Land off Talbot Road, Glossop, SK13 7DP

ECOLOGICAL SURVEY AND ASSESSMENT

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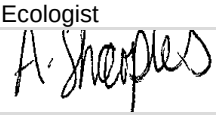
Signature(s)		
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SUMMARY

Introduction and Scope

i. This Ecological Appraisal presents the ecological, biodiversity and nature conservation status of the land off Talbot Road, Glossop, SK13 7DP. The appraisal was requested in connection with proposals to develop the site to a single residential property.

ii. The appraisal presents the results of a desktop study and extended Phase 1 Habitat Survey carried out in July 2016. The scope of survey undertaken is appropriate to enable the identification of any potential ecological constraints, the remit of mitigation required and opportunities for biodiversity associated with the development proposals.

iii. The site comprises broadleaf trees, unmanaged scrub and a boundary hedgerow.

Results of Survey and Assessment

iv. The proposals will have no adverse effect on statutory or non-statutory designated sites.

v. No habitats within the site are examples of Priority Habitat. The trees and scrub within the site are considered to be of local value as they provide structural diversity and are suitable for use by nesting birds; recommendations for the protection of retained trees at the site are presented at **Section 5.2**. It is recommended and entirely feasible that the boundary trees are retained and protected throughout the proposed works.

vi. Japanese Knotweed and Rhododendron, invasive species as listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), were detected. It is an offence to cause the spread of these species in the wild. Guidance on the control and management of these species is described in the report (**Section 5.3**).

vii. The trees, shrubs and scrub provide habitat suitable for use by breeding birds. Recommendations for the protection of breeding birds and enhancement of the site in relation to breeding birds are presented at **Section 5.5**.

viii. No other protected species have been detected.

Recommendations

ix. The recommendations in **Section 5.0** address all the mandatory measures and ecological recommendations to be applied to ensure compliance with wildlife legislation, the National Planning Policy Framework (NPPF) and best practice.

x. The proposals will secure an opportunity to implement beneficial measures such as habitat creation that will safeguard habitats for wildlife such as birds and bats, with the aim of providing a net gain in biodiversity in accordance with the principles of the NPPF.

Conclusion

xi. It is considered that the proposals are feasible and acceptable in accordance with ecological considerations and relevant planning policy. Development at the site will provide an opportunity to secure ecological enhancement for wildlife associated with residential development.

1.0 INTRODUCTION

Background and Rationale

1.1 ERAP Ltd (Consultant Ecologists) was commissioned by Burner and Flame Technology Limited to carry out an ecological appraisal of the land off Talbot Road, Glossop, SK13 7DP (hereafter referred to as the 'site'). The Ordnance Survey (OS) grid reference at the centre of the site is SK 0331 9481.

1.2 The appraisal was requested in connection with a planning application to develop the site to a single residential property.

Scope of Survey

1.3 The scope of ecological surveys undertaken in July 2016 comprised:

a. A desktop study for known ecological information at the site and the local area;

b. An Extended Phase 1 Habitat Survey and assessment;

c. An assessment of the ecological value of the habitats within the site with the use of the National Vegetation Classification (NVC) and the Ratcliffe criteria, as presented in *A Nature Conservation Review* (Ratcliffe, 1977);

d. Survey and assessment of all habitats for statutorily protected species and other wildlife including badger (*Meles meles*), barn owl (*Tyto alba*), great crested newt (*Triturus cristatus*), water vole (*Arvicola amphibius*) , bird species and invertebrates;

e. Assessment of the trees for any features suitable for use by roosting bats;

f. The identification of any potential ecological constraints on the proposals and the specification of the scope of mitigation and ecological enhancement required in accordance with wildlife legislation, planning policy guidance and other relevant guidance; and

g. The identification of any further surveys or precautionary actions that may be required prior to the commencement of any development activities.

2.0 METHOD OF SURVEY

2.1 Desktop Study

2.1.1 The following sources of information and ecological records were consulted for information:

a. MAgiC: A web-based interactive map which brings together geographic information on key environmental schemes and designations, including details of statutory nature conservation sites;

b. The Derbyshire Wildlife Trust; and

c. The Peak District Biodiversity Action Plan (BAP).

2.2 Vegetation and Habitats

2.2.1 An Extended Phase 1 Habitat Survey of the site was carried out by Amy Sharples B.Sc. (Hons) M.Sc. GradCIEEM on the 19th July 2016. The weather was dry, sunny and calm (Beaufort Scale 0) with an air temperature of 20°C. The conditions and time of year were favourable for the ecological survey.

2.2.2 A vegetation and habitat map was produced for the site and the immediate surrounding area at a scale of 1:500 (refer to **Figure 2)**. The mapping is based on the Joint Nature Conservation Committee Phase 1 Habitat Survey methodology (JNCC, 2010) with minor adjustments to illustrate and examine the habitats with greater precision.

2.2.3 The plant species within the site boundary were determined with estimates of the distribution, ground cover, abundance and constancy of individual species. The estimation of abundance was based on the DAFOR system, where D = Dominant, A = Abundant, F = Frequent, O = Occasional and R = Rare, this being a widely used and accepted system employed by ecological surveyors. The terms L = Locally and V = Very were additionally used to describe the plant species distributions with greater precision.

2.2.4 All stands of vegetation and habitats were described and evaluated using the National Vegetation Classification (NVC). The NVC provides a systematic and comprehensive analysis of British vegetation and provides a reliable framework for nature conservation and land-use planning.

2.2.5 The hedgerow was assessed in accordance with *The Hedgerows Regulations 1997* Wildlife and Landscape Criteria (H.M.S.O., 1997).

2.2.6 Searches were made for uncommon, rare and statutorily protected plant species, those species listed as protected in the *Wildlife and Countryside Act 1981* (as amended) and species which are indicators of important and uncommon plant communities. Plant nomenclature follows *New Flora of the British Isles 3rd Edition* (Stace, 2010).

2.2.7 Searches were carried out for the presence of invasive species, including those listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), including Japanese Knotweed (*Fallopia japonica*), Indian Balsam (*Impatiens glandulifera*) and Giant Hogweed (*Heracleum mantegazzianum*).

2.3 Animal Life

Badger

2.3.1 A thorough search for badger activity was carried out. The survey area covered the site (as annotated on **Figure 1**) and extended to the accessible land within a radius of 50 metres from the site boundary. Private gardens were excluded from the survey.

2.3.2 Surveys were conducted in accordance with guidance presented with *Badgers and Development* (Natural England, 2007) and *Badgers: surveys and mitigation for development projects* (Natural England, 2015).

2.3.3 The following signs of badger activity were searched for:

a. Sett entrances, e.g. entrances that are normally 25 to 35cm in diameter and shaped like a ‘D’ on its side;
b. Large spoil heaps outside sett entrances;
c. Bedding outside sett entrances;
d. Badger footprints;
e. Badger paths;
f. Latrines;
g. Badger hairs on fences or bushes;
h. Scratching posts; and
i. Signs of digging for food.

2.3.4 All habitats within and surrounding the site were assessed in terms of their suitability for use by foraging and sheltering badger in accordance with their known habitat preferences as detailed in current guidance and *Badger* (Roper, 2010).

Bat species

Trees

2.3.5 A preliminary assessment of the trees within the site was conducted to assess their suitability for use by roosting bats, and to inform whether further surveys or precautionary measures were required at the site in respect of roosting bats.

2.3.6 Trees were assessed for their suitability for use by roosting bats from the ground using binoculars and a high-powered torch. Each tree was searched for the presence of any of the following features:

Woodpecker holes, rot holes, hazard beams, other vertical or horizontal cracks or splits in stems and branches, partially decayed platey bark, knot holes, man-made holes, tear-outs, cankers in which cavities have developed, other hollows or cavities, including butt-rots, double-leaders forming compression forks with included bark, gaps between overlapping stems or branches, partially detached Ivy (Hedera helix) with stem diameters in excess of 50mm and bat, bird or dormouse (Muscardinus avellanarius) boxes.

2.3.7 Terms used to describe any features present follow (where possible) those outlined and described in *Bat Tree Habitat Key, 2nd Edition* (Andrews, H (ed), 2013).

2.3.8 The requirement for further presence / absence surveys at each tree was then considered.

Habitat Assessment for Commuting / Foraging Bats

2.3.9 Habitats within and adjacent to the site were assessed for their value and suitability for commuting and foraging bats in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn),* (Collins, 2016). Reference has been made using the following categories and descriptions / examples, presented at **Table 2.1**, below

Table 2.1: Consideration of Suitability of Foraging and Commuting Habitat for Bats

Suitability	Commuting Habitat	Foraging Habitat
Negligible	Negligible habitat features on site likely to be used by commuting or foraging bats.	
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated i.e. not very well connected to the surrounding landscape by other habitat.	Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree or patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.	Habitat that is linked to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	Continuous, high-quality habitat that is well connected to the wider landscape and is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. Habitats close to and connected to known roosts.	High-quality habitat that is well-connected to the wider landscape and is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Habitats close to and connected to known roosts.

Bird species

2.3.10 Bird species observed and heard during the walkover survey were recorded.

2.3.11 Habitats throughout the site and immediate surrounding area were assessed for their value for roosting, feeding and nesting birds, as indicated by the amount of shelter, feeding value and woody vegetation present.

Great Crested Newt

2.3.12 In accordance with current Natural England guidance (English Nature, 2001) all ponds within an unobstructed 500 metres of a site should be considered for their suitability to support breeding great crested newts. The potential of the proposed development to impact upon any great crested newt population(s) whose breeding ponds are within 500 metres must be considered.

2.3.13 There are no ponds within an unobstructed 500 metres radius from the site boundary; no further surveys for amphibian species are necessary.

Reptile species

2.3.14 The site and its surroundings were assessed in terms of their suitability for use by reptile species using the important characteristics for reptiles outlined in the draft document '*Reptile Mitigation Guidelines*' (Natural England, 2011), and the *Reptile Habitat Management Handbook* (Edgar, et al., 2010). These habitat characteristics are outlined in **Table 2.2**, below**.**

Table 2.2: Important Habitat Characteristics for Reptiles

1. Location (in relation to species range)	7. Connectivity to nearby good quality habitat
2. Vegetation Structure	8. Prey abundance
3. Insolation	9. Refuge opportunity
4. Aspect	10. Hibernation habitat potential
5. Topography	11. Disturbance regime
6. Surface geology	12. Egg-laying site potential

Water Vole

2.3.15 The site does not support any watercourses, ditches or any other habitat suitable for use by water vole or other riparian fauna. The presence of water vole and other riparian fauna within the site boundary is reasonably discounted, and no further survey is required.

2.4 Survey Limitations

2.4.1 All areas of the site were fully accessible and the survey was conducted at a suitable time of year; no survey limitations were experienced.

2.5 Evaluation Methodology

2.5.1 The habitats, vegetation and animal life were evaluated with reference to standard nature conservation criteria as described in *A Nature Conservation Review* (Ratcliffe, 1977) and *Guidelines for the Selection of Biological SSSIs* (Bainbridge, et al., 2013). These are size (extent), diversity, naturalness, rarity, fragility, typicality, recorded history, position in an ecological or geographical unit, potential value and intrinsic appeal.

2.5.2 Habitats have been assessed to determine whether they meet those described in *UK Biodiversity Action Plan: Priority Habitat Descriptions* (Maddock, A (ed), 2008); these lists are used to help draw up the statutory lists of Priority Habitats, as required under Section 41 of the *Natural Environment and Rural Communities* (NERC) *Act 2006*. Where suitable, the ecological value of the habitats present have been assessed using the terms outlined in *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd Edition* (CIEEM, 2016).

2.5.3 Government advice on wildlife, as set out in the *National Planning Policy Framework* (Great Britain Department for Communities and Local Government, 2012) and associated government circulars has been taken into consideration. Legislation relating to protected species, such as those listed under Schedule 1 and Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended) and *The*

Conservation of Habitats and Species Regulations 2010 (as amended), is referenced where applicable, and any impacts to protected species are evaluated in accordance with current guidance.

2.5.4 The presence of any Priority Species, as listed under Section 41 of the *NERC Act 2006* is noted, and habitats are assessed in terms of their suitability and value for these species. The presence of any habitats and/or species listed by the Peak District Biodiversity Action Plan have been taken into account in the evaluation of the site.

3.0 SURVEY RESULTS

3.1 Desktop Study

Site Designations

3.1.1 No statutory designated sites lie within a one kilometre radius of the site boundary.

3.1.2 The site lies within the Site of Special Scientific Interest (SSSI) Impact Risk Zone for the Dark Peak SSSI (2.6 kilometres east of the site and designated for nationally important bird assemblages). The Dark Peak SSSI forms part of the Peak District Moors (South Pennine Moors Phase 1) Special Protection Area (SPA).

3.1.3 In accordance with the SSSI Impact Risk Zone, Natural England should be consulted for development of any of the following:

Airports, helipads and other aviation proposals. Planning applications for quarries, including new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. and oil and gas exploration / extraction. Any industrial / agricultural development that could cause air pollution (including industrial processes, pig and poultry units, slurry lagoons greater than 750 m^3 and manure stores greater than 3500 tonnes. General combustion processes greater than 50MW energy input including energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis / gasification, anaerobic digestion, sewage treatment works, other incineration / gasification, anaerobic digestion, sewage treatment works and other incineration / combustion. Any discharge of water or liquid waste that is more than 20 m^3 per day. The water needs to either be discharged to ground (i.e. to seep away) or to surface water, such as a beck or stream. Discharge to mains sewer are excluded.

3.1.4 The proposed development at the site does not fall within these categories; the proposal will have no impact upon Dark Peak SSSI.

3.1.5 Two non-statutory Derbyshire Wildlife Sites (DWS) lie within a one kilometre radius of the site boundary. North Road Ponds DWS lies 380 metres north-west of the site boundary (central grid reference SK 0305 9525). The site supports two ponds and is designated for standing open water, water-margin vegetation and unimproved neutral grassland. Dinting Vale Reservoirs and Brook DWS lies 765 metres south-west of the site boundary (central grid reference SK 0176 9462). The site includes the Dinting Vale Reservoir and margins and a section of the Glossop Brook and is designated for standing open water, flowing water rivers and streams and invertebrate assemblages (odonata and lepidoptera). The presence of the two DWSs within one kilometre of the site is considered further at **Section 4.2**, below.

Protected and Notable species

3.1.6 There are no known records of protected or notable species for the site.

3.1.7 Derbyshire Wildlife Trust holds records of protected or notable species within a one kilometre radius of the proposed development. These records are summarised in **Table 3.1** below.

Table 3.1: Records of Protected and Notable Species with a One Kilometre Radius of the Site

Group	Species & Designation	Notes
Terrestrial Mammals	Badger (*Protection of Badgers Act* 1992)	One record 800 metres from the site.
	Common pipistrelle (*Pipistrellus pipistrellus*) (EPS and WCA)	Three records of roosts, the closest 850 metres east of the site. Two records of sightings 965 metres east of the site.
	Daubenton's bat (*Myotis daubentonii*) (EPS and WCA)	Two records of sightings 965 metres east of the site.
	Brown Long-eared bat (*Plecotus auritus*) (EPS, WCA and Priority Species)	One roost 895 metres east of the site.
	Pipistrelle species (*Pipistrellus* sp.) (EPS and WCA)	Three records of roosts, the closest 195 metres south-east of the site.
Amphibians	Common toad (*Bufo bufo*) (WCA and Priority Species)	One record 458 metres north of the site.
Reptiles	Grass snake (*Natrix natrix*) (WCA and Priority Species)	One record 475 metres south-west of the site.
Birds	Song thrush (Priority Species)	
Flowering plants	Bogbean (Derbyshire Red Data Book Locally Scarce or Declining)	
Key to Designation Codes: EPS = European Protected Species under the *Conservation of Habitats and Species Regulations 2010* (as amended) WCA = Protected species listed under Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended) Priority Species = Priority Species listed under S41 of the NERC Act 2006		

3.1.8 The presence of protected and Priority Species within a one kilometre radius of the site is considered throughout this report. The habitats within the site have been evaluated for their suitability in respect of these species.

3.2 Vegetation and Habitats

General Description

3.2.1 The approximately 0.1 hectare site located within suburban surroundings in the northern area of Glossop. The site comprises scattered broadleaf trees (**Photo 1**), unmanaged scrub (**Photos 1** and **2**) and a boundary hedgerow (**Photo 3**).

3.2.2 The southern site boundary is defined by a hedgerow and is associated with Talbot Road, beyond which lies residential properties and amenity grassland. The northern site boundary is demarcated by a wall, beyond which lie gardens and residential properties. The western site boundary is undefined and lies within an area of habitats similar to those within the site. A hardstanding footpath lies adjacent to the eastern site boundary, beyond which lies gardens and housing.

3.2.3 For all habitat descriptions refer to the Phase 1 Habitat Survey map appended at **Figure 2**. Photographs are appended at **Table 8.4**.

Broadleaf Trees and Scrub

3.2.4 The broadleaf trees are locally abundant at the southern and eastern site boundaries. The remainder of the site is composed of scrub vegetation.

3.2.5 The broadleaf trees are characterised by frequent Norway Maple (*Acer platanoides*) and Sycamore (*Acer pseudoplatanus*) with occasional Ash (*Fraxinus excelsior*) and Pedunculate Oak (*Quercus robur*).

3.2.6 The scrub is characterised by constant and abundant Bramble (*Rubus fruticosus* agg.) with occasional Holly (*Ilex aquifolium*), Ivy (*Hedera helix)* and Field Rose (*Rosa arvensis*).

3.2.7 The broadleaf trees are not indicative of any NVC community. The scrub is characteristic of a *W24 Bramble – Yorkshire-fog* underscrub community of the NVC (Rodwell, 1991). A plant species list is appended at **Table 8.1**.

Hedgerow 1

3.2.8 Hedgerow 1 (**Photo 4**) is 25 metres in length and 1.5 metres tall by 1 metre wide. The hedgerow demarks the southern site boundary and is associated with Talbot Road. The woody species are characterised by constant and abundant Garden Privet (*Ligustrum ovalifolium*) and occasional Sycamore and Beech (*Fagus sylvatica*). The ground layer is characterised by constant and abundant Bramble with occasional Ivy.

3.2.9 The hedgerow is not characteristic of an NVC community, however the ground layer is characteristic of a *W24 Bramble – Yorkshire fog* underscrub community of the NVC (Rodwell, 1991). A plant species list is appended at **Table 8.2**.

Invasive Species

3.2.10 Japanese Knotweed is present at the site. Rhododendron shrubs were also detected. Both species are listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended) and, as such, it is an offence to spread or cause their spread in the wild.

3.2.11 Locations of all invasive species detected during the survey are annotated on **Figure 2**. Further guidance is described in **Section 5.3**

3.3 Animal Life

Badger

3.3.1 The desktop study returned records of badger in the wider area; one record is located 800 metres from the site. Further to this, the site contains habitat suitable for use by foraging badger and provides suitable sheltering and refuge habitat. Further suitable habitat is located to the west and south of the site.

3.3.2 No badger or signs of badger were detected within the site, however. No evidence of badger, such as setts/holes, prints, hairs, dung pits or snuffle holes, was detected at the site or in the immediate surrounding area.

3.3.3 As such, the presence of badger at the site is reasonably discounted. The suitability of the site for badger, and their presence in the wider area, is considered further at **Section 4.4**, below.

Bat species

Trees

3.3.4 No trees within the site support any features suitable for use by roosting bats (such as knot holes or woodpecker holes). The presence of roosting bats at the site is reasonably discounted.

Foraging and Commuting Bats

3.3.5 The habitats within the site provide suitable habitat for common species of foraging and commuting bats, particularly pipistrelle species. The scrub within the site is suitable for the attraction of invertebrate prey species, and the trees will provide suitable 'edge' habitat for foraging bats. No favourable habitat such as mature woodland, species-rich grassland or extensive waterbodies are present within the site, however, and the small site is unlikely by itself to provide core or important foraging habitat for bat species.

3.3.6 The protection of suitable foraging habitat is considered further at **Section 4.4**.

Bird species

3.3.7 Birds detected in the site in July 2016 include one wood pigeon (*Columbus palumbus*), one blue tit (*Cyanistes caeruleus*) and two blackbirds (*Turdus merula*).

3.3.8 The trees and scrub are suitable for use by nesting and foraging passerine (perching) bird species. The legal protection afforded to nesting birds is outlined at **Section 4.3**, and measures for the protection of nesting birds are presented at **Section 5.4**.

Reptiles

3.3.9 The site supports an even topography and the species-poor habitats within the site are reasonably unlikely to support a large populations or a variety of invertebrate prey.

3.3.10 One record of grass snake is recorded 475 metres from the site, however the site is not adjacent or linked to any areas of favourable habitat for reptile species and the site is heavily shaded by the trees within and adjacent to the site boundary. The presence of reptiles within the site is reasonably discounted and no further survey is required.

4.0 EVALUATION AND ASSESSMENT

4.1 Introduction and Description of Proposals

4.1.1 It is proposed to develop the site to a single residential property.

4.1.2 Impacts of these proposals are considered on the designated sites in the wider area are considered at **Section 4.2**. The ecological value of habitats within the site are evaluated at **Section 4.3**, and the presence of protected and notable species is considered at **Section 4.4**.

4.1.3 Impacts upon the habitats within (and surrounding) the site, and upon the protected and notable species associated with the site, are quantified and assessed at **Section 4.5**.

4.2 Designated Sites

4.2.1 The site is sufficiently small and distant from all designated sites that no impacts are predicted as a consequence of the proposed development. Further, the habitats within the site do not contribute to the habitats within any designated sites in the wider area.

4.3 Vegetation and Habitats

4.3.1 Hedgerow 1 does not qualify as a Priority Species as it does not support a minimum of 80% native woody species, and it does not qualify as '*important'* in accordance with *The Hedgerows Regulations 1997* (H.M.S.O., 1997).

4.3.2 Japanese Knotweed and Rhododendron, invasive species as listed on the *Wildlife and Countryside Act (1981)* (as amended), were both detected within the site boundary. Recommendations for the control of these species is presented at **Section 5.3**.

4.3.3 The site contains only common and widespread plant species. The mature trees and scrub are of local value as they add structural diversity and support breeding birds.

4.3.4 None of the habitats within the site are of significant interest in terms of their plant species composition. None of the habitats present are representative of semi-natural habitat. The NVC communities present are typical of the geographical area and conditions present.

4.4 Protected Species and Other Wildlife

4.4.1 Habitats within and adjacent to the site are suitable for foraging and commuting bats. Recommendations relating to the retention of features suitable for use by foraging and commuting bats, and features to enhance habitats for roosting bats at the site are presented at **Section 5.4**.

4.4.2 The trees, shrubs and buildings provide favourable foraging and nesting habitat for the species of birds detected within the site and the wider area via the records search. Consideration of birds (including protection of breeding birds and recommended enhancements for UK BAP Priority Species) are presented at **Section 5.5** of this report.

4.5 Assessment of Impacts

4.5.1 The proposals at the site involve developing the site to a single residential property, entailing the replacement of the habitats within the site with a single building and associated landscape planting and car parking.

4.5.2 It is recommended that the site layout is designed to retain as many trees within the site boundary as feasible.

4.5.3 Any light pollution from the site could impact upon the ecological value of the retained trees and trees in the wider area. Recommendations for the suitable use of lighting at the site are presented at **Section 5.4** of this report.

4.5.4 Recommendations for the compensation for the loss of trees and shrubs within the site are presented at **Section 5.6** of this report.

4.5.5 The proposals present an opportunity to enhance the wildlife potential of the site for foraging and commuting bats and Priority Species of bird associated with the habitats present within the site by the planting of native species of trees and shrubs and by incorporating bat boxes and bird boxes into the design of the site.

5.0 RECOMMENDATIONS AND ECOLOGICAL ENHANCEMENT

5.1 Introduction

5.1.1 The recommendations in this section aim to ensure that the development is implemented in accordance with all wildlife legislation, Natural England guidance, the principles of the National Planning Policy Framework (NPPF), local planning policy and best practice.

5.1.2 Where possible, opportunities to enhance the ecological interest and habitat connectivity and seek biodiversity gain through appropriate landscape planting and habitat creation have been identified and recommended below, as required by the NPPF and other relevant planning documents.

5.1.3 All recommendations are appropriate to the geographical area, the habitats in the wider area, the wildlife present in the local area (and likely to use the site post-construction) and take into consideration the end use of the site as a residential development.

5.2 Protection of Existing Vegetation and Recommendations in Relation to Site Layout

5.2.1 It is recommended that the site layout is designed to ensure the retention and protection of as many trees within the site as is feasible to allow the development. IT is recommended that the mature trees at the eastern and southern boundaries are retained where possible.

5.2.2 During the construction phase, temporary protective demarcation fencing will be used to protect the trees and shrubs that are to be retained. The fencing must extend outside the canopy of the retained trees and

must remain in position until all plots have been developed to ensure protection is provided throughout the construction phase.

5.2.3 The fencing will be in accordance with BS5837:2012 *Trees in Relation to Design, Demolition and Construction: Recommendations* (BSI, 2012).

5.3 Invasive Species

5.3.1 It is an offence under the *Wildlife and Countryside Act 1981* (as amended) to cause the spread of Japanese Knotweed and Rhododendron in the wild. A specialist contractor must be contacted and the preparation of an Invasive Species Management Plan is recommended. All invasive species must be treated in accordance with current Environment Agency recommendations.

5.4 Bats

Lighting

5.4.1 Paragraph 125 in Chapter 11 (conserving and enhancing the natural environment) of the National Planning Policy Framework (NPPF) states:

"*By encouraging good design, planning policies and decisions should limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation*".

Construction Phase

5.4.2 Any lighting to be used at the site during construction should be directional and screened where possible, this specification should be included within a Construction Environment Management Plan (CEMP), or similar.

Development Lighting Design

5.4.3 The lighting scheme to be implemented at the developed site must involve the use of appropriate products and screening, where necessary, to ensure no excessive artificial lighting shines over the retained trees, trees in the wider area and any landscape planting, as lighting overspill may deter use by wildlife such as foraging bats.

5.4.4 The lighting scheme will be designed with reference to current guidance, namely:

a. *Artificial lighting and wildlife. Interim Guidance: Recommendations to help minimise the impact of artificial lighting*. (Bat Conservation Trust, 2014); and

b. *Bats and lighting: Overview of current evidence and mitigation guidance* (Stone, 2014).

Enhancing Habitats for Roosting Bats

5.4.5 It is recommended that the development incorporates the installation of one commercially available bat access panels at the new building.

5.4.6 The bat access panel should be sited at least four metres above ground level, ideally facing or close to areas of landscape planting or existing linear features. The access panel should not be positioned over windows or doorways where bat droppings may become a nuisance. Once the development layout has been finalised, an Ecologist should advise on appropriate positions for the bat access panel. Suitable bat access panels are available from NHBS Ecology (www.nhbs.com) or Wild Care Shop (www.wildcareshop.com) and are presented at **Insert 1**:

Insert 1: Example of commercially available bat access panels.

5.5 Birds

Protection

5.5.1 All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended) while they are breeding. It is mandatory that the trees, shrubs, Bramble scrub or other suitable breeding bird habitat which are to be removed as part of the proposals are only removed outside the bird breeding season. The bird breeding season typically extends between March to August inclusive.

5.5.2 If any vegetation is scheduled for removal in the bird breeding season it is advised that advice from an Ecologist is sought. It may be necessary to carry out a walkover survey to demonstrate satisfactorily that no breeding birds, active nests, eggs or fledglings are present in the area to be cleared.

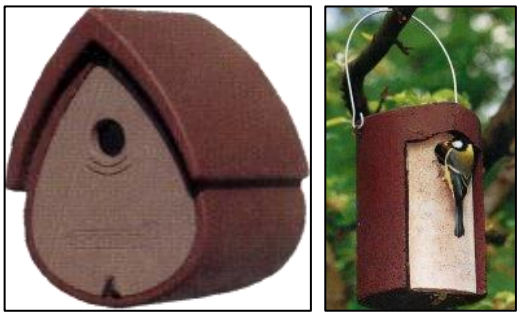
5.5.3 If breeding birds are detected the Ecologist will issue guidance in relation to the protection of the nesting birds in conjunction with the scheduled works. This may involve cordoning off an area of the site until the young birds have fledged.

Enhancing Habitats for Nesting Birds

5.5.4 To provide additional opportunities for nesting birds the installation of bird boxes is recommended at the retained trees and proposed new residential building.

5.5.5 It is recommended than 1MR Schwegler Avianex Nest Boxes are installed at new building and 1B Schwegler Nest Boxes are installed at suitable retained trees (the number of boxes will be advised upon the completion of the final site layout).

5.5.6 The location of the bird boxes will be advised by a suitably experienced ecologist on the completion of the final site layout. Boxes must be sited avoiding areas such as directly above any windows or doors. RSPB advice states that boxes should ideally be sited facing north to east, to avoid exposure to direct sunlight, which may cause overheating of chicks in the nest. Examples of a suitable bird boxes are given below, in **Insert 2**:



Insert 2: 1MR Schwegler Avianex nest box and 1B Schwegler nest box

5.5.7 Such bird boxes are available from the NHBS (www.nhbs.com) or Wild Care Shop (www.wildcareshop.com). ERAP Ltd will advise on the siting of bird boxes.

5.6 Landscape Planting

5.6.1 It is recommended that the landscape planting within the residential site is composed from native species and species known to be of value for the attraction of wildlife.

5.6.2 It is recommended that trees which support blossom and fruit which will attract insects are incorporated into the landscape planting. Suitable species are presented at **Table 5.1.**

Table 5.1: Suitable Native Species for Tree and Shrub Planting

Scientific Name	Common Name	Scientific Name	Common Name
Acer campestre	Field Maple	*Prunus spinosa*	Blackthorn
Corylus avellana	Hazel	*Rosa arvensis*	Field Rose
Crataegus monogyna	Hawthorn	*Rosa canina*	Dog-rose
Ilex aquifolium	Holly	*Sambucus nigra*	Elder
Malus sylvestris	Crab Apple	*Sorbus aucuparia*	Rowan
Prunus avium	Wild Cherry	*Ulmus glabra*	Wych Elm
Prunus padus	Bird Cherry	*Viburnum opulus*	Guelder Rose

5.6.3 The understorey and ground cover planting design should be prepared to optimise the attraction of invertebrates such as feeding bumblebees and butterflies. Where possible the use of native species should be maximised but where necessary non-native species known to be attractive to invertebrates should be used.

5.6.4 Planting schemes that include flowering species such as *Calluna, Ceanothus, Hebe*, *Lavendula*, *Lonicera, Potentilla, Rosemarinus* and *Vinca* can maximise opportunities for feeding invertebrates and for the attraction of foraging bats and birds.

5.6.5 For further plants suitable for the attraction of pollinators please refer to the *Perfect for Pollinators Plant List* (Royal Horticultural Society, 2012). It is recommended that the selection of plant species at the site ensures that a variety of flowering species are available throughout the year.

6.0 CONCLUSION

6.1 This ecological appraisal has demonstrated that a residential development at the site is feasible and acceptable in accordance with ecological considerations and the National Planning Policy Framework.

6.2 It is possible to implement reasonable actions for the protection and long-term conservation of fauna such as nesting birds and commuting/foraging bats associated with the site.

6.3 Measures to conserve the habitat connectivity through the site are entirely feasible.

6.4 Redevelopment at the site will provide an opportunity to secure ecological enhancement for fauna typically associated with residential areas such as breeding birds and roosting bats.

7.0 REFERENCES

Andrews, H (ed), 2013. *Bat Tree Habitat Key, 3rd Edition.* Bridgewater: AEcol Ltd.

Bainbridge, I. et al., 2013. *Guidelines for the Selection of Biological SSSIs.* Peterborough: Joint Nature Conservancy Council.

Bat Conservation Trust, 2014. *Artificial Lighting and Wildlife: Interim Guidance: Recommendations to help minimise the impact of artificial lighting.* [Online]
Available at: http://www.bats.org.uk/pages/bats_and_lighting.html

BSI, 2012. *Trees in relation to design, demolition and construction. Recommendations.* London: BSI Standards Limited.

CIEEM, 2016. *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd Edition.* Winchester: Chartered Institute of Ecology and Environmental Managament.

Collins, J. (., 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn).* London: The Bat Conservation Trust.

Eaton, M. A. et al., 2015. Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. *British Birds,* Issue 108, pp. 708-746.

Edgar, P., Foster, P & Baker, J., 2010. *Reptile Habitat Management Handbook.* Bournemouth: Amphibian and Reptile Conservation.

English Nature, 2001. *Great Crested Newt Mitigation Guidelines.* Peterborough: English Nature.

Great Britain Department for Communities and Local Government, 2012. *National Planning Policy Framework.* London: H.M.S.O.

Great Britain, 1981. *Wildlife and Countryside Act.* London: H.M.S.O.

Great Britain, 2006. *Natural Environment and Rural Communities Act.* London: H.M.S.O.

Great Britain, 2010. *The Conservation of Habitats and Species Regulations.* London: H.M.S.O.

H.M.S.O., 1997. *The Hedgerows Regulations 1997, SI 1997/1160.* London: H.M.S.O.

JNCC, 1995. *The UK Biodiversity Steeting Group Report, Volume 2, Action Plans.* London: H.M.S.O.

JNCC, 2010. *Handbook for Phase 1 Habitat Survey: A technique for Environmental Audit.* Peterborough: NCC.

Langton, T. B. C. a. F. J., 2001. *Great Crested Newt Conservation Handbook.* Halesworth: Froglife.

Maddock, A (ed), 2008. *UK Biodiversity Action Plan: Priority Habitat Descriptions.* [Online]
Available at: http://jncc.defra.gov.uk/page-5718

Maddock, A., 2008. *UK Biodiversity Action Plan; Priority Habitat Descriptions (Updated Dec 2011).* [Online]
Available at: http://jncc.defra.gov.uk/page-5706

Natural England, 2007. *Badgers and Development,* Peterborough: Natural England.

Natural England, 2011. *The Reptile Mitigation Guidelines.* Peterborough: Natural England.

Natural England, 2015. *Badgers: Surveys and mitigation for development projects.* [Online]
Available at: https://www.gov.uk/guidance/badgers-surveys-and-mitigation-for-development-projects
[Accessed 3 December 2015].

Ratcliffe, D. A., 1977. *A Nature Conservation Review.* Cambridge: Cambridge University Press.

Rodwell, J. S., 1991. *British Plant Communities: Volume 1, Woodlands and Scrub.* Cambridge: Cambridge University Press.

Roper, T., 2010. *Badger (Collins New Naturalist Library, Book 114).* Glasgow: Harper Collins.

Royal Horticultural Society, 2012. *Perfect for Pollinators, Garden Plants.* [Online]
Available at: https://www.rhs.org.uk/science/conservation-biodiversity/wildlife/encourage-wildlife-to-your-garden/plants-for-pollinators

Stace, C. A., 2010. *New Flora of the British Isles 3rd Edition.* Cambridge: Cambridge University Press.

Stone, E. L., 2014. *Bats and Lighting: Overview of current evidence and mitigation guidance.* Bristol: University of Bristol.

8.0 APPENDIX: TABLES AND FIGURES

Table 8.1: Plant Species Composition, Frequency and Abundance for the Broadleaf Trees and Scrub

Scientific Name	Common Name	DAFOR[1]	Cover
Woody species			
Acer platanoides	Norway Maple	F	20%
Acer pseudoplatanus	Sycamore	F	30%
Aesculus hippocastanum	Horse Chestnut	LA	<1%
Crataegus monogyna	Hawthorn	LF	<1%
Fagus sylvatica	Beech	LA	<1%
Fraxinus excelsior	Ash	O	5%
Ilex aquifolium	Holly	O	<1%
Prunus laurocerasus	Cherry Laurel	LA	<1%
Quercus robur	Pedunculate Oak	O	5%
Rhododendron ponticum	Rhododendron	LA	<1%
Rosa arvensis	Field Rose	O	<1%
Herb Species			
Dryopteris filix-mas	Male Fern	VLF	<1%
Fallopia japonica	Japanese Knotweed	VLA	<1%
Galium aparine	Cleavers	LA	<1%
Geranium robertianum	Herb-robert	VLF	<1%
Geum urbanum	Wood Avens	LA	<1%
Hedera helix	Ivy	O	5%
Lamium purpureum	Red Dead-nettle	VLF	<1%
Ranunculus repens	Creeping Buttercup	VLA	<1%
Rubus fruticosus agg.	Bramble	A*	45%
Rumex obtusifolius	Broad-leaved Dock	VLF	<1%

[1]**Key to DAFOR:** D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species

Table 8.2: Plant Species Composition, Frequency and Abundance for Hedgerow 1

Scientific Name	Common Name	DAFOR[1]	Cover
Woody species			
Acer pseudoplatanus	Sycamore	O	5%
Aesculus hippocastanum	Horse Chestnut	LA	<1%
Crataegus monogyna	Hawthorn	LF	<1%
Fagus sylvatica	Beech	O	<1%
Ilex aquifolium	Holly	LA	<1%
Ligustrum vulgare	Garden Privet	A*	60%
Herb Species			
Hedera helix	Ivy	O	5%
Rubus fruticosus agg.	Bramble	A*	30%
Total Qualifying Woody Species		3	
Total Qualifying Woodland Species		0	

[1]**Key to DAFOR:** D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare, V = Very, L = Local and *denotes a constant species
[2]**%** =Percentage Cover
Species shaded grey are those listed as either woody or woodland species in *The Hedgerows Regulations 1997*

Table 8.3: *The Hedgerow Regulations 1997* Assessments Results of Hedgerow 1

Hedgerow Name	**Hedgerow 1**		
Height x width (metres)	1.5 x 1		
Length	25 metres		
Continuity	100%		
Management	Cut occasionally		
Total Number of woody species	3		
Average Number of Qualifying Woody Species:			
Section number	1	2	3
Qualifying woody species	2	-	-
Average number	**2**		
Number of Features Present:			
(a) Bank or wall along at least ½ length	No		
(b) Gaps which in agg. do not exceed 10%	Yes		
I-(e) 1 standard tree per 50m	No		
(f) At least 3 woodland species within 1 metre	No		
(g) Ditch along at least ½ its length	No		
(h) Connections scoring 4 points or more	No		
(i) Parallel hedge within 15m	No		
Total Features	**1**		
Criteria for Hedgerow Importance 1: Hedgerow contains species listed as:			
(1) Part 1 of Schedule 1, Schedule 5 or Schedule 8 of W&C act 1981	No		
(2) Declining breeders in 'Red Data Birds of Britain'	No		
(3) Categorised as 'endangered', 'extinct' or 'vulnerable'	No		
Criteria for Hedgerow Importance 2: Hedgerow Includes (all woody species mentioned in (i)-(iv) reduced by one Lancashire for this criteria only)**:**			
(i) At least 7 woody species	No		
(ii) At least 6 woody species and at least 3 features	No		
(iii) At least 6 woody species, inc. one of: Black Poplar, L-leaved Lime, S-leaved Lime or Wild Service Tree	No		
(iv) At least 5 woody species, and has 4 features	No		
Criteria for Hedgerow Importance 3: Is adjacent to is adjacent to a bridleway, footpath or byway *and* includes at least 4 woody species on average and 2 features from (a) to (g):			
Qualifies:	No		
Hedgerow Classed as Important?	**No**		

Table 8.4: Table of Photographs

Photo 1: Broadleaf trees and scrub

Photo 2: Scrub

Photo 3: Hedgerow 1

Photo 4: Japanese Knotweed

Figure 1: Google Earth Image to Illustrate the Site Boundary

Project Name: Land off Talbot Road, Glossop		**Central Grid Ref:** SK 0331 9481	**Reference No.** ERAP Ltd. 2016-144
Title: Figure 1 Google Earth Image to Illustrate the Site Boundary		**Version:** v1 (AS) 08/08/2016	
Scale: 1:1,000at A4	**Date:** August 2016	**Scale Bar:** 0 10 20 30 40 50 m	

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Figure 2: Phase 1 Habitat Map