

# Ecological Enhancement & Habitat Restoration Plan

## Pine Tree Cottage, Camp Road

For B. T Felton Ltd.

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### **AIM**

Enable restoration of the ecological integrity and biodiversity of the ancient woodland with improved habitat connectivity to the surrounding landscape. The report is prepared in relation to proposed redevelopment of a builders yard located within woodland for residential dwellings and to demonstrate clear biodiversity gain for the project overall.

### **CURRENT STATUS**

The descriptions below are taken from the Preliminary Ecological Appraisal Pine Tree Cottage, Camp Road February 2021 by Dr. Stefan Bodnar BSc (Hons) PhD MCIEEM, in relation to proposed redevelopment of a builders yard located within woodland for residential dwellings.

### **Habitat Types Present & Baseline Ecological Conditions**

#### **Bare Earth and Hardstanding**

The bare earth and hardstanding are not ecologically important. The bare earth may have historically supported ancient woodland (according to the Natural England official ancient woodland register (Natural England, 2020)), however due to years of disturbance and compaction this habitat is no longer present within these areas. Soil testing has not been undertaken, however it is possible that soil contamination and degradation of mycorrhizal networks has occurred due to the type of materials stored historically.

#### **Broadleaved Semi Natural Woodland**

Broadleaved semi-natural woodland surrounds the Site to varying extents at all four cardinal points. The woodland comprises pedunculate oak (*Quercus robur*) and silver birch (*Betula pendula*) woodland with an understorey of bracken (*Pteridium aquilinum*), bramble (*Rubus fruticosus* agg.) elder (*Sambucus nigra*) and bluebell (*Hyacinthoides non-scripta*).

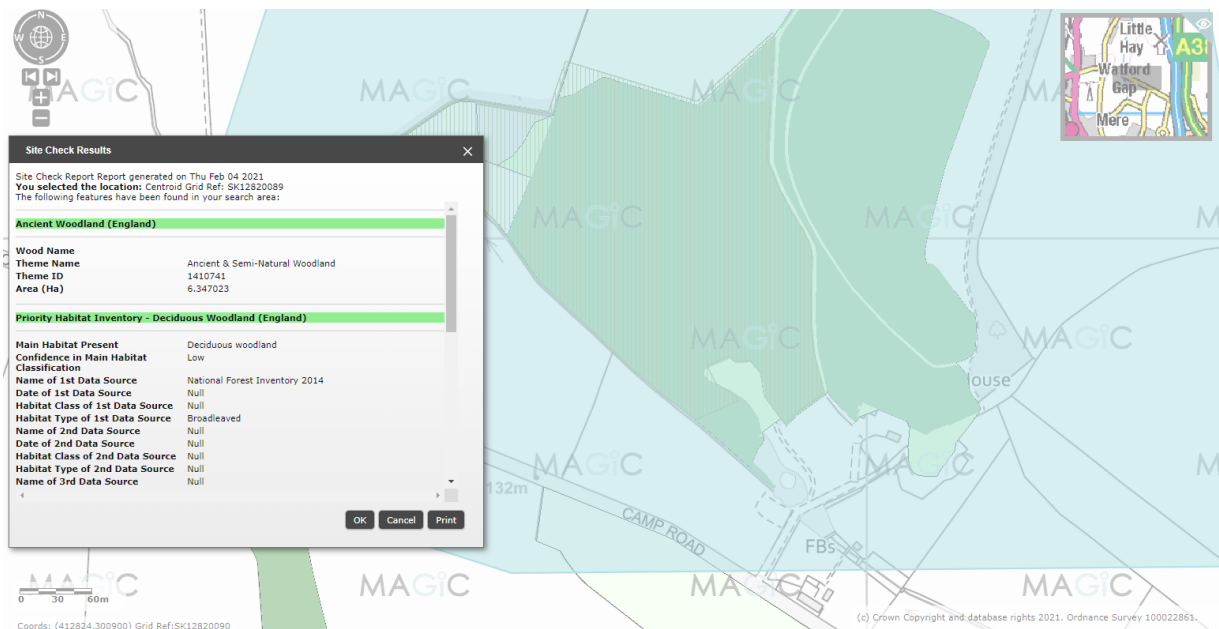
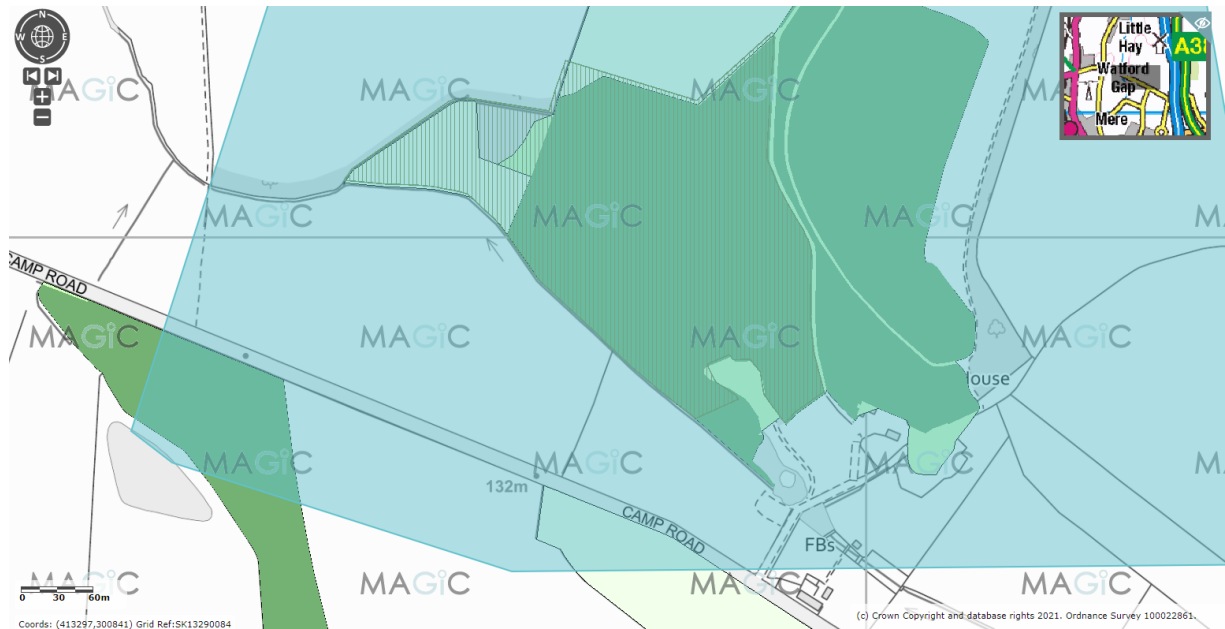
Part of the woodland is ancient woodland, and the boundary of this has been detailed below:



It must be noted that sections of this woodland have been cleared and compacted by storage of materials and vehicular movements for over twenty years. These areas now comprise bare earth with few colonising plants such as docks (*Rumex* sp.) and common nettle (*Urtica dioica*), and the soils beneath the compacted areas are highly unlikely to be conducive to supporting habitat typical of ancient woodland and its associated mycorrhizal networks. It must however be noted that historic degradation for a prolonged period (at least 20 years as evidence by aerial imagery (Google Earth Pro, 2020)) has damaged any areas of this habitat that were historically present at the Site beyond a state which it would be able to be replaced within a reasonable timeframe.

**Priority Habitat Inventory Map showing the extent of Ancient and Semi-Natural woodland.**

Note that the builder's yard is excluded from the area defined as Semi-Natural Ancient Woodland and that the woodland to the south comprising the wet alder woodland is categorized as native deciduous but not ancient semi-natural.



## **Scrub**

Scrub habitat is present at the southeast and southwest extents of the Site. Willow (*Salix caprea*) carr is present at the southwest extent of the Site adjacent to a pond, this habitat also supports colonising species such as bramble and Buddleja (*Buddleja davidii*), a non native invasive weed species.

A small area of bramble scrub is present at the southeast extent of the Site. This habitat also supports some colonising silver birch and goat willow, but is heavily dominated by bramble.

The willow carr scrub at the Site is not considered to be ecologically important due to its rapid colonisation time and limited botanical diversity, as well as the presence of Buddleja which is likely to become rapidly invasive if not appropriately managed.

## **Tree lines and Native wet woodland**

In the wider context there are two lines of Leyland cypress *Cupressus leylandii*, which are of no benefit to the ancient woodland context. In addition, there is an area of alder woodland adjacent to these plantations which is of considerable wildlife value.

### 3.2.2 Protected and Notable Species on Site

#### **Bats:**

There are 18 species of bat found in the UK, 17 of which are known to breed in the UK. All are small, nocturnal, flying, insectivorous mammals that are under considerable conservation threat and many having undergone severe population declines over the last century. Some species, such as pipistrelle bats (*Pipistrellus* sp) still remain relatively common and widespread in the UK, while others, such as greater horseshoe bats (*Rhinolophus ferrumequinum*), have an extremely restricted distribution. All species of bats and their roosting sites are afforded full protection under both UK and European legislation and are designated as 'European protected species'.

#### ***Bat Assessment of On-Site Trees***

All trees on site are either young or early mature and have not formed suitable features for bat roosts to develop. All on site trees are categorized as negligible in respect of bat roost potential.

#### **Foraging and commuting**

The Site supports suitable foraging and commuting habitat for bats via the woodland at and immediately adjacent to the Site.

The Proposed Development has the potential to increase light spill on to commuting and foraging habitat, which may result in an adverse effect to bat species utilising the adjacent woodland. The potential level of importance of this effect is dependent both on the level of light spill (light spill on to suitable habitat should be no more than 1lux) as well as its duration and the level of use of those areas by foraging and commuting bats.

It is recommended, as an avoidance measure, that lighting impacts to the adjacent woodlands must be avoided to preclude a reduction in the suitability/use of these areas by foraging and commuting bats. Lighting at the Site must be designed in accordance with current guidance (ILP, 2018) and liaison between the ecologist and lighting engineer at an early stage to avoid potential impacts must be undertaken.

Further surveys/assessment for bats are required to inform an impact assessment should lighting impacts to the adjacent woodlands be unavoidable. Due to the small scale of the Site it is considered more appropriate in this instance to undertake static monitoring of bats utilising the woodlands with a static detector. Due to the woodland becoming dark rapidly after dusk, and observations of commuting bats being difficult due to the woodland backdrop, it is unlikely that activity surveys within the woodland by an ecologist would yield observations that could not be gleaned from the use of passive monitoring.

### **Badgers**

Badgers (*Meles meles*) are protected in England and Wales under the Protection of Badgers Act 1992. Protection applies both to the animal itself and to its nesting burrows (setts), and current interpretation of the Act also confers some protection to key foraging areas. Badgers remain comparatively widespread and common throughout the UK.

The site represents suitable foraging habitat for badger, there are signs of badger on site including trackways and latrine sites, and within 30m of the site boundaries. There are no setts on site or within 30m. however. A range of precautionary measures are required in respect of construction works.

### **Other mammals**

The presence of other specially protected mammals, such as otter, pine martin, water shrew, dormouse or water vole, was assessed as extremely unlikely due to the lack of suitable habitat on the site for these species combined with their known species distributions. Although water vole are recorded within 1 km, the site itself is unsuitable and the nearby brook is heavily wooded on both sides and is considered unsuitable.

## Birds

The Wildlife and Countryside Act 1981 (as amended) makes it an offence (with certain limited exceptions) to intentionally kill, injure or take any wild bird, or to damage, take or destroy the nest of any wild bird whilst that nest is being built or in use, or to take or destroy its eggs. Furthermore, the Act affords additional protection to specific species of birds listed in Schedule 1 of the Act. In respect of these species, it is unlawful to intentionally or recklessly disturb such a bird whilst it is nest-building or is in, on or near a nest containing eggs or young; or to disturb their dependent young. Following recent revisions, fifty-nine species are listed on the UKBAP.

A number of significant species of birds are recorded within 1km of the site. The following species were recorded on-site during the visit:

<b>Bird Species:</b>	<b>Latin name:</b>
Blackbird	<i>Turdus merula</i>
Woodcock (adjacent to site)	<i>Scolopax rusticola</i>
Magpie	<i>Pica pica</i>
Robin	<i>Erithacus rubecula</i>
Carrion crow	<i>Corvus corone</i>
Moorhen	<i>Gallinula chloropus</i>
Woodpigeon	<i>Columba palumbus</i>
Wren	<i>Troglodytes troglodytes</i>
Blue Tit	<i>Cyanistes caeruleus</i>
Great tit	<i>Parus major</i>

The birds listed above were actually recorded on the site itself, except where noted. The trees and scrub embankment could also provide suitable for nesting habitat for a number of other common bird species. Therefore these features should be protected and enhanced where possible. It is recommended that any site clearance involving woody vegetation is undertaken

outside of the bird breeding season (mid March to mid August). If site clearance is undertaken during these months, a suitably qualified and experienced ecologist should be employed to ascertain the presence of any breeding birds within the site.

### **Great Crested Newt**

The Great Crested Newt (*Triturus cristatus*) is one of the two rarest amphibian species in Britain. It is primarily a terrestrial animal, spending much of its life on land, but returning to the water to breed. Great Crested Newts will often return to breed in the same waterbody where they were spawned. In addition, they are highly opportunistic and will also colonise suitable new waterbodies rapidly. Great Crested Newt is a 'European protected species' afforded full protection under both UK and European legislation. This protection extends to the habitats which support it. The habitats within 500m of a breeding pond are generally considered to be protected by the legislation. The great crested newt is a priority species and subject to its own Biodiversity Action Plan.

There are no ponds on the site, the one adjacent has large numbers of fish present and waterfowl (ducks and Canada geese), making it of low suitability, the terrestrial habitat is of moderate suitability for Great Crested Newt. There are no records of Great Crested Newt within 1km from the site. The presence of Great Crested Newts is considered unlikely, therefore no further surveys are recommended, however, it is recommended that all site works are carried out with a series of precautions designed to reduce harm to amphibians. These are described fully in section 4.3b Precautionary Measures During Development.

### **Reptiles**

There are four widespread species of British reptile comprising grass snake (*Natrix natrix*), slow-worm (*Anguis fragilis*), adder (*Vipera berus*) and common lizard (*Zootoca vivipara*). These animals are protected under the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000. They are given so called 'partial protection', which prohibits the deliberate killing or injury of individuals. The habitats of common reptiles are not specifically protected.

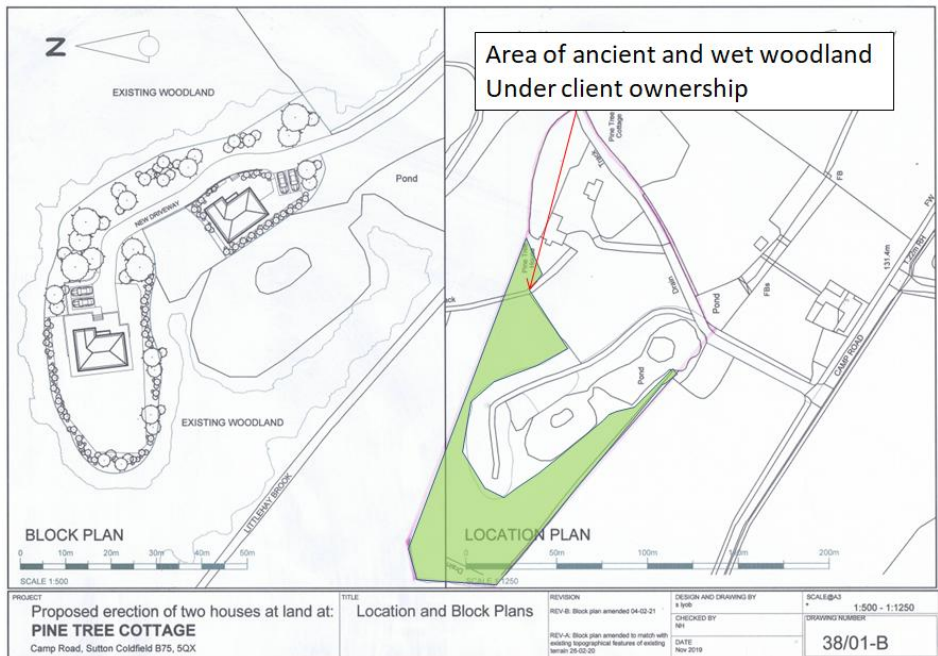
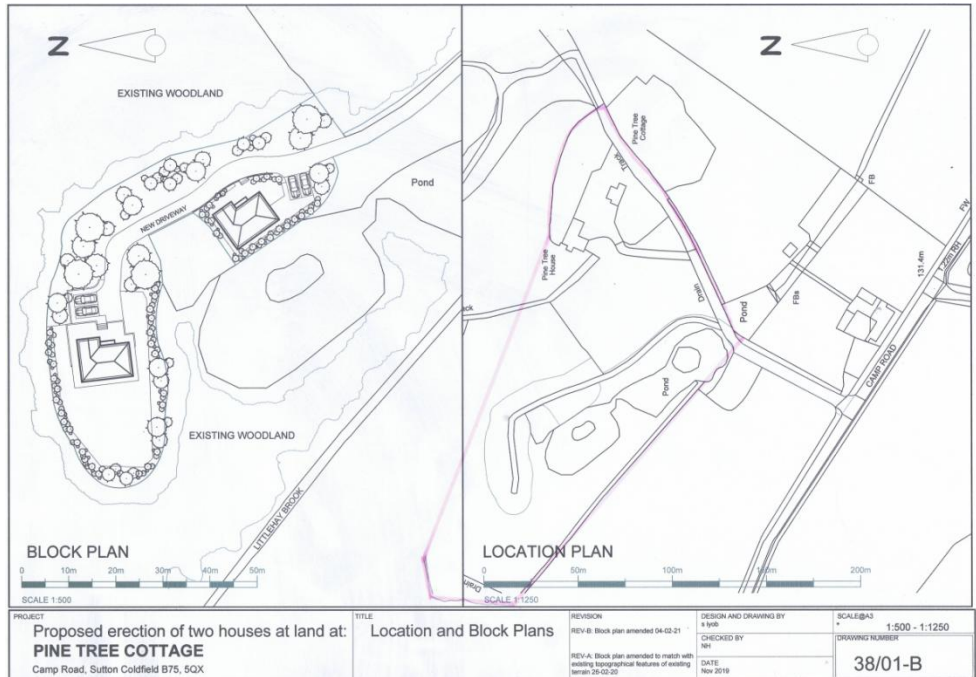
The terrestrial habitat is of moderate suitability for reptiles and there are no records of reptiles within 1 km of the site. The presence of reptiles is assessed as unlikely, and the level of risk



does not justify further survey in respect of these species. Therefore, no further surveys are recommended, instead a precautionary approach should be adopted and reptiles, particularly slow worm, should be assumed to be present on site and the works are carried out using a series of precautions designed to avoid harm to this species.

# MANAGEMENT ACTIONS REQUIRED

There is a considerable area extending beyond the boundary of the builders yard, that is in the ownership of the client. This is shown below:



The woodland was evaluated in July 2021 by Dr. Stefan Bodnar. The designated Semi-Natural Ancient woodland comprised largely secondary woodland dominated by Silver birch *Betula pendula*, with a small number of early mature English oak *Quercus robur* present. The ground flora is dominated by bracken and in places foxglove.

The alder woodland area is of better quality with larger multi-stemmed alder trees along the stream course as the dominant feature. See images below:















The aim would be that the management plan is to be outsourced and carried out by suitably qualified professionals with experience in woodland restoration. It would form part of a binding Section 106 agreement by the client and the local authority tied to the development of the builders yard for residential usage.

The two woodland types on the site, referred to in the habitat description above as Broadleaved Semi Natural Woodland and Tree lines and Native wet woodland are different in character and structure and therefore require different types of intervention and management.

## Broadleaved Semi Natural Woodland Management Actions

The woodland requires the removal of all dumped waste from the site, primarily the builders yard, with appropriate, lawful disposal of oil and chemical waste. Mechanical extraction will be possible only in the areas adjacent to the existing access tracks. Under no circumstances should extraction routes be created within the woodland.

After waste removal from the site, areas under the ownership of the client not specified for buildings and garden (.e. outside the development boundary) should be under-planted with native species, appropriate for a National Vegetation Classification W16 woodland. A diverse mixture of native species should be planted, as light standards, with a focus on areas with canopy gap and woodland edges, to include 10% Rowan *Sorbus aucuparia*, 30% Birch *Betula pendula* and 50% Pedunculate oak *Quercus robur*, with 10% holly *Ilex aquifolium*.

The ground layers should be planted with 9” pot size plants to ensure their subsequent survival. A mixture of 30% grasses *Deschampsia flexuosa*, with 30% heathers *Calluna vulgaris* and 20% *Erica cinerea* in open areas and 20% bilberry *Vaccinium myrtillus*. There is sufficient and 10% Bracken *Pteridium aquilinum* already on site that will form the woodland ground layer along with the other species. The plants should be sourced from a reputable native plant nursery to ensure they are grown peat free.

In addition a series of bat and bird boxes, twenty five bird boxes and fifteen bat boxes, should be erected on mature and semi-mature trees within this woodland. Schwegler 2F bat boxes and Schwegler 1B bird boxes are recommended. At least two tawny owl boxes should be included within these bird boxes.

## **Tree lines and Native wet woodland Management Actions**

The non native planting (Leyland Cypress *Cupressus × leylandii*) within the woodland will be removed, via sectional felling to avoid harm to surrounding trees and extracted with considerable care to prevent further damage and compaction of the vulnerable woodland soils. Mechanical extraction will be possible only in the areas adjacent to the existing access tracks. Under no circumstances should extraction routes be created within the woodland. All felling works and scrub removal to be undertaken outside the bird breeding season.

The non-native invasive species (buddleia *Buddleja davidii*) which have colonized the woodland should be removed. Hand tools and chainsaws should be used, with careful techniques to avoid harm to surrounding trees. Under no circumstances should extraction routes be created within the woodland. There is to be no burning of waste on site or within the woodland. All timber from non native species such as buddleia *Buddleja davidii* and Leyland Cypress *Cupressus × leylandii* must be removed from the woodland to prevent re-colonisation.

The non-native self set Sycamore *Acer pseudoplatanus* in the woodland should be deeply ring-barked to create standing deadwood, by suitable qualified and experienced professionals with experience in woodland restoration.

The key phase of management should be initiated prior to work commencing on site, and completed prior to occupation of the residential houses, therefore it is recommended that restoration of the site is conditioned in this way.

**With these measures in place it is my professional opinion that the woodland restoration will create a clear and demonstrable net biodiversity benefit to redevelopment of the builders yard area.**