

BRITISH STANDARD 5837

TREE SURVEYS ARBORICULTURAL IMPLICATION STUDIES

TPO/PLANNING ADVICE/ PROJECT MANAGEMENT

TREE INVENTORIES AND RISK ASSESSMENTS

WOODLAND MANAGEMENT PLANS

TREE PLANTING SCHEMES

TPO RE-SURVEY



Court Hey Garages, Knowsley

Biodiversity Net Gain Summary

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1 Introduction

1.1 Background

Kingdom Ecology have undertaken an Ecology Scoping Survey and Biodiversity Net Gain Assessment of a garage building and car park located at Court Hey Garages, Rimmer Avenue, Roby, Knowsley, L16 2NG (National Grid Reference SJ 4290 0641). The proposed works will comprise of the erection of single storey side extension to provide a workshop with associated parking.

The assessment has been carried out to identify any ecological constraints which should be considered during proposed works and to allow an assessment as to whether the development will deliver a biodiversity net gain.

Field surveys were undertaken by Richard Roe (BSc, MSc, MIEEM, CEnv). Richard has extensive experience of undertaking habitat and protected species surveys as a professional ecological consultant with over twenty years' experience. Richard holds a Level 4 FISC.

1.2 Purpose of Report

This report provides the findings of field surveys undertaken at the site. The field surveys comprised of an ecological walkover survey with a search for habitats that could support any protected or notable species.

Following a description of the survey findings and an evaluation of habitats at the site, the report goes on to make recommendations for further works, mitigation and ecological enhancement measures where relevant.

A Biodiversity Metric Assessment for the site pre- and post-development has been carried out to determine whether the development will achieve a biodiversity net gain.

1.3 Survey Methods

1.3.1 Ecological Walkover Survey

An Ecological Walkover of the site was undertaken on the on the 7th November 2024. The aims of the walkover survey were to assess the extent and condition of habitats using the UK Habitat Classification System. The condition assessments were used to underpin a Biodiversity Net Gain assessment. The habitats were also assessed for their potential to support protected species or non-native, invasive species.

Court Hey Garages, Roby
BNG Assessment

Some areas of habitat have recently been modified, therefore aerial images of the site have also been assessed in order to help determine likely baseline habitats

A map of the study site is shown on Figure 1. Typical habitats recorded at the site are also shown in photographs in the Appendix.

2 Survey Results

2.1 Site Description

The site currently comprises almost entirely of developed land, with the main garage buildings at the front and areas of tarmac and hardstanding located at the front, side, and rear.

There is a row of tall cypress trees running along the northern boundary of the site, which have developed from a former cypress hedge (therefore recorded as 'introduced hedge' for the purposes of the biodiversity net gain assessment).

The row of cypress trees partially extends around the western boundary of the site. There is a row of small sycamore trees running along the southern and western boundaries of the site. These comprise 13 x small trees and two medium-sized sycamore trees near the northwest and southwest corner of the site. None of the trees support suitable habitat for roosting bats. There is a fenced area at the northwest corner of the site, which comprises of stored materials overlaid with tarpaulin.

Areas of tarmac at the rear of the site appear to have been recently laid (late 2023/early 2024). Vegetation at the edge of the tarmac includes ivy, herb robert, bramble, nettle, dandelion, ragwort, foxglove, and daisy. It is likely that the rear of the site formerly included similar habitats.

For the purposes of the biodiversity Net gain assessment, the previous habitat-type has been used with condition assessments assumed from remnant patches of vegetation and aerial images of the site. The habitat appears to comprise of typical neglected waste ground vegetation, which appears to have undergone occasional clearance before being left to regenerate.

With regards to the UKHab classification, the vegetated habitats at the site the previous habitat is considered to comprise of 'vacant land', in a 'moderate' condition. It is considered likely that the habitat would pass condition criteria A and C only. The relevant condition sheet is provided in the Appendix.

Baseline habitats are shown in photographs and are mapped on Figure 1 in the Appendix.

3 Summary & Recommendations

3.1 Habitats

3.1.1 Summary and Recommendations

An Ecology Walkover Survey and Biodiversity Net Gain Assessment has been undertaken of a garage building and carpark located at Court Hey Garages, Rimmer Avenue, Roby, Knowsley.

Habitats at the site are highly modified comprising principally of hardstanding and vacant land.

Proposed development works include the construction of an extension and associated parking. The affected area is considered to be of limited biodiversity value. The extent of the proposed development area is shown on Figure 2 in the Appendix.

The land has already been tarmacked over. The existing trees would all be retained as part of development proposals.

Recommendations to enhance the biodiversity value of the proposed development are provided in section 4.2.

3.2 Recommendations

3.2.1 Bat and Bird Boxes

The proposed development should include provision for roosting bats and breeding birds.

It is recommended that bat and bird boxes are installed on retained trees at the site. These should comprise of at least 1 x tree mounted bat boxes (comprising of Schwegler 2F Bat Boxes or CJ Wildlife Large WoodStone Bat Boxes or similar); and at least 2 x tree mounted bird boxes (comprising of Schwegler 1B nest boxes or similar).

The tree mounted bat and bird boxes should be positioned on retained sycamore trees located around the site perimeter. The bat boxes should be installed at a minimum height of 4m, positioned to avoid having a north facing aspect, and positioned so that the bat box entrance and bat flight lines below the entrance are not obstructed by vegetation (this may require some twigs and young branches to be removed within at least 1m beneath the bat box entrance).

The tree mounted bird boxes should be installed at a minimum height of 2m, located in a sheltered location and positioned so that the bird box entrances are not obstructed by vegetation.

4 Biodiversity Metric Calculation

4.1.1 Biodiversity Metric Calculation Results

The relative biodiversity units at the site before and after the completion of development proposals, have been calculated following methodologies and using tools provided within DEFRA's Statutory Biodiversity Metric Calculator Version (DEFRA July 2024).

Summary tables of the calculations are provided in the Appendix. The full Biodiversity Metric Calculation Tool Spreadsheet for the site has also been submitted to the Council.

The baseline biodiversity units (i.e. the site's pre-development condition) has been calculated at 0.87 habitat units and 0.03 hedgerow units.

The on-site biodiversity units after the completion of development have been calculated at 0.73 habitat units and 0.03 hedgerow units.

The development will therefore result in a net loss of 0.15 habitat units representing an 16.74% net percentage biodiversity loss of habitat units and no loss of hedgerow habitat.

Therefore, in order to achieve a 10% net biodiversity gain, the proposed development would need to provide 0.23 habitat units off site. It is proposed that these habitat units are delivered through a third-party habitat bank.

5 Appendix

Court Hey Garages, Roby
BNG Assessment

Biodiversity Net Gain Summary Results Table

On-site baseline	Habitat units	0.87		
	Hedgeprow units	0.03		
	Watercourse units	0.00		
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.73		
	Hedgeprow units	0.03		
	Watercourse units	0.00		
On-site net change (units & percentage)	Habitat units	-0.15	-16.74%	On-site net gain is less than target set ▲
	Hedgeprow units	0.00	0.00%	On-site net gain is less than target set ▲
	Watercourse units	0.00	0.00%	
Off-site baseline	Habitat units	0.00		
	Hedgeprow units	0.00		
	Watercourse units	0.00		
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00		
	Hedgeprow units	0.00		
	Watercourse units	0.00		
Off-site net change (units & percentage)	Habitat units	0.00	0.00%	
	Hedgeprow 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	-0.15		
	Hedgeprow units	0.00		
	Watercourse units	0.00		
Spatial risk multiplier (SRM) deductions	Habitat units	0.00		
	Hedgeprow 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	-0.15		
	Hedgeprow units	0.00		
	Watercourse units	0.00		
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-16.74%		Total net gain achieved is less than target set ▲
	Hedgeprow units	0.00%		Total net gain achieved is less than target set ▲
	Watercourse units	0.00%		
Trading rules satisfied?	No - Check Trading Summaries ▲			

***Court Hey Garages, Roby
BNG Assessment***

PHOTOGRAPHS

Photograph 1- East facing side of the site and garage building



Photograph 2 - West facing side of the site with sycamore trees



***Court Hey Garages, Roby
BNG Assessment***

Photograph 3 - North facing side of the site with overgrown cypress hedgerow



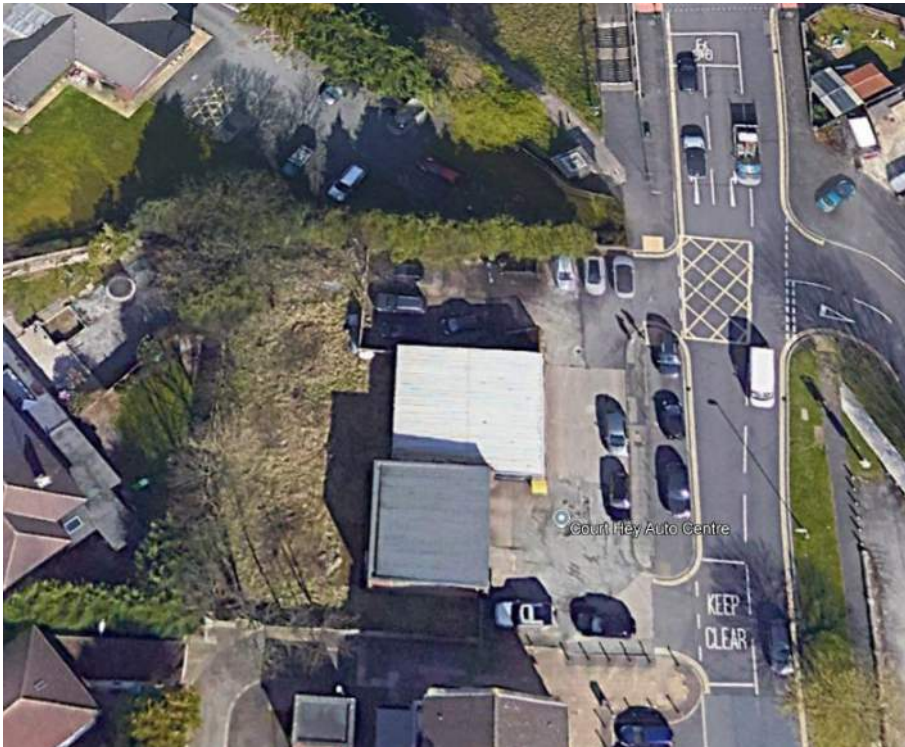
Photograph 4 - Recently tarmacked rear of site



Photograph 5- Northwest corner of the site used for storage



Photograph 6- Aerial of previous habitats dating from March 2022



**FIGURE 1- Baseline
Habitats**



KEY

-  Red Line Boundary
-  Small Tree
-  Medium Tree
-  Non-native and Ornamental Hedgerow
-  Developed/Sealed Surface
-  Buildings
-  Vacant land

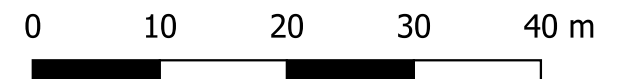
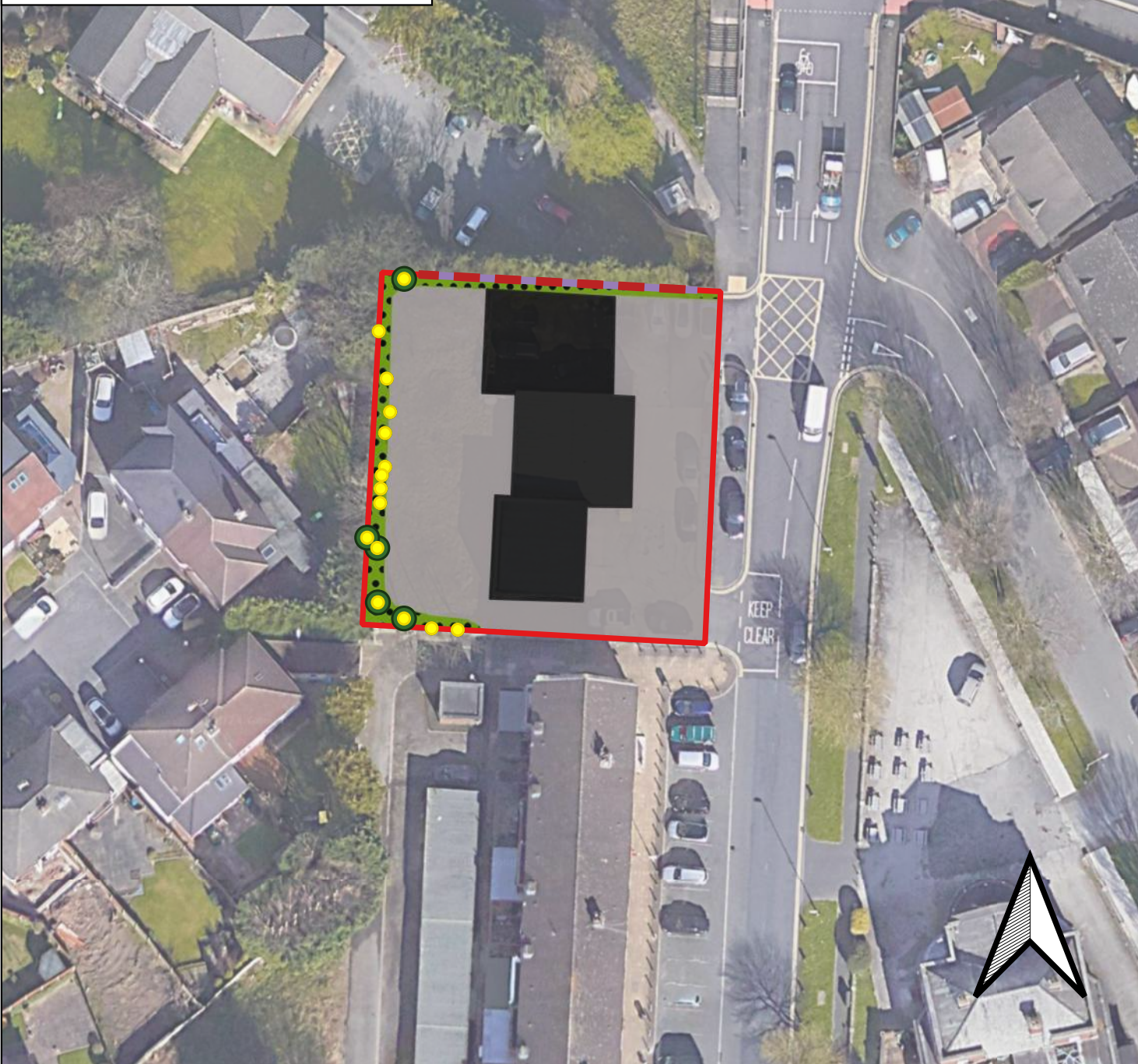
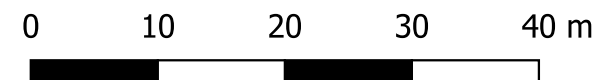


FIGURE 2- Proposed Habitats



KEY

-  Red Line Boundary
-  Retained Tree
-  Small Tree
-  Medium Tree
-  Non-native Hedgerow (retained)
-  Developed/Sealed Surface
-  Buildings
-  Vacant land



Condition Sheet: URBAN Habitat Type			
Habitat Types			
Sparsely vegetated land - Ruderal/Ephemeral Sparsely vegetated land - Tall forbs Urban - Allotments Urban - Biodiverse green roof Urban - Bioswale Urban - Cemeteries and churchyards Urban - Facade-bound green wall Urban - Ground based green wall Urban - Intensive green roof Urban - Open mosaic habitats on previously developed land Urban - Rain garden Urban - Sustainable drainage system (SuDS) Urban - Vacant or derelict land Urban - Bare ground			
Habitat Description			
Area of former vacant land at rear of site. Area appears to have been frequently cleared and left to regenerate. Likely to have supported typical waste ground plant species. Site had been cleared at time of survey so habitat type and condition assumed from aerial photos and remenant vegetation.			
See the Statutory Biodiversity Metric User Guide for green roofs and UK Habitat Classification (UKHab) for other habitats:			UKHab – UK Habitat Classification
On-site or off-site, site name and location	R Roe	Survey date and Surveyor name	R Roe 7th Nov 2024
Limitations (if applicable)		Survey reference (if relating to a wider survey)	
Grid reference		Habitat parcel reference	
Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as 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	
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.	N	
C	Invasive non-native plant species (listed on Schedule 9 of WCA ¹) and others which are to the detriment of native wildlife (using professional judgement) ² cover less than 5% of the total vegetated area ³ . Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).	Y	
Additional Criterion - must be assessed for Open mosaic habitat on previously developed land only:			
D	The parcel shows spatial variation and forms a mosaic of bare substrate PLUS: - At least four early successional communities (a) to (i); Communities: (a) annuals; (b) mosses/liverworts; (c) lichens; (d) ruderals; (e) inundation species; (f) open grassland; (g) flower-rich grassland; (h) heathland, (i) pools.		
Additional Criteria - must be assessed for Bioswale and SuDS habitat types only:			
E1	Plant species are mostly native. If non-native species are present, they should not be detrimental to the habitat or native wildlife ⁴ .		
E2	The vegetation is comprised of plant species suited to wetland or riparian situations.		
Additional Criterion - must be assessed for Intensive green roofs only:			

F	The roof has a minimum of 50% native and non-native wildflowers. 70% of the roof area is soil and vegetation (including water features).		
Additional Criterion - must be assessed for Biodiverse green roofs only:			
G	The roof has a varied depth of 80 – 150 mm; at least 50% is at 150 mm 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.		
Essential criteria relevant for habitat type achieved (Yes or No)			
Number of criteria passed			2
Condition Assessment Result		Condition Assessment Score	Score Achieved x/√
Results for habitats requiring assessment of 3 core criteria only (all listed urban habitats except Open mosaic habitat on previously developed land, Bioswale, SuDS and Green roofs):			
• 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)	
Results for Green roofs and Open mosaic habitat on previously developed land (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 (D, F or 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)	
Results for Bioswale or SuDS (requiring assessment of 5 criteria - core criteria plus additional criteria specified for habitat type):			
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C; AND • Passes all additional criteria relevant to specific habitat type (Group E)		Good (3)	
• Passes 3 or 4 of 5 criteria; OR • Passes 5 of 5 criteria but does not meet the requirements for Good condition within criterion C.		Moderate (2)	
• Passes 2 or fewer of 5 criteria.		Poor (1)	
Suggested enhancement interventions to improve condition score			
Footnotes			