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New Lodge, Barnsley
Ecological Assessment

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1. Introduction

1.1.1 Ecus Ltd was commissioned by Keepmoat Homes to undertake an ecological assessment of land at New Lodge, Barnsley (OS Grid Reference: SE 342 094). The survey was required to inform a planning application for the proposed redevelopment of the site.

1.1.2 An ecological walkover survey and assessment has been undertaken to review the habitats on site and potential for the site to contain or be used by species protected under both UK and European nature conservation legislation, namely The Wildlife & Countryside Act (1981) (as amended) and the Habitat Regulations (2010).

1.1.3 This report details the findings of the survey work and subsequent assessment. Methodologies employed are described including site surveys and evaluation and the need for any further survey work and/or mitigation measures are included where appropriate.

2. Methodology

2.1 Data Consultation

2.1.1 The local record centre would normally be contacted as part of the ecological assessment process, to determine whether there are any existing records of biological interests within 1km of the site. However, a local record centre does not exist for the Barnsley district.

2.1.2 Therefore, information on statutory designated sites within this report is based upon consultation of the Multi-Agency Geographic Information for the Countryside (MAGIC) website (http://www.magic.gov.uk/) and the National Biodiversity Network (NBN) Gateway for information on protected species.

2.2 Extended Phase 1 Habitat Survey

2.2.1 The site was surveyed on 14th June 2011 using extended Phase 1 habitat survey methodology (JNCC, 2010). The habitats and vegetation types present were recorded on to a field map, together with an indication of their relative abundance. This survey method aims to characterise habitats and communities present and is not intended to provide a complete list of all plants occurring across the site.

2.2.2 Plant species recorded were classified according to the subjective method of DAFOR abundance ratings. The standardised terms are as follows:

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

2.2.3 The above terms can be combined where a species' relative abundance does not easily fall within a single category. For example, where a species' abundance is considered to be occasional to frequent this is denoted as O-F. In addition, plant species are rarely evenly distributed within an area of land recorded as a single habitat. In order to indicate this uneven distribution plants can be described as being locally dominant, locally abundant or locally frequent. This is denoted by preceding the DAFOR abundance with L. For example, locally dominant is denoted as LD. Where plant species exhibit equal dominance, this is termed co-dominance, which is denoted as CoD.

2.2.4 Notable, rare or scarce plant species were highlighted if present. Evidence of protected species or species of nature conservation importance was recorded where present at the time of survey. The information is presented using target notes (T), locations of which are shown on Figure 1 (Appendix 1).

2.3 Invasive Species

2.3.1 Invasive plant or animal species listed on Schedule 9 of the Wildlife and Countryside Act, 1981 (as amended) were recorded as seen.

2.4 *Protected and Key Species Survey*

2.4.1 Any evidence of protected species or groups encountered during the survey was recorded. This included observations of tracks and other field signs and an assessment of the suitability of the habitats present to support protected species.

Bats

2.4.2 All buildings and trees present within 5 m of the footprint of works were assessed for any features, such as cracks, cavities or holes that may support roosting bats. All methods used are consistent with current guidelines by the Bat Conservation Trust (BCT) 2007.

2.4.3 An individual tree may have several features of potential interest to roosting bats associated with it. It is not always possible to confirm usage of a feature by bats as often the animals may be present on one day and no evidence of occupation may be found on the next. Consequently it is customary when undertaking such surveys to assign each feature to a defined category of roosting potential as follows:

2.4.4 **Negligible:** This category is usually used where a feature appears initially to have significant bat roost potential but is considered on closer inspection to have low or negligible potential to support roosting bats. It is usually used during surveys to confirm that inspection of a feature has been carried out and has found that the feature is not considered to comprise suitable habitat for roosting bats.

2.4.5 **Low:** *This category is used to describe a feature that may have some* superficial interest to roosting bats, but is considered suboptimal to the extent that bats are not considered likely to use the feature for shelter. A cavity that is open at the top allowing access to wind and rain may be considered to be of low bat roost potential.

2.4.6 **Moderate:** This category is used to describe a feature that has some potential to support roosting bats, but is considered to be less than ideal in some way. For example the feature may be occupied by other animals, such as birds or squirrel, it may be subject to disturbance or have sub-optimal connectivity with navigational features. A surveyor would be neither surprised nor expect to find a bat using such a feature. Features considered to be of moderate roosting potential would not automatically be subject to an activity survey unless otherwise highlighted.

2.4.7 **High:** This category is used to describe an optimal feature considered to be ideally suitable for use by roosting bats where no evidence of occupation by bats has been found. Features considered to be of high bat roost potential may include upwards-leading cavities of appropriate dimensions and height from the ground, with no obstructions below the cavity entrance. The tree or structure may be particularly prominent within the landscape and is likely to have good connectivity with navigational features and sufficient suitable foraging habitat in the vicinity. Features with high bat roost potential are likely

to be subject to activity surveys to assist confirmation of their status, and may be subject to a watching brief during works that may disturb them.

2.4.8 **Confirmed:** This category is used where positive evidence of bats usage has been recorded from a feature. For example, bats or bat droppings may be present, or existing bat records may be associated with the feature. A licence from Natural England is likely to be required if the bat roost is to be disturbed by the development.

2.4.9 In addition, trees were also described using the categories developed by the BCT (2007):

- 1: confirmed roost
- 2a: high potential to support roosting bats
- 2b: moderate/low potential to support roosting bats
- 3: negligible potential to support roosting bats

Birds

2.4.10 No formal bird survey was undertaken, however, whilst on site the opportunity was taken to record all species of birds encountered and assess the suitability of the habitats present to support nesting and foraging birds.

2.5 Constraints

2.5.1 The survey was undertaken at an optimal time of year for floral composition to be assessed and categorised, therefore no constraints were encountered.

3. Survey Findings and Evaluation

3.1 General Site Description

3.1.1 The linear site is orientated northwest to southeast along both sides of Kirkstall Road for the majority of its length. The site is dominated by ephemeral/short perennial vegetation with patches of bare ground, occasional tall ruderal vegetation and trees/scrub towards the boundary edges. Eight semi-detached houses located towards the southeastern end of the site, and low brick walls marking previous garden frontages adjacent to Kirstall Road remain after demolition of the previous development on site.

3.1.2 The immediate area around the site is dominated by residential housing to the north, east and south and open greenspace to the west.

3.2 Sites of Nature Conservation Importance

3.2.1 No *nationally or internationally designated sites of nature conservation* importance were identified within 1 km of the site on the MAGIC website

3.2.2 No statutory designated Local Nature Reserves or Sites of Special Scientific Interest were identified within 1km of the site on the MAGIC website.

3.3 Habitats

Ephemeral/short perennial vegetation

3.3.1 Ephemeral/short perennial vegetation with interspersed tall ruderal vegetation species has established across the majority of the site, where the ground has been disturbed. Species diversity is high, and includes scentless mayweed *(Tripleurospermum inodorum)*, pineappleweed *(Matricaria discoidea)*, dandelion *(Taraxacum officinale)*, weld *(Reseda luteola)*, white clover *(Trifolium repens)*, catsear *(Hypochaeris radicata)*, common nettle *(Urtica dioica)*, common ragwort *(Senecio jacobaea)*, wall barley *(Hordeum murinum)*, broad leaved dock *(Rumex obtusifolius)*, false oat-grass *(Arrhenatherum elatius)*, lesser trefoil *(Trifolium dubium)*, shepherd's purse *(Capsella bursa-pastoris)*, greater plantain *(Plantago major)*, creeping buttercup *(Ranunculus repens)* and prickly lettuce *(Lactuca serriola)*.

3.3.2 Although species diversity is high, this habitat comprises common species which establish quickly and easily and are widespread both locally and throughout the UK. Ephemeral/short perennial vegetation is considered to be *of importance to nature conservation within the zone of immediate influence* only.

Scattered trees

3.3.3 Occasional early mature to mature lime *(Tilia* sp.*)*, cherry *(Prunus* sp.*)*, oak *(Quercus* sp.*)*, silver birch *(Betula pendula)*, Leylandii *(Callitropsis × leylandii)* and rowan *(Sorbus aucuparia)* stand along, or just inside, the site boundary within the northern section of site. A small area dominated by mature aspen *(Populus tremula)* trees is present mid way along the northern section and a cluster of mature sycamore *(Acer pseudoplatnaus)* with ash *(Fraxinus excelsior)* and cherry are present mid way along the southern length of the site.

3.3.4 Mature trees help to increase structural diversity on site and support a range of invertebrate species, however the species present are common and widespread locally and throughout the UK, are considered to be of importance to nature conservation within the zone of immediate influence only.

Scrub

3.3.5 Species of scrub are scattered along the boundary edges and include elder *(Sambucus nigra)*, cherry laurel *(Prunus laurocerasus)*, garden privet *(Ligustrum ovalifolium)*, lilac *(Syringa vulgaris)* and bramble *(Rubus fruiticosus* agg.*)*. A dense patch of blackthorn *(Prunus spinosa)* is present to the east of the aspen trees within the northern section of the site.

3.3.6 Whilst the scrub habitat is moderately diverse, it comprises species commonly occurring locally and throughout the UK and includes a number of non-native species. Therefore the scrub is considered to be of importance to nature conservation within the zone of immediate influence only.

Bare ground

3.3.7 Bare ground is present in a number of places across the site, particularly down the middle of the northern section of the site.

3.3.8 These areas have little ecological value at present and are considered to be of negligible importance to nature conservation within the zone of immediate influence.

Hardstanding

3.3.9 A small number of tarmac pathways and two access roads lead into the site on the east and west sides. Hardstanding requires no further consideration in relation to nature conservation.

3.4 Species

Bats

3.4.1 No existing bat records for within 1km of the site were shown on the NBN Gateway.

Buildings

3.4.2 A total of eight semi detached houses (B1 – B4) are present within the southern half of the site, of which, three were occupied at the time of survey. The houses are two-storey, dating from the early 1900's. The hipped roofing consists of concrete tiles and soffit boxes are present beneath the guttering. The buildings are in a good state of repair overall, although, a small number of tiles have slipped on the roofs and meshing is missing from a number of the air vents within the soffit boxes, providing potential access points for roosting bats. However, the potential bat roost features are considered to be of low to negligible potential due to lack of access into the roof void space and/or occupation by breeding birds (see Section 3.4.6 below).

Trees

3.4.3 All of the trees across the site were considered to be early mature and did not contain any features of potential interest for roosting bats. The trees were assessed as Category 3 using BCT guidelines (2007) i.e. negligible potential for roosting bats.

3.4.4 The scattered trees and scrub offer some potential foraging habitat for bats if resident within the local area, however, alternative foraging habitat is available within the wider area in the form of greenspace with scrub to the west. Whilst the scrub may be used from time to time by foraging bats if resident in the wider area, due to their relatively young age and the presence of alternative, more suitable foraging habitat, the scrub on site is not *considered important to foraging bats outwith the zone of immediate* influence.

Birds

3.4.5 Casual observations whilst on site identified blackbird (*Turdus merulus*), magpie *(Pica pica)*, house sparrow *(Passer domesticus)*, starling *(Sturnus vulgaris)*, dunnock *(Prunella modularis)*, robin *(Erithacus rubecula)* and wren *(Troglodytes troglodytes)* using the site for foraging.

3.4.6 Whilst on site, observation of swifts *(Apus apus)* using two of the buildings for breeding was confirmed. Two swifts were seen entering/exiting the soffit of Building 1 (T1) through an airhole which is no longer covered by mesh and one swift was observed entering/exiting a gap adjacent to the downpipe on Building 3 (T2).

3.4.7 The most recent version of Birds of Conservation Concern published by Eaton *et al.* in 2009, defines rare and threatened bird species on two lists (Red and Amber) describing the level of threat to each species of concern. "Red" is the highest conservation priority, with species needing urgent action due to either a historical decline in breeding population, severe (>50%) decline in breeding or non-breeding population, or severe decline in breeding range over 50 years or more. "Amber" is the next most critical group, with species qualifying for this status as a result of either recovery from red list criterion, being classed as rare breeders in the UK, moderate (>25%) decline in breeding or non-breeding population or moderate decline in breeding range over 25 years or more. These categories are followed by Green, indicating that the species are relatively unthreatened.

3.4.8 Of the bird species recorded on the day of survey, house sparrow and starling are red listed species, swift and dunnock are amber listed and the remainder are of green status.

3.4.9 The scattered trees and scrub on site provide a foraging and nesting resource for a variety of common bird species which are resident within the surrounding area. However, these habitats are common both in the local area and UK and are considered to be of importance to nesting and foraging bird species within the zone of immediate influence only.

3.5 Invasive Species

3.5.1 No invasive species e.g. Japanese knotweed *(Fallopia japonica)*, were found on site on the day of survey.

4. Ecological Assessment and Mitigation

4.1.1 This report is based on the concept layout drawing 11012.SK.01 rev A, provided by the client.

4.2 Habitats

Ephemeral/ short perennial vegetation

4.2.1 Complete landtake of all of the ephemeral vegetation on site is anticipated, however, this habitat is comprised of common species both locally and throughout the UK. Landtake is not considered to represent a significant adverse impact to nature conservation outwith the zone of immediate effects.

Scattered trees

4.2.2 Removal of the trees along the majority of site boundary is anticipated in relation to the scheme as proposed. However, a strip of land extending across to the southwest from the area of aspen trees is anticipated to be retained. Retention of all trees where possible is desirable as the benefits they provide (structural diversity and invertebrate habitat) typically increase with age. In accordance with British Standard 5837: Trees in Relation to Construction, for any trees that are to be retained, it is recommended that Root Protection Areas (RPA's) are set up to protect the root zones from harm during construction.

4.2.3 Replacement planting of trees is proposed as part of the scheme. Species used should be appropriate to the local area and of UK provenance. Suitable species may include crab apple *(Malus sylvestris)*, English oak *(Quercus robur)*, ash *(Fraxinus excelsior)*, beech *(Fagus sylvatica)*, rowan *(Sorbus aucuparia)*, wild cherry *(Prunus avium)*, bird cherry *(Prunus padus)* and field maple *(Acer campestre)*.

Shrub/scrub

4.2.4 Landtake of the scrub around the boundary edges is anticipated, however the species present are common and easily replaced, therefore landtake of this habitat is not considered to represent a significant adverse impact to nature conservation outwith the zone of immediate effects.

4.2.5 Replacement planting as part of the soft landscaping is recommended. All shrubs planted should be native species typical of the local area and of UK provenance, suitable species include: hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), hazel (*Corylus avellana*), field rose (*Rosa arvense*), dog rose (*Rosa canina*), holly (*Ilex aquifolium*) and spindle (*Euonymus europaeus*).

4.3 Species

Bats

4.3.1 All species of bat are protected under the EC Habitats Directive (1992), as implemented by the Habitat Regulations (2010). These regulations update the Wildlife and Countryside Act (1981), which provides protection to certain

animals under Section 9 and listed in Schedule 5 of the Act. Under the Act (as amended) it is an offence intentionally or recklessly to kill, injure, capture or disturb bats or to damage, destroy or obstruct access to any place used by bats for shelter or protection. Bat roosts are protected at all times whether bats are in occupancy or not. All UK bats are European Protected Species (see http://www.opsi.gov.uk for full legislation details). A range of bat species are listed on the UK Biodiversity Action Plan as Priority Species.

4.3.2 Whilst landtake of the trees and scrub is proposed, foraging and commuting habitat for bats if resident within the area will still be available within the local area. Landtake associated with the development is not anticipated to represent a significant adverse impact to foraging and commuting bats outwith the zone of immediate effects.

4.3.3 In the unlikely event that bats are discovered during the demolition of the houses, works in the immediate area should stop and an appropriately trained, qualified and licensed ecologist be consulted immediately.

Birds

4.3.4 All nesting birds are protected under the Wildlife and Countryside Act (1981) (as amended) against disturbance and destruction of the nest during the bird nesting season (March – August, inclusive).

4.3.5 The scrub and trees on site offer potential foraging and nesting habitat for birds. However there is abundant alternative habitat within the wider area. Landtake of scrub is not considered to represent a significant adverse impact to nesting birds outwith the zone of immediate effects.

4.3.6 There is potential for significant adverse impacts to nesting birds to arise during the construction period if birds or active nests are inadvertently harmed during site clearance works. It is recommended that clearance of trees/scrub should be undertaken between October and February inclusive i.e. outside of the bird breeding season. Should this not be possible to accommodate within the schedule of works, a nesting bird check should be undertaken by an ecologist prior to any site clearance works. Should nesting birds be found, a suitable buffer zone would be set up around the nest and works should not commence in this area until chicks have fledged (monitoring to be undertaken by an ecologist).

4.3.7 Breeding birds (swifts) were confirmed using Buildings 1 and 3 on site. It is anticipated that Building 1 is not included within the demolition therefore no mitigation is necessary at this time. However, it is recommended that demolition of Building 3 is undertaken outside of the bird breeding season i.e. undertaken between October to February.

4.3.8 In accordance with Planning Policy Statement 9 (PPS9) which states that *'planning decisions should aim to maintain, enhance or restore biodiversity'*, it is recommended that purpose built swift boxes be installed on a like for like basis to mitigate the loss of confirmed nest sites, i.e. one box to replace existing nesting provision in Building 3 and an additional box to replace existing nesting provision in Building 1, should this building be demolished. Further advice on the supply, siting and types of boxes suitable is available from Ecus Ltd on request.

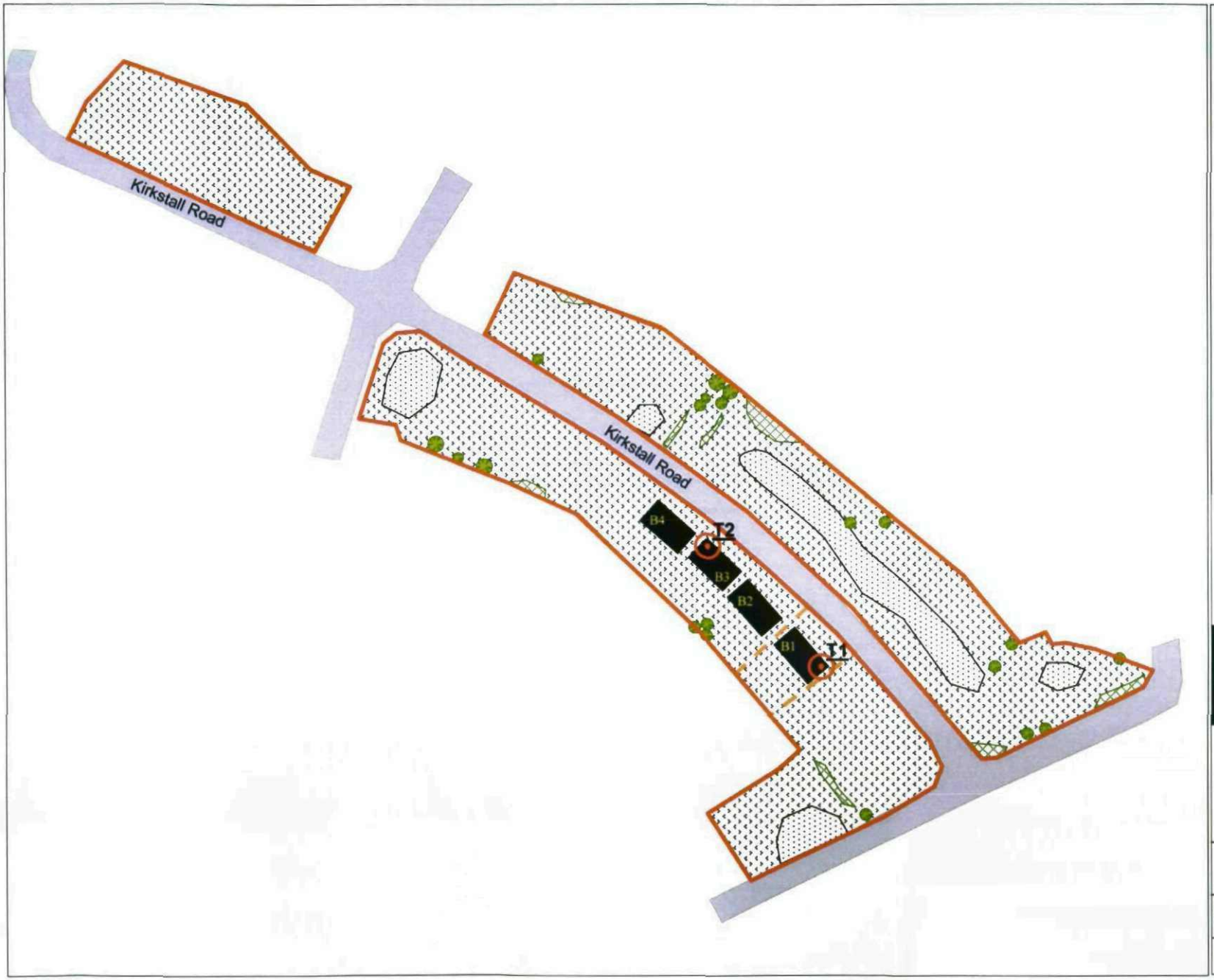
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Appendix 1 – Survey Findings



Legend:

- Site boundary
- Ephemeral/ short perennial vegetation
- Shrub/ scrub
- Scattered tree
- Bare ground
- Hard standing
- Building
- Existing housing plot to remain
- B1 — Building reference
- T1 — Target note

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Figure 1: Phase I Habitat Map	Date: June 2011
Not to Scale	ECUS Ref: 3262

Appendix 2 – Site photographs



Photograph 1 – Southeastern end of site. Typical ephemeral/short perennial vegetation across site with bare ground in the foreground.



Photograph 2 – Northern half of site. Ephemeral/short perennial vegetation/ bare ground with the aspen dominated treeline in the background.



Photograph 3 – Buildings 2 - 4, to be demolished.

Appendix 3 – Target notes

T1 – South east aspect Building 1 - two swifts observed entering and exiting an uncovered circular airhole on the underside of the soffit box several times.

T2 – North west aspect of Building 3 – one swift observed entering and exiting a gap adjacent to the downpipe.