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Ecological Consultants
Environmental and Rural Chartered Surveyors

Biodiversity Net Gain

Dakota, Manchester Airport

Green at Heart BEN GOLD

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ACCURACY OF REPORT

This report has been compiled based on the methodology as detailed and the professional experience of the surveyor. Whilst the report reflects the situation found as accurately as possible, all of the protected species this survey covers are wild and can move freely from site to site. Their presence or absence detailed in this report does not entirely preclude the possibility of a different past, current or future use of the site surveyed.

We would ask all clients acting upon the contents of this report to show due diligence when undertaking work on their site and/or in their interaction with protected species. If protected species are found during a work programme, and continuing the work programme could result in their disturbance, injury or death, either directly or indirectly an offence may be committed.

If in doubt, stop work and seek further professional advice.

Quality and Environmental Assurance

This report has been printed on recycled paper as part of our commitment to achieving both the ISO 9001 Quality Assurance and ISO 14001 Environmental Assurance standards. Envirotech have been awarded the Gold standard by the Cumbria Business Environmental Network for its Environmental management systems.

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Planning Portal Questions

Please provide the date the onsite pre-development biodiversity value was calculated (this should be either the date of the application, or an earlier proposed date)	**03.06.2024**
If an earlier date, to the date of the planning application, has been used, please provide details why this date has been used.	**Site conditions have not changed between date of assessment and planning submission**
When was the version of the biodiversity metric published?	**Statutory Metric 05/12/2023**
Please provide the pre-development biodiversity value of onsite habitats on the date of calculation	**Habitat units 2.26** **Hedgerow units 0.00** **Watercourse units 0.36**
Please provide the reference or supporting document/plan names for the: i. Biodiversity metric calculation	**BNG Dakota, Manchester Airport**
ii. Onsite irreplaceable habitats (if applicable)	**N/A**
iii. Onsite habitats existing on the date of the application for planning permission (if applicable)	**PEA Dakota, Manchester Airport**
Has there been any loss (or degradation) of any onsite habitat(s), resulting from activities carried out before the date of the onsite pre-development biodiversity value was calculated. Either: - On or after 30 January 2020 which were not in accordance with a planning permission; or - On or after 25 August 2023 which were in accordance with a planning permission?	**No**
Does the development site have irreplaceable habitats (corresponding to the descriptions in column 1 of [Schedule to the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations (2023)) which are: i. On land to which the application relates; and ii. Exist on the date of the application for planning permission (or an earlier agreed date)	**No**

INTRODUCTION

Purpose of this Report

Envirotech were requested to carry out a biodiversity assessment of Dakota, Manchester Airport. The aim was for an ecologist with botanical expertise to carry out a site visit to map the habitat types present at the site in order to establish the biodiversity baseline.

Each habitat type was mapped using the standard habitat mapping convention using UK Habitat Classification V2 (Butcher et al., 2023) for the purposes of using the Defra metric.

Using the findings of the baseline surveys, pre-construction ecology was measured against proposed habitat changes arising from future ecological enhancements based on an Illustrative Landscape Plan (post-construction) provided by the client.

This report presents the results of this desk-based study to assess net change in biodiversity 'units' in connection with the removal of habitats for the proposed development at the site.

Ecological Context

The site is 1.21Ha and *Figure 1* shows the site location.

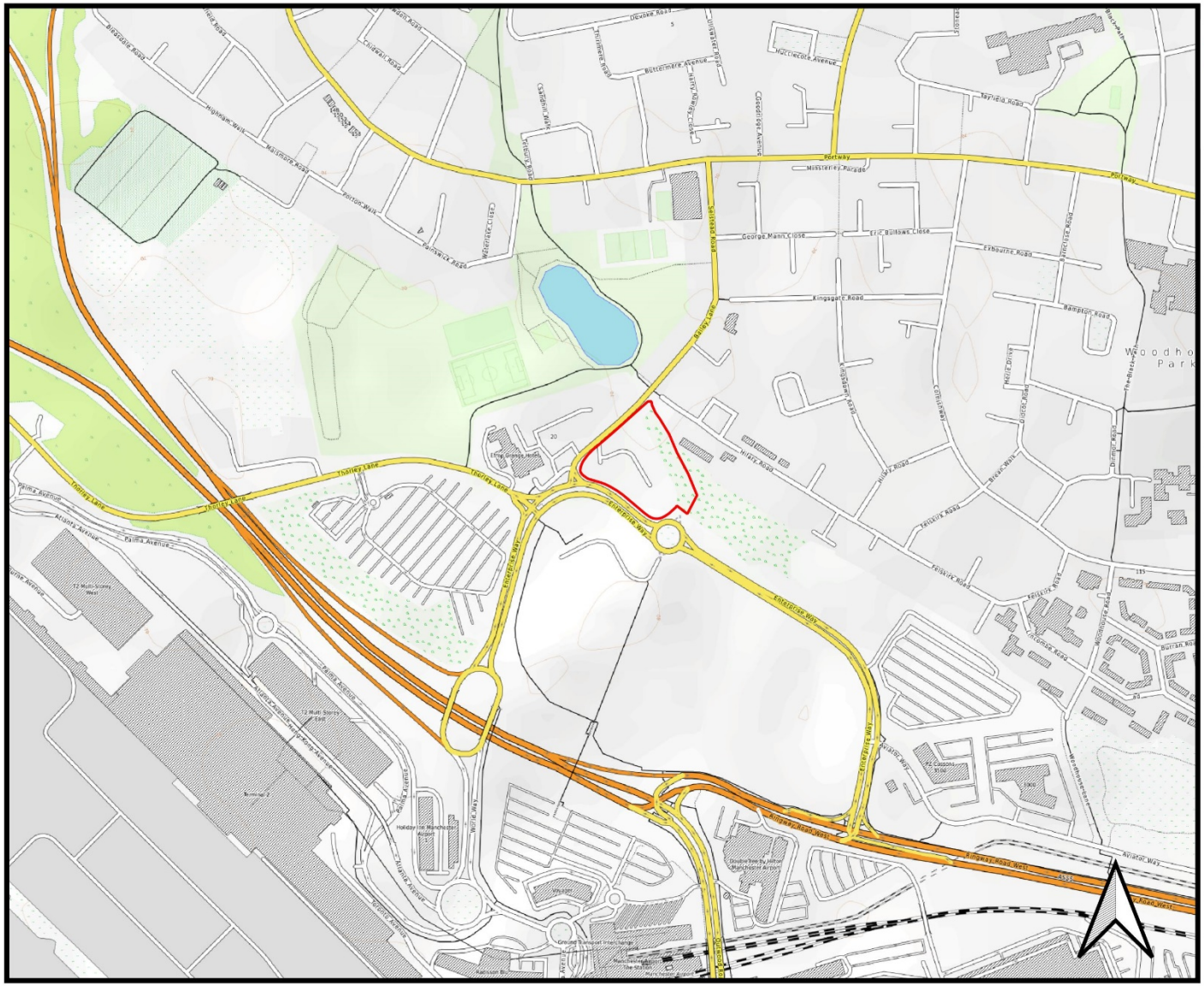

Figure 1

Site Location

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Policy context

The primary aims of Biodiversity Net Gain are to secure a measurable improvement in habitat for biodiversity, to minimise biodiversity losses and to help to restore ecological networks whilst streamlining development processes.

The National Planning Policy Framework (NPPF) makes provisions for the delivery of biodiversity net gain. Additionally, there is a 10% net gain requirement in the Environment Bill.

METHODS

Introduction

The statutory biodiversity metric is designed to quantify biodiversity to inform and improve planning, design, land management and decision-making (Natural England, 2024).

This study has been carried out as a desk-based exercise, using the results of field surveys carried out at the site by Envirotech and an Illustrative Landscape Plan (PWP 872 001 P02 Landscape Outline Masterplan) provided by the client.

Biodiversity Assessment Methods

To calculate biodiversity units for the site and assess any changes arising from the proposed development this study uses methods set out the latest Statutory Biodiversity Metric user guide (Natural England, 2024).

The biodiversity metric uses three core measurements:

- Habitat area
- Length of linear terrestrial habitats
- Length of linear aquatic habitats.

Consequently, a site can have three biodiversity unit values, which are assessed using the same metric, but cannot be summed together.

Habitat area is multiplied by several factors that indicate its quality: distinctiveness, condition, strategic location and connectivity, and this gives its biodiversity unit value. This can be used for existing and future created habitats. In addition, when habitats are to be enhanced or newly-created, the risk of failure is accounted for by applying multipliers for risk factors (difficulty, time to target condition, and off-site risk).

Habitat Distinctiveness

Habitats are classified using the UK habitat classification V2 system (Butcher et al., 2023).

The metric pre-assigns each habitat type to a distinctiveness band according to its distinguishing features, i.e. species richness, rarity (at local, regional, national and international scales), and the degree to which it supports species rarely found in other habitats. On rare occasions, the

habitat distinctiveness of a habitat can be altered up or down from the preassigned value. Any alterations must then be fully explained using evidence relevant to the site, e.g. an increase in distinctiveness because of rare flora or fauna or a decrease in distinctiveness because of significant damage to the habitat.

Habitat Condition

Habitat condition measures the varying quality of similar habitats against what is perceived to be their optimal state. The statutory biodiversity metric technical supplement (Natural England, 2023) contains condition sheets for all habitats to which the metric can apply. The condition sheets contain a habitat description, contextual information to aid the assessment, and the assessment criteria. The criteria describe what components need to be present for a habitat to be in good, moderate or poor condition.

Strategic Location

Strategic location - sometimes called 'strategic significance' – works at a landscape scale, allowing additional value to be added to habitats in 'priority' or 'biodiversity target areas'. They include statutory and non-statutory sites and other areas with biodiversity value or potential, and they are mainly identified from local plans and objectives. If a habitat is within such a target area, a multiplier is applied to increase its value.

Difficulty of Creation and Restoration

The risks associated with creating new or enhancing existing habitats, are known as difficulty factors; for example, where habitats fail to establish owing to natural changes in local conditions, incorrect management or for unknown reasons. The statutory biodiversity metric contains default values for each habitat based on the average difficulty of creating or enhancing a habitat. Occasionally, under exceptional circumstances, these can be modified, but any deviation from the default value must be fully justified.

Time to Target Condition

There is often a lag between a habitat being removed and the new compensation habitats achieving their target condition. This gives reduced biodiversity value for a time. The statutory biodiversity metric preassigns the time to target condition based on good practice and typical conditions, and assigns a multiplier based on the number of years required to achieve it.

Using bespoke techniques under unique conditions, or creating compensation habitats prior to impacts taking place, the time to target condition can be adjusted. Any changes must again be fully justified.

Off-site Risk

Sometimes it is not possible to compensate adequately for loss of biodiversity within the site boundary, so off-site compensation is required. If the off-site compensation is a significant distance from the development site, then there will be a local loss of biodiversity and a multiplier is applied to any off-site compensation.

BIODIVERSITY ASSESSMENT

Baseline:

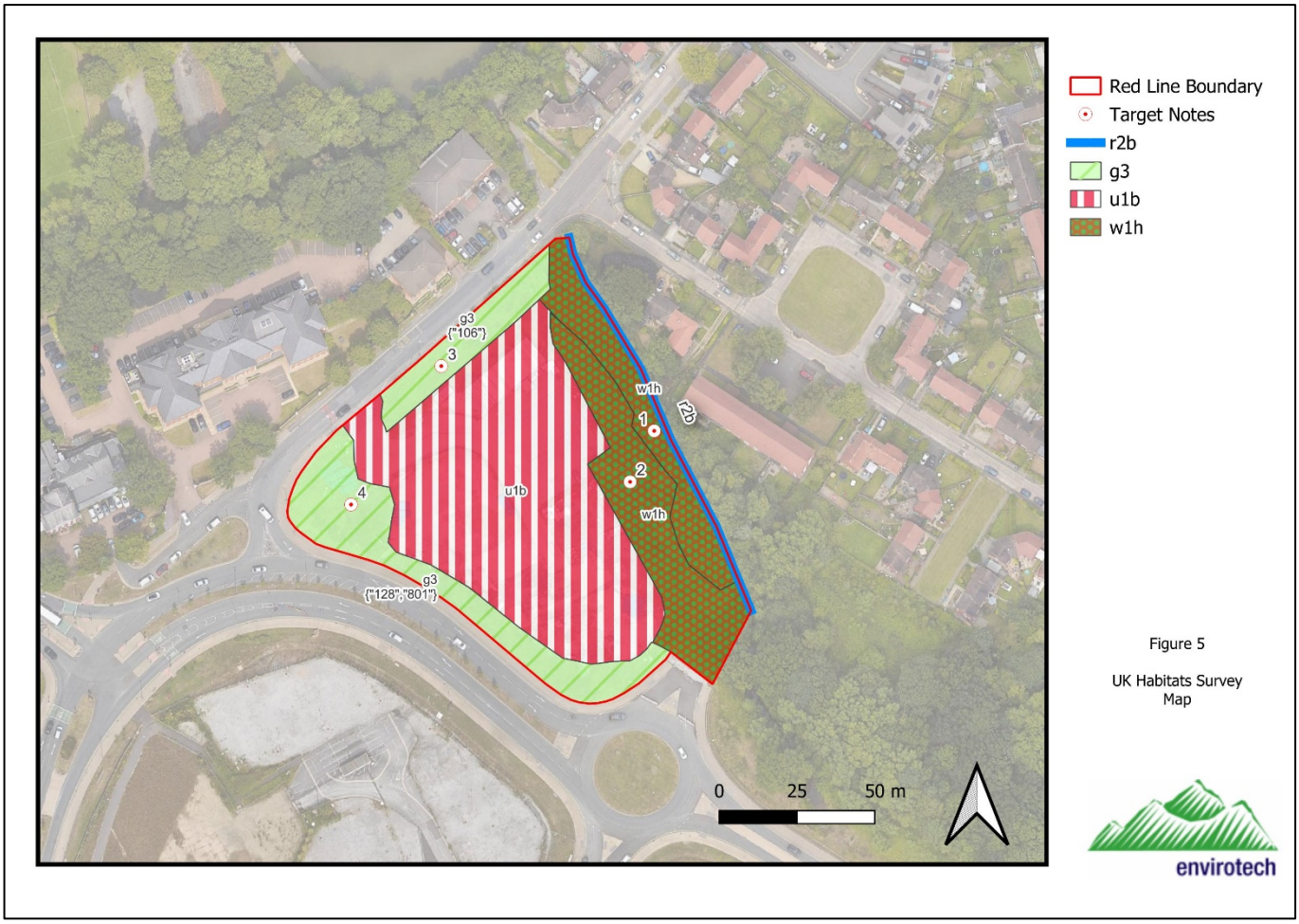
The sites baseline BNG value was calculated using the Statutory BNG metric and UKHabs v2 methodology. This was shown in the PEA report, as Figure 5, reproduced below.

The baseline value for the site is as at 03.06.2024. This is the date that our assessment was undertaken. We consider there will have been no substantive changes to habitat condition at the time of the planning application being made.

We are not aware of any habitat features which have been purposefully degraded after 30th January 2020.

We consider planning permission, if granted, would be subject to the biodiversity gain condition

The type, area and distinctiveness values are shown on Table 1.



Habitat	Area HA/ Length KM	Distinctiveness
Other woodland; mixed	0.318	Medium
Other neutral grassland	0.078	Medium
Vacant or derelict land	0.182	Low
Developed land; sealed surface	0.6271	V.Low
Ditches	0.133	Medium

Table 1- *Habitat, Area and Distinctiveness Values*

The UK Habs V2 habitat survey has been used to identify relevant habitat areas, linear habitat areas and watercourse units.

These habitats have been input into the statutory biodiversity metric calculator R1 and indicate a total of 2.26 Habitat units, 0.00 Hedgerow units and 0.36 Watercourse units.

The results of the calculations are presented in the full biodiversity assessment calculation in the Excel document 'BNG Dakota Manchester Airport'

The condition assessments for each of the area and water course habitats are presented in Appendix A. No deviations have been made from the default methods for baseline habitats assessment.

Post-development Habitat Creation and Enhancement

The Illustrative Landscape Plan (PWP 872 001 P02 Landscape Outline Masterplan) has been used to identify that there will be two retained habitats, one enhanced habitat and six new habitats.

There will be enhancement of the watercourse and creation of two new linear habitats.

These figures have been put in to the Statutory Biodiversity Metric and would comprise a total of 3.25 Habitat units, 0.16 Hedgerow units and 0.83 Watercourse units.

There are no changes to default values for post development habitats.

Details of the assumptions made to achieve the proposed conditions are found in Appendix B

Change in Biodiversity Value

Under the current proposals set out in the Illustrative Landscape Plan there will be a GAIN of 0.99 biodiversity area units (+43.61%), and a GAIN of 0.46 terrestrial linear biodiversity units and a GAIN of 0.48 watercourse biodiversity units (+133.40%). This is shown in Table 2.

Table 2. *Change in Biodiversity Units Calculation*

On-site baseline	*Habitat units*	2.26		
	Hedgerow units	0.00		
	Watercourse units	0.36		
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	3.25		
	Hedgerow units	0.46		
	Watercourse units	0.83		
On-site net change (units & percentage)	*Habitat units*	0.99	43.61%	
	Hedgerow units	0.46	N/A	Zero baseline units - % cannot be calculated
	Watercourse units	0.48	133.40%	
Off-site baseline	*Habitat units*	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		
Off-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		
Off-site net change (units & percentage)	*Habitat units*	0.00	0.00%	
	Hedgerow units	0.00	0.00%	
	Watercourse units	0.00	0.00%	
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	0.99		
	Hedgerow units	0.46		
	Watercourse units	0.48		
Spatial risk multiplier (SRM) deductions	*Habitat units*	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		
FINAL RESULTS				
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	0.99		
	Hedgerow units	0.46		
	Watercourse units	0.48		
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	43.61%		
	Hedgerow units	N/A	0 baseline units - % cannot be calculated	
	Watercourse units	133.40%		
Trading rules satisfied?	Yes ✓			

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Habitat units	10.00%	2.26	2.49	0.00	No additional area habitat units required to meet target ✓
Hedgerow units	10.00%	0.00	0.00	0.00	No additional hedgerow units required to meet target ✓
Watercourse units	10.00%	0.36	0.39	0.00	No additional watercourse units required to meet target ✓

REFERENCES

Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2023), UK Habitat Classification – Habitat Definitions V2.01 at http://ukhab.org

Natural England 2023. Natural England The Statutory Biodiversity Metric User Guide (draft)

APPENDIX A – BASELINE DETAILED CONDITION ASSESSMENTS

This appendix presents the assessment of the post-development habitats against the condition sheets in the statutory biodiversity metric technical supplement published by Natural England, 2023. Any deviations from the published guidance is explained and justified.

UK Hab Equivalent	Condition Sheet	Other Habitat Criteria Score									Total Score	Condition Assessment	Notes
		C1	C2	C3	C4	C5	C6	C7	C8	C9			
Ditch	Ditches	P	F	P	F	F	F	F	P		3	Poor	Ditch has no name. Appears artificially constructed drains to a pond with attenuation basins upstream – ditch rather than stream. Ditch shaded, damage from adjacent gardens. UK Habs as Stream (no ditch habitat under UK Habs), translates to BNG as ditch
Other neutral grassland	GRASSLAND: Medium-Very High distinctiveness	P	F	F	P	P	F				3	Moderate	Single height, no bare ground but greater species mix than modified grassland/ amenity grassland
Vacant/derelict land/bare ground	URBAN	F	F	P							1	Poor	Extensive bare ground with occasional ruderal species. Grass becoming dominant with occasional broom to East but only a small component of the wider habitat type. UK Habs as Neutral grassland translates to BNG as Vacant/derelict land/bare ground
Developed Land; Sealed Surface	Not assessed										-	-	-

Key:
P – Criteria passed
F – Criteria failed

Appendix Table A1: Condition Assessment for Area Habitats

Phase 1 Habitat	UK Hab Equivalent	Condition Sheet	Other Habitat Criteria Score												Total Score	Condition Assessment	Notes
			C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13			
Plantation Broadleaved woodland	Other woodland mixed	WOODLAND AND FOREST	1	3	2	2	3	1	1	2	1	1	1	1	2	21	Poor	Single age, no understory, damage from adjacent land use

Key to woodland condition assessment:
3 (points) = Good
2 (points) = Moderate
1 (point) = Poor

Total score >32 – Good
Total score 26 – 32 – Moderate
Total score <26 – Poor

Appendix Table A2: Woodland Condition Assessment

APPENDIX B – POST DEVELOPMENT DETAILED CONDITION ASSESSMENTS

This appendix presents the assessment of the post-development habitats against the condition sheets in the statutory biodiversity metric technical supplement published by Natural England, 2023. Any deviations from the published guidance is explained and justified.

UK Hab Equivalent	Condition Sheet	Other Habitat Criteria Score									Total Score	Condition Assessment	Notes
		C1	C2	C3	C4	C5	C6	C7	C8	C9			
Ditch	Ditches	P	F	P	P	P	F	P	P		6	Moderate	Woodland opened up allowing light to ditch edge and plant growth. Garden fences removed from ditch.
Modified Grassland	GRASSLAND: Low distinctiveness	P	F	P	P	F	P	P			5	Moderate	Single height, no bare ground but less species mix than neutral grassland.
Other neutral grassland	GRASSLAND: Medium-Very High distinctiveness	P	F	F	P	P	F				3	Moderate	Single height, no bare ground but greater species mix than modified grassland/ amenity grassland. Some grassland retained in same condition some created as new
Scrub	Mixed Scrub	P	F	P	P	P					4	Moderate	Single age as newly created
Developed Land; Sealed Surface	Not assessed										-	Not assessed	
Garden	Introduced scrub										-	Not assessed	
Urban trees	URBAN TREES	F	P	F	P	P	P				4	Moderate	Non natives planted as heavy standards over vegetated areas
Urban trees	Line of trees	F	P	F	F	P					2	Poor	Nonnative trees without 6m buffers

Key:
P – Criteria passed
F – Criteria failed

Appendix Table B1: Condition Assessment for Area Habitats

Phase 1 Habitat	UK Hab Equivalent	Hedgerow Criteria Score										Condition Assessment	Notes
		A1	A2	B1	B2	C1	C2	D1	D2	E1*	E2*		
Intact Species-poor hedgerow	Non Native Hedgerow											Not assessed	

Key:
P – Criteria passed
F – Criteria failed
* - Application to Hedgerows with trees only

Appendix Table B2: Hedgerow Condition Assessment

Phase 1 Habitat	UK Hab Equivalent	Condition Sheet	Other Habitat Criteria Score													Total Score	Condition Assessment	Notes
			C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13			
Plantation Broadleaved woodland	Other woodland mixed	WOODLAND AND FOREST	2	3	3	3	3	2	2	2	2	2	1	1	2	28	Moderate	Coppiced, underplanted and thinned

Key to woodland condition assessment:
3 (points) = Good
2 (points) = Moderate
1 (point) = Poor

Total score >32 – Good
Total score 26 – 32 – Moderate
Total score <26 – Poor

Appendix Table B3: Woodland Condition Assessment