



Preliminary Ecological Appraisal

- Land at: Warren Court, Harefield Drive, Heywood, OL10 1RN -

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A report for

Ben Snape,
Warren Court,
Harefield Drive,
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OL10 1RN

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PART 1 INTRODUCTION:

1.1 REASONS FOR SURVEY:

PENNINE Ecological have been commissioned to undertake a Preliminary Ecological Appraisal and protected species survey / assessment of land at: Warren Court, Harefield Drive, Heywood, OL10 1RN.

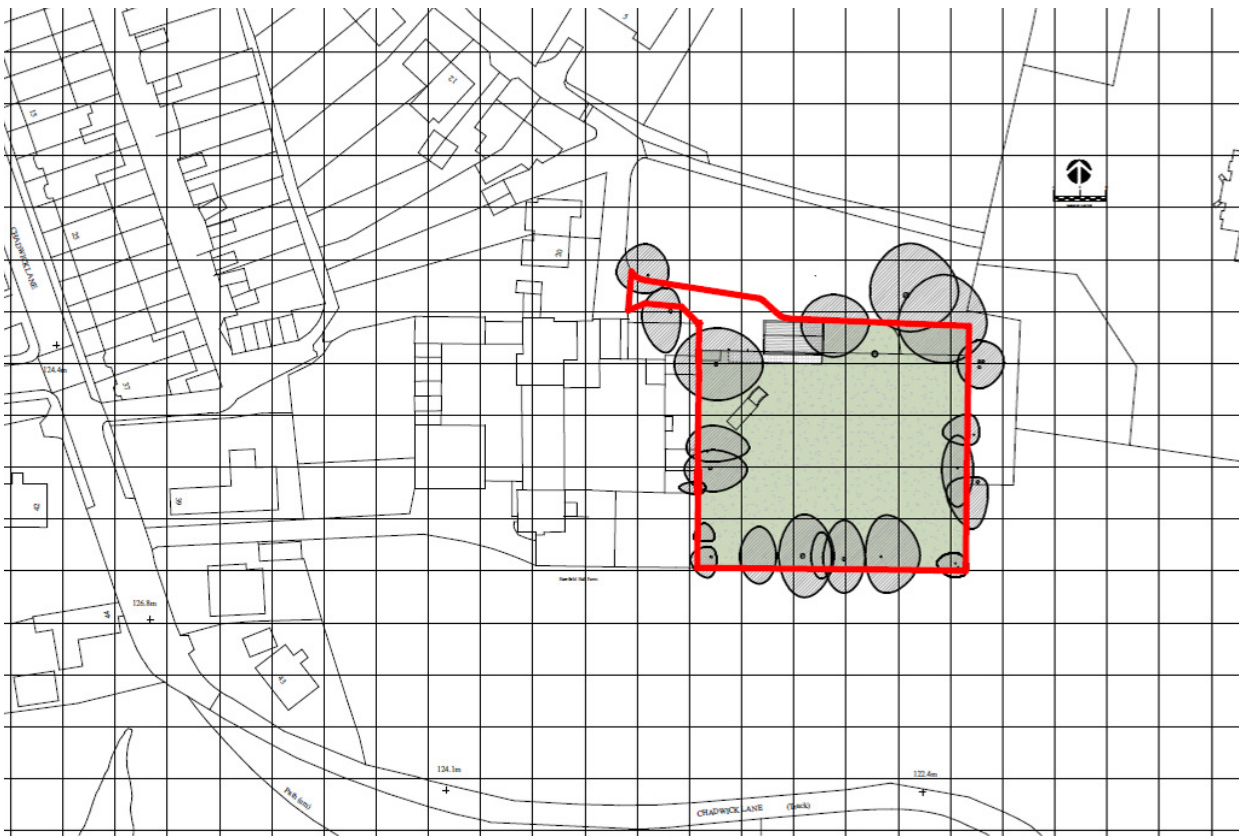
The study includes a desk top study of the governments Magic website, a vegetation survey, preliminary bat roost assessment and badger survey together with assessment for other potential protected species issues.

The report includes a full evaluation of the ecological significance of the survey findings. The surveys are required due to proposals for the construction of one residential dwelling on the site.

1.2 SITE LOCATION:

The site is located in a sub-urban area on the eastern edge of Heywood, approximately 1.5km east of the town centre. The sites central National Grid Reference is NGR: SD867 01083.

The site is shown below, outlined in red.



Existing Location Plan

1 : 1250

An aerial photograph of the site is shown below;



1.3 Site Status:

A desk top consultation study with Greater Manchester Local Record Centre (GMLRC) ecological data base was not undertaken for this study. Searches for statutory sites were undertaken.

1.3.1 Statutory Sites:

Details of statutory sites were sought from the Natural England web site search:

<http://www.natureonthemap.naturalengland.org.uk/MagicMap.aspx>

There are no statutory wildlife sites within 1km of the site.

Site of Special Scientific Interest (SSSI) Impact Risk Zones (IRZ's):

The site falls within a distant SSSI Impact Risk Zone (IRZ). However the nature / size and scale of the development does not require notification to Natural England.

1.3.2 Non-Statutory Sites:

The GMLRC website reveals that there are no non-statutory sites (Sites of Biological Importance) within 500m of the site. <https://gmlrc.org/mapapp/>

1.3.3 Protected Species / Habitat Data:

Section 41 Habitats of Principal Importance in England (NERC) Act 2006;

There are no Section 41 Habitats of Principal Importance in England (NERC) Act 2006 associated with the site that are affected by development.

Section 41 Species of Principal Importance in England (NERC) Act 2006;

There were no Section 41 species recorded during the survey associated with the site.

1.4 SURVEY CONSTRAINTS:

The survey was conducted on 19th April 2023 which is an optimal time for Extended Phase 1 Habitat Survey.

All habitats on site were accurately identified.

There were no constraints to other protected species surveys / assessments and all parts of the site were accessible.

PART 2 SURVEY RESULTS:

2.1 EXTENDED PHASE 1 HABITAT SURVEY:

2.1.1 Extended Phase 1 Habitat Survey Methodology:

An Extended Phase 1 Habitat Survey (*Nature Conservancy Council 1990*) of the study area was undertaken on 19th April 2023. The site's habitats were mapped and higher vascular plant species were recorded and given abundance values according to the standard DAFOR scale, where:

D	=	Dominant
A	=	Abundant
F	=	Frequent
O	=	Occasional
R	=	Rare

Where appropriate these values can be prefixed by the letter L (locally) or V (very), to provide more subtle biogeographical data.

2.1.2 Habitats Present:

- A3.1 Scattered broad-leaved trees
- A3.2 Scattered broad-leaved trees
- G1 Standing open water (artificial pond)
- G2 Running water (artificial rock cascade supplying pond)
- J1.2 Amenity grassland
- J1.4 Introduced shrub
- J5 Wall
- J3.6 Buildings
- J4 Bare ground

2.1.3 General Description:

The site has maximum dimensions of approximately 55m x 40m forming a roughly rectangular plot of land. The site is a former Victorian walled garden on level ground.

The vast majority of the site is dominated by short mown amenity grassland.

Areas of hard standing / bare ground and a building are present around the northern boundary and extending partially along the eastern boundary.

The peripheral areas of all boundaries apart from the northern boundary have semi-continuous planted beds of introduced shrubs, often defined by dwarf stone walls. Scattered mature sycamore, ash and beech are present mainly along the southern boundary.

The southern boundary has a Leyland cypress hedge running parallel to the garden wall.

In the north eastern corner an artificial pond is present created by the owners in 2019. The pond is retained by vertical stone walls. A water pump has been installed which pumps the pond water to the top of an artificial rock cascade built against the wall in the north east corner.

Two pigs are housed in a fenced off compound on the eastern boundary. Bee hives are also present in the south west site corner.

An access track is present to the north west comprising bare ground and a parking area. Two mature horse chestnut trees are present with sparse ephemeral vegetation beneath.

2.1.4 Target Notes:

Target Note 1: Mature horse chestnut tree (*off site / access road*):

A mature horse chestnut tree on the access track to the site supports multiple potential bat roost features on the main trunk associated with gaps / crevices on the main trunk.

Target Note 2: Artificial pond in the sites north eastern corner:

In the north eastern corner an artificial butyl lined pond is present created by the owners in 2019. The pond is retained by vertical stone walls.

The pond is approximately 6 x 2m in size and largely absent of aquatic vegetation apart from a single plant of marsh-marigold and a non-native aquatic species.

A water pump has been installed which pumps the pond water to the top of an artificial rock cascade built against the wall in the north east corner.

Target Note 3: Amenity grassland:

The vast majority of the site is dominated by short mown amenity grassland. The following species were recorded;

<u>Species:</u>	<u>Abundance:</u>
Bent species	A
Rye-grass species	A
Meadow-grass species	A
Fescue species	F
Creeping buttercup	F
Yarrow	VLF
Broad-leaved dock	O
Dandelion species	O
Daisy	O
Broad-leaved plantain	O
Common ragwort	R
Spear thistle	R

2.2 PROTECTED SPECIES SURVEYS:

During the Phase 1 Habitat Survey additional surveys were undertaken where appropriate for the presence of other potential protected species. The following surveys were undertaken.

2.2.1 Badger Survey:

Method:

A badger survey was undertaken of the site. The badger survey used standard techniques for establishing the use of the site by badger, and includes searches for evidence of badgers including:

- Setts
- Pathways
- Footprints
- Latrines
- Foraging areas
- Scratching posts
- Boundary searches for runs, pathways and latrines.

The survey results are outlined below.

Results:

Sett Search:

The survey found no setts on site.

Search for Foraging Signs and Pathways:

The site was thoroughly searched for badger pathways and signs of foraging. No sign of badger activity was found therefore it can be concluded that the species is not using this area for foraging or commuting.

Boundary Search:

All of the boundaries of the site were walked and examined for potential runs, pathways and latrines. The search found no evidence to suggest badger activity along any of the site boundaries.

The absence of any activity signs indicates that badgers are not entering the site. The absence of latrines indicates a lack of territorial activity in the near vicinity of the site.

2.2.2 Bats:

During the survey an assessment of bat roost potential and foraging habitats was undertaken.

All trees on site were assessed for features offering potential for bat roosts.

The trees on site have no features suitable for ingress by bats.

A mature horse chestnut tree on the access track to the site supports multiple potential bat roost features on the main trunk associated with gaps / crevices on the main trunk. It is understood that this tree is unaffected by the proposed work.

The site is located on the north east urban edge of Heywood. Extensive areas of open grassland, woodland and hedgerows are located in immediate / close proximity to the site. The combination of both immediate and extending connected foraging habitats in the wider landscape provides high quality bat foraging habitats.

2.2.4 Other Protected Species:

Issues in relation to other potential protected species where no specific survey was undertaken are assessed in the following section.

PART 3 ECOLOGICAL EVALUATION & RECOMMENDATIONS:

3.1 EVALUATION OF SURVEY & RECOMMENDATIONS:

The following section evaluates the site in relation to statutory/non-statutory sites, protected species and species/habitats listed on the former UK Biodiversity Action Plan Priority List, Section 41 Species/Habitats of Principal Importance in England (NERC) Act 2006, and Greater Manchester Biodiversity Habitats.

3.1.1 Statutory Sites:

There are no statutory wildlife sites associated with the site or within 1km of the site.

3.1.2 Non-statutory Sites:

There are no non statutory sites (*Sites of Biological Importance*) within 500m of the site.

3.1.3 Sites Habitats & Higher Plant Species:

There are no Section 41 Habitats of Principal Importance in England (NERC) Act 2006 affected by the proposed work. Plant species recorded on site are common and widespread and are considered to be of site value only.

The habitats on site / affected by development are of low distinctiveness (Natural England, 2022). The only habitats to be lost will be areas of amenity grassland and bare earth / ground.

Recommendations: Habitats:

The habitats present at this site are of low distinctiveness and highly artificial. However in the interests of biodiversity enhancement several measures have been recommended.

The proposals include extensive native woodland bulb planting. These features will ensure a measurable net gain in habitat biodiversity from the existing site conditions.

In addition, extensive permanent provision for bats and birds will be incorporated into the scheme design (see following sections below) which will contribute to an overall net gain.

Overall the proposals are considered to provide a notable net gain in biodiversity. A comprehensive biodiversity net gain Defra Metric Version 4.1 assessment is not considered necessary for this proposal due to the baseline habitats comprising of low distinctiveness habitats (amenity grassland / bare ground). However in line with planning policy and biodiversity enhancement the proposed scheme design includes creation of new semi-natural habitats and protected species provision.

Recommendations: Habitats & Higher Plant Species:

There are no requirements for further surveys.

Habitat Creation / Enhancement:

Native woodland bulb planting:

Along the southern site boundary and around a mounded seating area swathes of native woodland bulbs will be planted. The total planting area will be approximately 200m².

The following species are recommended. The bulbs should be planted in random solid blocks of the same species with approximately 50 – 100 bulbs in each block / swathe. Intermixing of different species of bulbs in the same block must be avoided.

*Woodland bulbs:

<u>Species:</u>	<u>No. of bulbs:</u>	<u>No. of bulbs in each block:</u>
Bluebell (<i>Hyacinthoides non-Scripta</i>)	1000	50 – 100
Wood anemone (<i>Anemone nemorosa</i>)	500	50 – 100
Ramsons (<i>Allium ursinum</i>)	500	50 – 100
Lesser Celandine (<i>Ranunculus ficaria</i>)	400	50 – 100

Native bulbs are available from many suppliers including Nature Scape; <https://www.naturescape.co.uk/>

See Appendix 2, Figure 1, for locations of new habitats and biodiversity enhancements.

***Note bulb planting areas should only be mown between mid-June and the end of October.**

3.1.3 Protected Species:

Badgers:

Badgers are protected under Schedule 6 of the Wildlife and Countryside Act 1981, and under the Protection of Badgers Act 1992, which prohibits deliberate interference with the animal or its sett.

The survey found no evidence of historic, recent or current use of the site by badgers for foraging, commuting or occupation and the species is considered to be absent.

Recommendations: Badgers;

There are no issues in relation to badgers arising from the development. No further surveys are required.

Bats:

Bats are comprehensively protected by European legislation.

None of the areas (amenity grassland / bare ground) affected by development are capable of supporting bat roosts.

A horse chestnut tree (Target Note 1) on the access drive supports multiple potential bat roost features on the main trunk associated with gaps / crevices on the main trunk. This tree is not affected by the proposed work.

An underground office building is located immediately west of the proposed work. This feature will remain and is unaffected by the work. The underground office is accessed via a ramp walkway leading to a steel door. The steel door is completely sealed with no means of bat ingress. Therefore this feature is classified as having negligible bat roost potential.

Recommendations: Bats;

Illumination of all the sites boundaries must be avoided. Where lighting is required this must be low level, directed downwards / internally within the site, away from the boundaries and of low intensity. The following principles will apply;

- Where and if lighting is required this will be directed internally within the site avoiding spillage towards the boundaries.
- The use of low powered sodium lights or similar will be used and these will be fitted with cowls / covers that prevent lateral light spillage towards the boundaries.
- Wherever possible and only if required low level (1-1.5m high) bollard lighting will be used.
- If required lights will be fitted with timer controls that minimise the duration of lighting.

Lighting requirements will follow guidance provided by the Bat Conservation Trust.

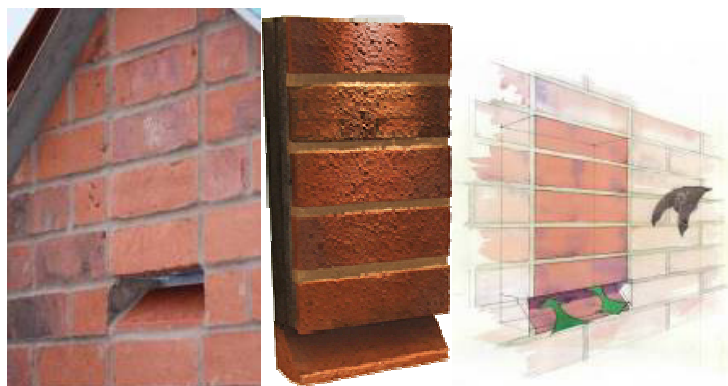
<https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>

Enhancement for bats:

Integrated artificial bat roosts:

It is recommended that **two** integrated artificial roosts are provided within the new property located on the upper stone northern elevation as shown on Figures 1 and 2, Appendix 2. Full instructions in relation to installation and positioning are provided via the link below.

In particular, the Habibat Bat Box is recommended and is a solid box made of insulating concrete with internal roosting space. The box blends seamlessly into properties and may be incorporated into the fabric of buildings. <https://www.wildcare.co.uk/wildlife-nest-boxes/bat-boxes/wall-integrated.html>



Provision of bat boxes on trees:

It is recommended that **at least seven** bat boxes on trees are provided. **At least one Mirimare Bat Box and six Eco Kent Bat Boxes will be erected.** The locations of these bat boxes are shown in Appendix 2, Figure 1 at the end of this report.

Eco Kent Bat Boxes:

Suitable boxes include the Eco Kent Bat Box. Three of these will be installed as shown on Appendix 2, Figure 1.



Information regarding installation of these boxes is provided here; <https://www.wildcare.co.uk/10691-eco-kent-bat-box.html>

Mirimare Bat Boxes:

One Mirimare bat box will be installed on an existing sycamore tree towards the southern boundary as shown in Appendix 2, Figure 1.



The Mirimare bat box is designed to reproduce a natural roost site in a hollow tree and has 4 internal roosting compartments and 3 grooved wooden panels inside to accommodate a large number of bats. It is painted black to absorb the heat of the sun and provide the warmth that the bats need.

See Appendix 2, Figure 1 for the locations of integrated bat roosts and boxes.

Great Crested Newt:

Great crested newt (GCN) is comprehensively protected under European legislation.

Apart from a small ornamental pond located approximately 70m north east of the site within the grounds of Harefield Hall and a pond located 435m north west of the site, there are no other ponds or suitable waterbodies within the species terrestrial range of the site.

Ponds within 250m of the site:



The pond located approximately 70m north east of the site within the grounds of Harefield Hall is an ornamental pond stocked with koi carp and golden orfe (*Pers. Comm. Ben Snape*). Koi carp and golden orfe are predators of great crested newt (GCN) eggs making it highly unlikely that GCN would be present.

The on site pond was created by the owner Ben Snape in 2019 by construction of vertical walls (pond sides) along the base of the existing Victorian garden wall. The pond was then lined with a butyl liner and artificially filled with water. A water pump and rock cascade were created, pumping water in a cyclical process from the pond to the top of the wall and then allowed to cascade back in to the pond. The owner reports that the pond has been drained on at least three separate occasions since its creation to remove excessive build up of leaf matter and organic detritus. The pond is in the process of fish introduction (*koi carp and golden orfe*) donated from the neighbouring ornamental pond at Harefield Hall.

The on site pond is vertically sided, supporting very little aquatic vegetation and located within a 4m high Victorian walled garden creating a significant amphibian deterrent for colonisation. The only potential donor pond in the wider landscape is the ornamental pond 70m to the NE. Together with the presence of predatory fish populations and the unsuitability of the on-site pond for amphibians the presence of GCN is considered absent beyond reasonable doubt.

Recommendations: Great Crested Newt;

There are no issues in respect of great crested newts. The species is considered absent from the site beyond reasonable doubt. No further action is required.

Birds:

All birds are offered various levels of protection under the Wildlife and Countryside Act (1981) as amended.

The scattered trees and ornamental shrubs are the only habitats present that have potential to support breeding birds. However it is understood that no trees or shrubs are affected by the proposed work.

Recommendations: Birds;

No further surveys are required.

If any trees / shrubs are affected then before any development and in order to minimize impacts on birds any site disturbance including any removal of these features should take place outside of the breeding season, i.e. between September 1st and February 28th. Following the felling of trees/scrub/shrubs, piles of brash should be removed from the site, failure to do so could provide potential nest sites if left in situ until the following breeding season.

If removal of the above features is envisaged during the breeding season (*March 1st to August 31st*), then checks should be made to establish any nesting or breeding activity, prior to removal.

Enhancing the site for Birds:

Integrated bird boxes within the new building;

Two integrated double chamber house sparrow nest boxes (Vivara Pro) will be installed in the upper eastern elevation of the new property, see Appendix 2, Figures 1 and 2.

The following box is recommended;

House sparrow nest box (Vivara Pro), Double chamber:

House sparrows (*Passer domesticus*) are sociable opportunists that survive in most UK habitats, from towns and cities to farmland and countryside. Substantial declines in both urban and rural populations (estimated 71% decrease between 1977 and 2008) have led to concerns for this species.

This House Sparrow Nest Box is manufactured from WoodStone - a mix of concrete and FSC wood fibres. This material is strong and highly insulating which helps to provide a thermally stable environment within the box. It also protects against damage from predators such as cats, woodpeckers and squirrels. The two breeding chamber version is particularly suitable for house sparrows as they prefer to nest in colonies.

The House Sparrow Nest Boxes will be integrated into the wall of the new property at upper floor level.



These are available here, or, from other suppliers; <https://www.nhbs.com/vivara-pro-woodstone-house-sparrow-nest-box>

Bird Boxes suitable for mature trees;

Eight bird boxes will be installed on existing sycamore, beech and ash trees, see Appendix 2, Fig. 1. All bird boxes should be at least 3m above ground level sheltered from prevailing wind, rain and strong sunlight. Ideally a north eastern aspect is recommended.

The following boxes are recommended;

Schwegler 1B Nest Box –The 1B nest box will attract a wide range of species and is available with different entrance hole sizes to prevent birds from competing with each other for the boxes. The nest box can be attached to the tree or wall using an aluminium nail or by hanging over a branch and is made from Woodcrete to ensure that it lasts for decades. The front panel is removable for inspection and cleaning.

<https://www.nhbs.com/1b-schwegler-nest-box>



Vivara Pro Seville Woodstone Nest Box – These WoodStone boxes provide a well insulated interior with a more consistent internal temperature than an ordinary wooden box, and can be fixed at a height of 1.5 – 3 metres to both garden and woodland trees.

<https://www.nhbs.com/vivara-pro-seville-28mm-woodstone-nest-box>



PART 4 REFERENCES:

4.1 REFERENCES:

Nature Conservancy Council (1990) *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit*. Nature Conservancy Council.

Rose, F. (1981) *The Wildflower Key*. Warne.

Stace, C., (1997) *New Flora of the British Isles (Second edition)*. Cambridge University Press.

Web Sites:

Google Earth.

Natural England – Nature on the Map.

APPENDIX 1:

*Map 1: Extended Phase 1 Habitat Survey
(Separate file)*

Site Photographs

APPENDIX 2:

Figure 1: On Site Ecological Enhancement Measures

Figure 2: Elevation locations for integrated bat and bird boxes

APPENDIX 1: SITE PHOTOGRAPHS: 19th April 2023



Steel door leading to underground office (no means of bat ingress).



Entrance to underground office.



underground office



Looking south across the western part of the site.



NW site corner.



Looking SE from the NW corner.

PRELIMINARY ECOLOGICAL APPRAISAL
- Land at: Warren Court, Harefield Drive, Heywood, OL10 1RN -



Looking east along the northern boundary.



Seating area feature in SE corner / looking N/NW.



Seating area feature in SE corner.



Seating area feature in SE corner / looking NW.



Seating area feature in SE corner.



Looking west along the southern boundary.

PRELIMINARY ECOLOGICAL APPRAISAL
- Land at: Warren Court, Harefield Drive, Heywood, OL10 1RN -



Looking west along the southern boundary.



Ornamental shrub bed in SW corner.



Southern boundary.



Western part of the site viewed from the southern boundary.



SW site corner.



Looking east along the southern boundary from the SW corner.

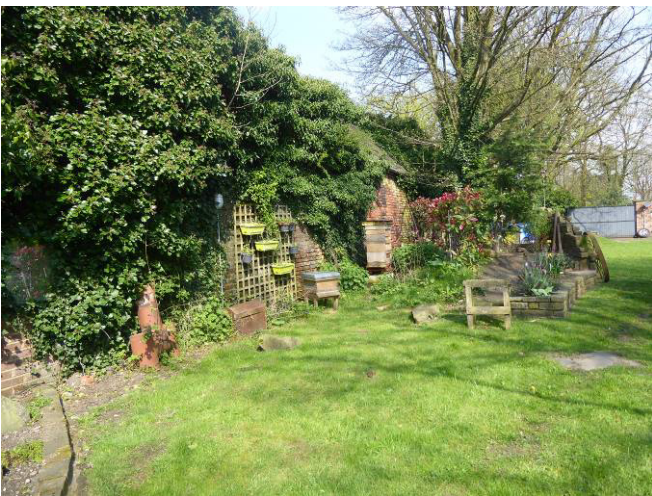
PRELIMINARY ECOLOGICAL APPRAISAL
- Land at: Warren Court, Harefield Drive, Heywood, OL10 1RN -



Ornamental shrub bed in SW corner.



NW corner of the site.



Western boundary with bee hives and ornamental shrub beds.



NW corner of the site.



Western boundary with bee hives and ornamental shrub beds.



Looking east along the northern boundary.



Newly created pond in sites NE corner.



Pig pen on eastern boundary.



Newly created pond in sites NE corner.



Pig pen on eastern boundary.



Newly created pond in sites NE corner.



Looking west across the site from the eastern boundary.

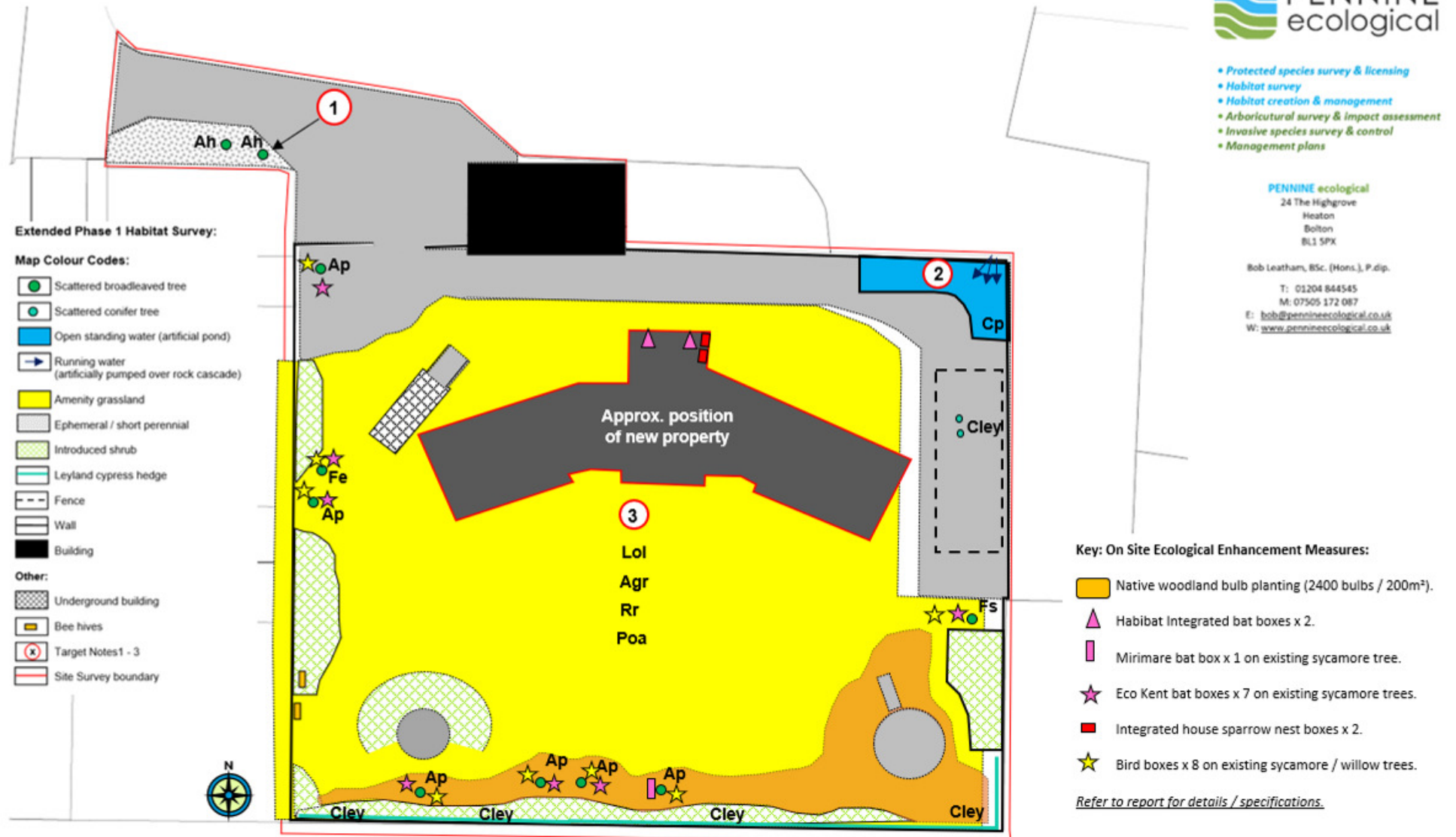


Looking NW across the site from the eastern boundary.

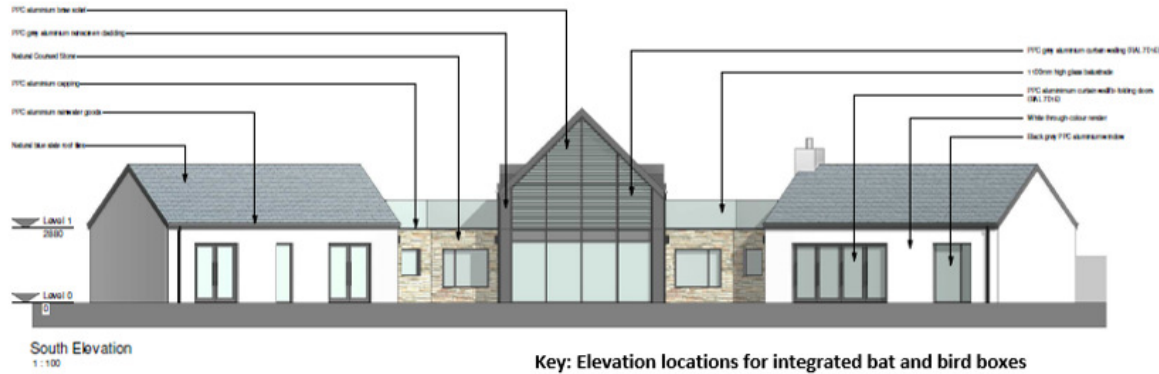


Site entrance showing mature horse chestnut tree with bat roost potential (unaffected by the work).

APPENDIX 2: Figure 1: On Site Ecological Enhancement Measures



APPENDIX 2: Figure 2: Elevation locations for integrated bat and bird boxes



Key: Elevation locations for integrated bat and bird boxes



Habitat Integrated bat boxes x 2.



Integrated house sparrow nest boxes x 2.

Refer to report for details / specifications.

