (3)		
Passes 4 or 5 of 7 criteria including passing essential criterion A	Moderate (2)		
Passes 0, 1, 2 or 3 of 7 criteria; OR 4, 5 or 6 of criteria but failing criterion A	Poor (1)	✓	

Hedgerow assessed using 'Hedgerow' habitat type condition sheet:

Hedgerow favourable condition attributes				
Attributes and functional groupings (A, B, C, D & E)	Criteria (the minimum requirements for 'favourable condition')	Description	Criterion passed (Yes or No)	Notes/Justification
A1. Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of 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).	Y	Hedgerow averages >1.5m in height.
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 (e.g. blackthorn suckers) are only included in the width estimate when they >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).	N	Hedgerow averages <1.5m in width.
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 65 of the Hedgerow Survey Handbook).	Y	Gap between ground and base of canopy is <0.5m for more than 10% of length.
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	N	Gaps make up >10% of total length; with canopy gaps >5m.

		'gappiness', but are not subject to the >5 m criterion (as this is the typical size of a gate).		
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 hedge (at least)	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedge. Undisturbed ground should be present for at least 90% of the hedgerow length, greater than 1m in width and must be present along at least one side of the hedge. This criterion recognises the value of the hedge 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.	Y	<1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length.
C2. Undesirable 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>Galium aparine</i>) and docks (<i>Rumex</i> spp.). Their presence, either singly or together, should not exceed the 20% cover threshold.	Y	Plant species indicative of nutrient enrichment of soils dominate <20% cover.
D1. Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native and recently introduced species	Recently introduced species refer to plant that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives.	Y	No invasives observed.
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 (e.g. excessive hedge cutting).	N	<90% of hedgerow and understorey is free of damage caused by human activities.
Condition categories for hedgerows with trees				
Category	Maximum number of attributes that can fail to meet 'favourable condition' criteria in Table TS1-2	Weighting (score)		
Good	No more than 2 failures in total AND No more than 1 failure in any functional group	3		

Moderate	No more than 5 failures in total AND <u>Does not fail both attributes</u> in more than one functional group (e.g., fails attributes A1, A2, B1, C2, and E1 = moderate condition)	2	
Poor	Fails a total of more than 5 attributes OR <u>Fails both attributes</u> in more than one functional group (e.g. fails attributes A1, A2, B1 and B2 = poor condition)	1	
Score achieved:	Moderate		

Appendix 6b: Post-Development Habitat Condition Assessment Sheets

Other Neutral Grassland; assessed using 'Grasslands Medium/High/Very High Distinctiveness' habitat type condition sheet:

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes/Justification
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relative to the specific habitat type. Note – this criterion is essential for achieving moderate or good condition for non-acid grassland types only.	Y	Species composition of proposed seed mixes closely resembles definition of g3c 'other neutral grassland'.
B	Sward height is varied (at least 20% of the sward is less than 7cm and at least 20% is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Y	Varied sward height of such specifications anticipated.
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	Y	Cover of bare ground anticipated to exceed 5%.
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	Management anticipated to control bracken cover, if present.
E	Combined cover of species indicative of sub-optimal condition 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 (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed.	Y	Physical damage anticipated to exceed 5% of total area. No invasives anticipated.
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 2 and 4 cannot contribute towards this count). Note – this criterion is essential for achieving good condition for non-acid grassland types only.	Y	Species composition of seed mixes suggests there will likely be 10 or more vascular plant species per m ² .
Essential criterion for good condition achieved (for non-acid grassland) (Yes or No)		N	
Number of criteria passed		5	
Condition Assessment Result		Condition Assessment Score	Score Achieved ✓
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)	✓
Passes 2 or fewer criteria OR Passes 3 or 4 criteria excluding criterion A and F		Poor (1)	

Rain Garden; assessed using the 'Urban' habitat type condition sheet:

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes/Justification
Core Criteria - must be assessed for all urban habitat types :			
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	N	Varied vegetation structure where vegetation is present.
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	Y	Different plant species present.
C	Invasive non-native plant species (listed on Schedule 9 of WCA) and others which are to the detriment of native wildlife (using professional judgement) cover less than 5% of the total vegetated area. Note – to achieve good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).	Y	None observed.
Essential criteria relevant for habitat type achieved (Yes or No)			Y
Number of criteria passed			2
Condition Assessment Result		Condition Assessment Score	Score Achieved ✓
Results for habitats requiring assessment of 3 core criteria only:			
Passes all 3 core criteria AND Meets the requirements for good condition within criterion C		Good (3)	
Passes 2 of 3 core criteria OR Passes 3 of 3 core criteria but does not meet the requirements for good condition within criterion C		Moderate (2)	✓
Passes 0 or 1 of 3 core criteria		Poor (1)	

Modified Grassland; assessed using 'Grasslands Low Distinctiveness' habitat type condition sheet:

Condition Assessment Criteria:		Condition passed (Yes or No)	Notes/Justification
A	There must be 6-8 vascular plant species per m ² , including at least 2 forbs. Note – this criterion is essential for achieving moderate condition.	N	Fewer than 6 vascular plant species per m ² .
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	Sward height is uniform
C	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Y	No scattered scrub present (less than 20% coverage).
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	Physical damage present in more than 5% of total grassland area.
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	N	Bare ground cover >10%.
F	Cover of bracken less than 20%.	Y	No bracken observed (less than 20% coverage).
G	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	Y	Absence of invasive species.
Essential criterion achieved (Y/N)			N
Number of criteria passed			3
Condition Assessment Result	Condition Assessment Score	Score Achieved ✓	
Passes 6 or 7 of 7 criteria including passing essential criterion A	Good (3)		
Passes 4 or 5 of 7 criteria including passing essential criterion A	Moderate (2)		
Passes 0, 1, 2 or 3 of 7 criteria; OR 4, 5 or 6 of criteria but failing criterion A	Poor (1)	✓	

Biodiverse Green Roof; assessed using the 'Urban' habitat type condition sheet:

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes/Justification
Core Criteria - must be assessed for all urban habitat types :			
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	Y	Species proposed are capable of providing varied vegetation structure.
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	Y	Species proposed includes different species that flower at different times of the year.
C	Invasive non-native plant species (listed on Schedule 9 of WCA) and others which are to the detriment of native wildlife (using professional judgement) cover less than 5% of the total vegetated area. Note – to achieve good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).	Y	Absence of non-native plant species in species list. Management plan addresses removal of invasives if found colonizing green roof.
Additional Criterion – must be assessed for biodiverse green roofs only:			
G	The roof has a varied depth of 80mm–150mm; at least 50% is at 150mm and is planted and seeded with wildflowers and sedums or is pre-prepared with sedums and wildflowers. Note – to achieve good condition some additional habitat, such as sand piles, stones, logs etc. are present.	N	Undulating substrate depth and additional habitats such as sand piles, stones, and logs not anticipated.
Essential criteria relevant for habitat type achieved (Yes or No)			N
Number of criteria passed			3
Condition Assessment Result		Condition Assessment Score	Score Achieved ✓
Results for green roofs (requiring assessment of 4 criteria only - core criteria plus additional criterion specified for habitat type):			
Passes all 3 core criteria AND Meets the requirements for good condition within criterion C AND Passes additional criterion relevant to specific habitat type (G)		Good (3)	
Passes 2 or 3 of 4 criteria OR Passes 4 of 4 criteria but does not meet the requirements for good condition within criterion C		Moderate (2)	✓
Passes 0 or 1 of 4 criteria		Poor (1)	

Urban Trees; assessed using 'Individual Trees' habitat type condition sheet:

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
A	The tree is a native species (or more than 70% within the block are native species).	Y	Less than 70% of trees on site are native (1no. native, 1no. non-native).
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	Trees are individual trees and thus automatically pass this criterion.
C	The tree is mature (or more than 50% within the block are mature).	N	Mostly mature trees on site.
D	There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	N	Pruning regime evident
E	Natural Ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N	Knot holes and ivy present on trees
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	N	Less than 20% of the tree canopy area has vegetation underneath.
Number of criteria passed			2
Condition Assessment Result		Condition Assessment Score	Score Achieved ✓
Passes 5 or 6 of 6 criteria		Good (3)	
Passes 3 or 4 of 6 criteria		Moderate (2)	
Passes 0, 1 or 2 of 6 criteria		Poor (1)	✓

Hedgerow assessed using 'Hedgerow' habitat type condition sheet:

Hedgerow favourable condition attributes				
Attributes and functional groupings (A, B, C, D & E)	Criteria (the minimum requirements for 'favourable condition')	Description	Criterion passed (Yes or No)	Notes/Justification
A1. Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of 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).	Y	Hedgerow averages >1.5m in height.
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 (e.g. blackthorn suckers) are only included in the width estimate when they >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).	N	Hedgerow averages <1.5m in width.
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 65 of the Hedgerow Survey Handbook).	Y	Gap between ground and base of canopy is <0.5m for more than 10% of length.
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	N	Gaps make up >10% of total length; with canopy gaps >5m.

		'gappiness', but are not subject to the >5 m criterion (as this is the typical size of a gate).		
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 hedge (at least)	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedge. Undisturbed ground should be present for at least 90% of the hedgerow length, greater than 1m in width and must be present along at least one side of the hedge. This criterion recognises the value of the hedge 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.	Y	<1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length.
C2. Undesirable 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>Galium aparine</i>) and docks (<i>Rumex</i> spp.). Their presence, either singly or together, should not exceed the 20% cover threshold.	Y	Plant species indicative of nutrient enrichment of soils dominate <20% cover.
D1. Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native and recently introduced species	Recently introduced species refer to plant that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives.	Y	No invasives observed.
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 (e.g. excessive hedge cutting).	N	<90% of hedgerow and understorey is free of damage caused by human activities.
Condition categories for hedgerows with trees				
Category	Maximum number of attributes that can fail to meet 'favourable condition' criteria in Table TS1-2	Weighting (score)		
Good	No more than 2 failures in total AND No more than 1 failure in any functional group	3		

Moderate	No more than 5 failures in total AND <u>Does not fail both attributes</u> in more than one functional group (e.g., fails attributes A1, A2, B1, C2, and E1 = moderate condition)	2	
Poor	Fails a total of more than 5 attributes OR <u>Fails both attributes</u> in more than one functional group (e.g. fails attributes A1, A2, B1 and B2 = poor condition)	1	
Score achieved:	Moderate		