

Assessment of Biodiversity

Version 1
23.08.2022

Threadneedle Curtis Ltd
MAG 401 building, Pinfold Way.

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1. Introduction

1.1 Background to the project

Amenity Tree was commissioned by Threadneedle Curtis Ltd to undertake a Biodiversity Assessment at MAG 401.

1.2 Site location and context

The Preliminary Ecological Appraisal (10.03.22) stated:

‘Whilst we are informed planning permission has been granted for the building, we understand the positioning of the building has an impact on woodland to the south and therefore planning permission is to be sought managing the aspects of this impact on the woodland. Our brief is to manage this area of site only’.

The total area of the woodland on this site is approximately 0.76 acre / 0.31 hectare.

1.3 Report purpose and scope

1.3.1 This assessment was requested by the client for the purposes of supporting a planning application for the site’s development specifically in reference to comments made at pre application stage in relation to demonstrating biodiversity net gains in accordance with National Planning Policy Framework.

1.3.2 A Preliminary Ecological Appraisal confirmed habitats present. Therefore, the habitats present are confirmed and using the UK Habitats Classification System (UKHAB) it is possible that the appropriate habitat classification is used in the BNG Calculator.

1.3.3 The scope of the Assessment is therefore:

- Assessment of the habitats within the site in accordance with the UK Habitats Classification (UK Habitats Classification Working Group, 2018).
- Completion of Condition Assessments of each habitat in accordance with those presented in The Biodiversity Metric 3.1: Auditing and accounting for biodiversity value: technical supplement (Crosher, et al., Beta version, July 2019).
- An assessment of BNG using The Biodiversity Metric 3.1 Calculation Tool Beta Test Final (Natural England, 2020).

2. Survey Methods

2.1 Vegetation and Habitats

2.1.1 An extended phase one habitat survey plan (in accordance with JNCC, 2010) is provided in appendix 2 which confirmed the habitats present. Appendix 3 is the habitat mapping based on is based on the UK Habitat Classification system (UK Habitats Classification Working Group, 2018) which details modified grassland, scattered trees and bramble scrub.

2.1.2 The plant species within the site are identified with estimates of the distribution, and abundance of individual species. The estimation of abundance was based on the commonly used DAFOR system, where D = Dominant, A = Abundant, F = Frequent, O = Occasional and R = Rare.

2.1.3 The UKHAB scheme has been designed to function at two scales: fine and large scaling. It has been considered for the purposes of this survey that the finer scale is appropriate for the classification of habitats using the measurement of 25m square.

2.1.4 Whilst on the site the habitat survey searched for all plants including those that are considered rare, uncommon or are statutorily protected such as those listed in schedule 9 of the *Wildlife and Countryside Act 1981* (as amended).

2.2 Limitations

2.2.1 The survey was conducted inside the optimal survey period for vascular plants as determined by JNCC, 2010 (August 2021).

2.3 Evaluation

2.3.1 Habitats have been assessed to determine whether they meet those described in the UK Biodiversity Action Plan – Priority Habitat descriptions which are used to form Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

2.3.2 <https://www.daftlogic.com/projects-google-maps-area-calculator-tool.htm> has been used to measure habitat size and all habitats are calculated as areas.

2.3.3 The BNG Assessment tool “The Biodiversity Metric 3.1 – Natural England 2022) is used for the evaluation and condition assessment is made using the technical support provided by Natural England.

2.3.4 There are no high or very high value distinctiveness habitats and as such habitat connectivity is not calculated.

2.3.5 Other government advice on wildlife such as the National Planning Policy Framework (NPPF) or the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017, is referenced where applicable and any impacts on protected species are evaluated in accordance with current guidance.

3. Survey results

3.1 History of site

3.1.1 The recent history of the site can be examined using historic aerial imagery. From 2000 to 2022 the site has been woodland, no earlier aerial imagery is available.

3.1.2 An examination of <https://magic.defra.gov.uk/MagicMap.aspx> indicates the woodland is priority habitat (woodland).

3.2. Site description and assessment of habitats

3.2.1 The site is best described as a mixed woodland.

3.2.2 A vascular plant list is provided for the habitat is provided below.

Acer pseudoplatanus
Betula pendula
Chamerion angustifolium
Convolvulus arvensis
Corylus avellana
Crataegus monogyna
Ilex aquafolium
Epilobium parviflorum
Galium aparine
Geranium robertianum
Prunus kanzan
Sorbus aucuparia
Quercus robur
Ranunculus repens
Rubus agg.
Taraxacum officinale
Urtica dioica

3.2.3 A condition assessment for the woodlnad is provided below and in appendix 5. The condition habitat assessment scored 24 making it a poor condition.

Site name/location	mag 401	Onsite/offsite	On site		
Habitat's Central Grid Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)	SJ 80870 84758	Unique polygon Limitations (if applicable)			
Habitat Description					
Semi natural priority woodland					
See UKHab					
This condition sheet is based on the England Woodland Biodiversity Group (EWBG) Woodland Condition Survey Method, available here: https://woodlandwildlifetoolkit.sylva.org.uk/assess					
Condition Assessment Criteria					
Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per indicator	Notes/Justification
1 Age distribution of trees¹	Three age classes present	Two age classes present	One age class present	2	
2 Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland ²	Evidence of significant browsing pressure is present in 40% or less of whole woodland	Evidence of significant browsing pressure is present in 40% or more of whole woodland	3	
3 Invasive plant species³	No invasive species present in woodland	Rhododendron or laurel not present, other invasive species < 10% cover	Rhododendron or laurel present, or other invasive species > 10% cover	2	
4 Number of native tree species	Five or more native tree or shrub species found across woodland parcel	Three to four native tree or shrub species found across woodland parcel	None to two native tree or shrub species across woodland parcel	2	
5 Cover of native tree and shrub species	> 80% of canopy trees and >80% of understory shrubs are native	50-80% of canopy trees and 50-80% of understory shrubs are native	< 50% of canopy trees and <50% of understory shrubs are native	2	
6 Open space within woodland⁴	10 – 20% of woodland has areas of temporary open space, unless woodland is < 10ha in which case lower threshold of 10% does not apply	21- 40% of woodland has areas of temporary open space	More than 40% of woodland has areas of temporary open space	3	
7 Woodland regeneration⁵	All three classes present in woodland; trees 4-7cm dbh, saplings and seedlings or advanced coppice regrowth	One or two classes only present in woodland	No classes or coppice regrowth present in woodland	2	
8 Tree health	Tree mortality less than 10%, no pests or diseases and no crown dieback	11% to 25% mortality and/or crown dieback or low risk pest or disease present	Greater than 25% tree mortality and or any high risk pest or disease present	1	Ash present
9 Vegetation and ground flora	Ancient woodland flora indicators present	Recognisable NVC plant community present	No recognisable NVC community	1	
10 Woodland vertical structure⁶	Three or more storeys across all survey plots or a complex woodland	Two storeys across all survey plots	One or less storey across all survey plots	2	
11 Veteran trees⁷	Two or more veteran trees per hectare	One veteran tree per hectare	No veteran trees present in woodland	1	
12 Amount of deadwood	50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	Between 25% and 50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	Less than 25% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	1	
13 Woodland disturbance⁸	No nutrient enrichment or damaged ground evident	Less than 1 hectare in total of nutrient enrichment across woodland area and/or less than 20% of woodland area has damaged ground	More than 1 hectare of nutrient enrichment and/or more than 20% of woodland area has damaged ground	2	
Condition Assessment Result				Total Score 24	
Condition Assessment Score					Result Achieved
Total score >32 (33 to 39)				Good (3)	Poor
Total score 26 to 32				Moderate (2)	
Total score <26 (13 to 25)				Poor (1)	

3.2.4 Summary of area based habitat. The total area of the site is approximately 0.76 acre / 0.31 hectare.

Habitat ref	UK Habitat Classification Type	Phase 1 Habitat Equivalent	Condition Assessment Result	Acre / Ha
Habitat 1	W1h	A1 Woodland	Poor	0.76/0.31

4. Evaluation and Assessment

4.1 Proposed habitat creation and enhancement

The site shall be developed as proposed in appendix 4 which shall consist of new building impacting on the priority woodland habitat. A summary of the habitats created by the proposal is provided below. Total coverage is 0.86 acre / 0.35 hectare.

Habitat Type	Acre / Hectare
Woodland (enhanced)	0.67 / 0.27
Urban developed land (created)	0.09 / 0.03

4.2 Habitat creation methods – Woodland

Broad principles

Broadly the accompanying Woodland Management Plan shall aim to create a good habitat condition by use of the following measures:

- Creating three + age classes within high canopy
- Maintaining no significant browsing damage
- Maintaining absence of non native invasives
- Increasing number of native tree and shrub species
- Enhancing areas of open woodland (10-20% of overall areas)
- Developing woodland regeneration

- Developing ground flora ancient woodland indicator plants
- Developing veteran trees
- Creating standing deadwood
- Avoiding nutrient enrichment

Recommended Species: At least 70% of trees should be native species found in the local area, taking into account the requirement to plant trees that will be appropriate for anticipated changes in climate. Species within allotment should include fruit-bearing species associated with a traditional orchard.

Considerations:

- Trees will adapt to natural conditions. Additional watering will only be required during a particularly long dry spell or if trees are planted out with of the tree planting season (October to March inclusive).

Creation Methodology:

- Advanced nursery stock trees or larger will be planted within optimal tree planting season (October to March inclusive).
- Suitable wooden stakes will be used to support the trees.
- Weeds will be controlled around the base of the trees by applying organic mulch (10cm depth in a 50cm buffer around trees), this will also assist with water retention. This will be applied in early summer until trees are successfully established (minimum 3 years).

4.3 Management and monitoring

The following section details management and monitoring methodologies for the habitats proposed to be created and retained on site.

It is the responsibility of Manchester Airport Group to implement habitat creation, management and monitoring of the site for a 30 year period as per best practice guidelines or their accredited agents.

The site should be subject to a UKHAB classification survey alongside a condition assessment of the created and enhanced habitats. This survey

should be carried out by a suitably qualified ecologist, starting 1 year after the project is completed, with follow up visits within year 2, 5, 10, 20, until the final visit on year 30. A report provided by an independent assessor shall be submitted to the LPA, when habitats as listed in the Biodiversity Metric are judged to have reached target condition.

A review of management of all habitats should be undertaken at years 10 and 20 with the management programme will be updated/adjusted accordingly.

General Management

The following management practices are recommended throughout the site in order to protect created habitats from harmful management practices.

- Weed control will be undertaken using non-chemical interventions wherever possible including mulching and hand pulling. Where deemed necessary, the spot application of eco-friendly herbicides may be used, avoiding areas containing waterbodies such as ponds and rivers.
- The application of fertilisers will be avoided as excessive nutrient loading will negatively alter the species composition of the habitats.
- Care should always be taken when maintaining habitats to avoid damage or disturbance to protected species such as breeding birds and water vole.
- Any arisings and/or cuttings created by maintenance will need to be removed and disposed of off-site or in a suitable location such as a designated compost heap or alternatively composted within the allotments on site.
- During site clearance and management, wood (including dead wood) should be used to create refugia in a suitable location (within native scrub, woodland, or pond edges) wherever possible.
- All areas are to be monitored for controlled and/or invasive species and appropriate action taken to remove if found.
- All areas to be monitored for fly-tipping, rubbish and litter annually (both construction and post-construction phases) with appropriate action taken to remove if found.

4.4 The results of the BNG calculation are indicated below:

MAG 401

Headline Results

Return to results menu

On-site baseline	Habitat units	1.36
	Hedgerow units	0.00
	River units	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	2.02
	Hedgerow units	0.00
	River units	0.00
On-site net % change (Including habitat retention, creation & enhancement)	Habitat units	48.09%
	Hedgerow units	0.00%
	River units	0.00%
Off-site baseline	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.66
	Hedgerow units	0.00
	River units	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	48.09%
	Hedgerow units	0.00%
	River units	0.00%
Trading rules Satisfied?	Yes ✓	

5. Conclusions

- 5.1 In accordance with the habitats present within the site and the proposals for the site's redevelopment the BNG Assessment predicts a change of +48.09% and in 0.66 habitat units. This assessment has assumed that the proposed habitat will achieve a moderate condition. The methods by which a moderate condition is to be achieved are provided in the Woodland Management Plan.



Appendix 2 Extended phase one habitat plan



NET
A.1.1.1 Semi Natural woodland

Client:
Threadneedle Curtis

Project:
MAG 401

Detail:
Phase One Habitat Map

Drawn By: SB Date: 22.08.2022 Scale: NTS

Drg No: TR-01 Revision: V1

Appendix 3 Habitat mapping based the UK Habitat Classification system



NTS
w1h other mixed woodland

Client:
Threadneedle Curtis

Project:
MAG 401

Detail:
UK Habitat Map

Drawn By: SB Date: 22.08.2022 Scale: NTS

Drg No: TR-01 Revision: V1

Appendix 4 Proposed development and ecological enhancements plan



ENHANCED w1h other mixed woodland

Area lost

Client: Threadneedle Curtis

Project:
MAG 401

Enhancements planning

Drawn By:	Date:	Scale:
SB	22.08.2022	NTS

Drg No: TR-01 Revision: V1

Appendix 5 BNG Metric