

Further details of the ponds within the site are presented in the Arcadis Great Crested Newt Survey Report (Arcadis 2019b).

### 3.3.8.2 Ditches

Numerous ditches and drains were recorded across the site, at the time of survey most were dry or held very little water (Photo 20). Two ditches within Ifield Brook and Meadows LWS and a ditch along the northern boundary of the site held water at the time of survey (Photo 21-23).

## 3.3.9 Running Water

### 3.3.9.1 Rivers

The River Mole was recorded through the northern section of the site flowing west to east through areas of broadleaved woodland, semi-improved grassland. The river had a moderate-flow and the water was clear and unpolluted. The channel was approximately 5m wide with little emergent wetland vegetation (Photo 24).

### 3.3.9.2 Streams

Ifield Brook and Ifield Mill Stream are located on the western section of the site flowing south to north through broadleaved woodland (Photo 25). The water was clear and unpolluted. The channel was approximately 2m wide and there was little emergent wetland vegetation.

Hyde Hill stream is on the southern boundary of Ifield Golf Course, at the time of the 2018 surveys the stream held very little water and was mostly dry.

## 3.3.10 Arable

Six arable fields were recorded within the southern and middle sections of the site. At the time of survey these fields supported Barley (*Hordeum vulgare*) (Photo 26).

## 3.3.11 Amenity Grassland

Within Ifield Golf Course were large expanses of amenity grassland (Photo 27). The grassland was regularly cut and maintained with a very short sward and abundances of species could not be estimated accurately. Grass species identified within these areas comprised Perennial Rye-grass, Yorkshire-fog, Annual Meadow-grass, fescue species and Rough Meadow-grass. Herbs recorded included White Clover, Ribwort Plantain, Dandelion, Common Bird's-foot-trefoil, Daisy, Selfheal and Creeping Buttercup.

Small areas of amenity grassland were recorded on the eastern boundary of the site surrounding Ifield Barn Arts Centre. Species recorded within these areas were of a similar composition recorded within Ifield Golf Course with additional species identified including Creeping Cinquefoil, Yarrow (*Achillea millefolium*) and Common Mouse-ear.

## 3.3.12 Ephemeral Vegetation

A small area of bare ground supporting ephemeral vegetation was recorded on the southern boundary of an arable field (Photo 28). Redshank and Broadleaved Plantain were abundant with Scarlet Pimpernel (*Anagallis arvensis*), and Pineappleweed (*Matricaria discoidea*) recorded occasionally.

## 3.3.13 Introduced Shrub

A single small stand of laurel was recorded along the western boundary of the site within Ifield Brook and Meadows LWS. Areas of ornamental planting at Ifield Golf Course comprised non-native shrub species and conifer trees.

## 3.3.14 Hedgerows

Thirty-eight hedgerows were recorded within the site. These were located within Ifield Golf Course, arable fields, and within the fields of semi-improved grassland. The most common woody species recorded within these hedgerows were Hawthorn, Blackthorn, Hazel and rose species. Other woody species recorded less frequently included Ash, Elder, Field Maple, Bridewort (*Spiraea agg.*), Spindle, Beech, Hornbeam, Holly, Yew and Snowberry (*Symphoricarpos albus*). Climbing species including Bramble, Black Bryony (*Tamus communis*) and Honeysuckle were recorded in several hedgerows.

The hedgerows supported a limited range of flora species. Frequently recorded species included False Oat-grass, Common Bent, Field Bindweed (*Convolvulus arvensis*), Broadleaved Dock, Cleavers, Common Nettle, Cow Parsley, Betony, Hogweed, Hedge Bedstraw (*Galium album*), Ivy and Cock's-foot. Species recorded infrequently included Lord's-and-Ladies, Wood Avens, Creeping Thistle, Spear Thistle, Timothy, Ground Ivy, Wild Strawberry,

Remote Sedge and willowherb species. In addition, some of the hedgerows had associated ditches which meant that the ground flora also included wetland species such as Hemlock Water Dropwort, Soft Rush, Yellow Iris (*Iris pseudacorus*) and Meadowsweet.

Many of the hedgerows also contained mature trees including oak, Sycamore, Horse-chestnut (*Aesculus hippocastanum*) and conifer species.

Further details of the hedgerows present within the site are presented in the Hedgerow Survey Report (Arcadis 2019c).

### **3.3.15 Buildings and Man-made Structures**

Within the northern section of site were residential dwellings, derelict buildings (TN58) and in the south-western section were several storage sheds (TN 26). Due to access restrictions detailed surveys of these properties were not undertaken. Buildings were also recorded within Ifield Golf Course. These comprised a mixture of brick, breezeblock and metal buildings all with features suitable to support roosting bats (TN59 and 79, Photos 30-32). Buildings were recorded along the eastern boundary of the site (TN60, Photo 33). These included a mixture of brick and wooden buildings with features suitable to support roosting bats.

There were buildings in the west of the site, within the area surveyed in 2019. These included a storage barn (TN96 and Photograph 42), other barns and sheds used for business storage (Photograph 39) and a disused house (TN101 and Photo 47).

A culvert was recorded on the eastern side of Ifield Brook (TN 46, Photo 34) comprising concrete pipe with red brick head wall approximately 1m in diameter with a horizontal grill with large gaps on the entrance.

Wooden bridges and concrete bridges were recorded over watercourses throughout the site (TN27, 54, 75 and 77).

Further details of the structures present in the site are presented in the Breeding Bird Survey (in relation to barn owl roosting) (Arcadis 2019d) and the bat survey report (Arcadis 2019e).

### **3.3.16 Non-native Invasive Plant Species**

The desk study returned records of invasive species within 2 km of the proposed development. One record was Cherry Laurel (*Prunus laurocerasus*) within the site in an area of woodland within Ifield Brook and Meadows LWS. During the Phase 1 habitat, Rhododendron (*Rhododendron ponticum*) was recorded in two locations on site (TN 24 and 57, Photo 34). New Zealand Pigmyweed (*Crassula helmsii*) was recorded in two ponds within Ifield Golf Course (TN63 and 64, Photo 35).

### **3.3.17 Protected Plant Species**

The desk study returned records for protected and priority plant species within 2 km of the site. One record was Bluebell (*Hyacinthoides non-scripta*) within the site in Ifield Brook and Meadows LWS. During the Phase 1 habitat survey, Bluebell was recorded in Ifield Brook and Meadows LWS and also within an area of plantation woodland on the north-west boundary of the site.

## **3.4 Protected Fauna and/ or Species of Conservation Concern**

### **3.4.1 Terrestrial Invertebrates**

The desk study returned records of protected invertebrate species within 2 km of the site. Brown hairstreak (*Thecla betulae*) records were returned within Ifield Brook and Meadows LWS. Records of small heath (*Coenonympha pamphilus*), white admiral (*Limenitis camilla*), brown hairstreak, small heath and chalk hill blue (*Polyommatus coridon*) indicate their past presence on the western boundary of the site, north of Ifield Golf Course. Within Ifield Gold Course records of brown hair streak and small heath were provided in the western part of the course.

Of these species brown hairstreak, small heath and white admiral are Sussex LBAP species.

The grassland, scrub and woodland margins were considered suitable to support a diverse range of invertebrate species as well as the species-rich grassland meadows. The woodland and hedgerow habitats contained deadwood which could provide habitat for terrestrial invertebrate species.

Subsequent to the Phase 1 survey, invertebrate surveys were conducted. These are presented in the Invertebrate Survey Report (Arcadis 2019f).

### 3.4.2 Aquatic Invertebrates

The desk study returned no records of aquatic invertebrates within the site boundary or within 2 km of the site. Ponds, ditches and watercourses were recorded within the site which were considered likely to be of value to a diverse range of invertebrate species.

Subsequent to the Phase 1 survey, invertebrate surveys were conducted. These are presented in the Invertebrate Survey Report (Arcadis 2019f).

### 3.4.3 Fish

The desk study returned no records of fish species within 2 km of the site. There were historical records for bulhead (*Cottus gobio*) within watercourses of Ifield Brook and Meadows LWS. The River Mole and streams within the site were suitable to support this species and a range of other common fish.

### 3.4.4 Amphibians

The desk study returned records of great crested newt (*Triturus cristatus*), smooth newt, common toad (*Bufo bufo*) and common frog (*Rana temporaria*) within 2km of the site. Great crested newt records were identified within the site on the western edge of the site. Smooth newt (*Lissotriton vulgaris*), common toad and common frog were also recorded at the same location. Great crested newt were also recorded 660m, 670m, 751m and 840m northwest of the site.

Seven ponds (TN 25, 36, 61, 62, 63, 64 and 65, Photos 13-18) and three ditches (TN 66, 67 and 68, Photos 20-22) that contained water at the time of survey were recorded within the site and were assessed as suitable to support amphibian species including great crested newt. The terrestrial habitats in the vicinity of these ponds were assessed as likely to be of value to foraging and hibernating amphibians, particularly the areas of broadleaved woodland, scrub, semi-improved grassland and ruderal vegetation. Rubble piles, log piles and brash piles (TN1, 2, 3, 6, 11, 12, 13, 14, 15, 16, 23, 41, 44, 45 and 55, Photo 36) were identified as potential hibernacula. The desk study identified additional waterbodies within 500m of the site (approximately 29).

Details of the ponds on and adjacent to the site and the surveys conducted in relation to these ponds are presented in the Great Crested Newt Survey Report (Arcadis 2019b).

### 3.4.5 Reptiles

The desk study returned records of reptiles within 2km of the site, with records within the site. These were slow-worm (*Anguis fragilis*) and grass snake (*Natrix helvetica*) on the western boundary of the site.

Incidental sightings of slow-worm (TN43) and grass snake (TN53) were recorded within the site during the Phase 1 habitat survey. Habitats throughout the site were considered suitable to support foraging and hibernating reptiles particularly the areas of broadleaved woodland, scrub, semi-improved grassland, ruderal vegetation and the field margins. Rubble piles, log piles and brash piles (TN1, 2, 3, 6, 11, 12, 13, 14, 15, 16, 23, 41, 44, 45 and 55, Photo 36) were identified as potential hibernacula.

Subsequent to the Phase 1 survey, reptile surveys were undertaken. These surveys are reported separately in the Reptile Survey Report (Arcadis 2019h).

### 3.4.6 Bird

The desk study returned records for a number of notable bird species within 2km of the site, of these confirmed breeding whitethroat (*Sylvia communis*) and green woodpecker (*Picus viridis*), red kite (*Milvus milvus*), kestrel (*Falco tinnunculus*), stock dove (*Columba oenas*) and skylark (*Alauda arvensis*) were recorded within or within close proximity of Ifield Brook and Meadows LWS. Records of tawny owl (*Strix aluco*) and cuckoo (*Cuculus canorus*) were also recorded on the western boundary of the site.

The desk study also returned records of notable bird species close to the site.

Table 3. Protected and notable bird species recorded within close to the site.

Notable Bird Species	Location in relation to the proposed development
Cuckoo	
Skylark	154m east

Notable Bird Species	Location in relation to the proposed development
Dunnock ( <i>Prunella modularis</i> ) Song thrush ( <i>Turdus philomelos</i> ) Starling ( <i>Sturnus vulgaris</i> ) House sparrow ( <i>Passer domesticus</i> ) Bullfinch ( <i>Pyrrhula pyrrhula</i> ) Yellow hammer ( <i>Emberiza citrinella</i> ) Reed bunting ( <i>Emberiza schoeniclus</i> )	
Hobby (Falco subbuteo) Barn owl Kingfisher ( <i>Alcedo atthis</i> ) Lesser spotted woodpecker ( <i>Dendrocopos minor</i> ) Skylark Dunnock song thrush Starling House sparrow Linnet ( <i>Linaria cannabina</i> ) Bullfinch Yellow hammer.	253m west of Ifield Golf Course
Lesser spotted woodpecker Skylark Dunnock Song thrush Starling House sparrow, Linnet Bullfinch Yellow hammer	321m north
Kingfisher Song thrush Starling	402m north east

Incidental bird sightings were recorded during the Phase 1 habitat survey including robin (*Erythacus rubecula*), buzzard (*Buteo buteo*), red kite, kingfisher and kestrel. A likely nesting site comprised sand/clay bank with holes and bird droppings was recorded along Ifield Mill Stream (TN 47). Several trees were also recorded with bird boxes attached within Ifield Brook and Meadows LWS (TN 81, 82, 84 and 85).

The woodland, scattered trees, scrub and hedgerow habitats present throughout the site are likely to support breeding birds typical of these habitats and provide good foraging habitat. The areas of less disturbed neutral semi-improved grassland were suitable for ground nesting birds. It is possible that barn owl could use the derelict buildings in the northern section of the site (TN 58) and mature trees with suitable cavities for nesting. The grassland and arable field margins were suitable for foraging barn owl, although no evidence was recorded during

the Phase 1 habitat survey. The arable fields within the site were assessed as suitable to support foraging wintering bird species.

Following the Phase 1 survey, wintering and breeding bird surveys were undertaken. These are presented in full in the relevant reports (Arcadis 2019d and 2019g).

### 3.4.7 Bats

The desk study returned roost, foraging and commuting records of 17 bat species/groups within 5km of the site detailed in the table below:

Table 4. Bat species/groups recorded within 5 km of the site.

Common Name	Scientific Name
Unidentified bat species	<i>Chiroptera</i>
Myotis species	<i>Myotis</i> sp.
Daubenton's	<i>Myotis daubentonii</i>
Whiskered bat	<i>Myotis mystacinus</i>
Whiskered/Brandt's bat	<i>Myotis mystacinus/brandtii</i>
Brandt's Bat	<i>Myotis brandtii</i>
Natterer's Bat	<i>Myotis nattereri</i>
Bechstein's Bat	<i>Myotis bechsteinii</i>
Noctule	<i>Nyctalus noctula</i>
Leisler's	<i>Nyctalus leisleri</i>
Pipistrelle species	<i>Pipistrellus</i> sp.
Nathusius's Pipistrelle	<i>Pipistrellus nathusii</i>
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>
Serotine	<i>Eptesicus serotinus</i>
Long-eared species	<i>Plecotus</i> sp.
Brown long-eared	<i>Plecotus auritus</i>

No records were identified within the site boundary. Numerous roosts, foraging and commuting records have been identified close to the site and have been detailed in the table below

Table 5. Bat records close to the site.

Species	Description
Common pipistrelle	Roost 207m east of the proposed develop
Brown long-eared	Roost 220m north east of the proposed development.

Species	Description
Myotis species, noctule and common pipistrelle	Foraging and commuting records at Ifield Mill 350m east of the proposed development
Myotis species, Daubenton's, noctule, common pipistrelle, soprano pipistrelle and brown long-eared bat	Foraging and commuting records at Ifield Mill pond 415m south east of the proposed development.
Common pipistrelle, serotine and noctule	Common pipistrelle and serotine roost. Foraging and commuting activity for noctule and common pipistrelle at former Upper School Deerswood 457m east of the proposed development.

The woodlands and scattered trees were assessed as offering potential to support roosting bats; mature trees that could offer suitable roosting habitat were identified by the following Target Notes: TN 4, 9, 10, 19-22, 28-35, 37-40, 42, 49-52, 56, 70-74, 80-86.

Buildings within the site were identified as suitable to support roosting bats. On the eastern boundary these comprised connected buildings of brick and wood (TN 60, Photo 32). Within Ifield Golf Course the buildings were TN59 and 79, Photos 29-31. None of the derelict buildings and residential dwellings within the northern section of the site were subject to detailed building inspections due to access restrictions. However, given their age and condition it is anticipated that features suitable to support roosting bats would be present within these buildings (TN 58). In the south-western section were storage sheds (TN 26), these were not surveyed due to access restrictions.

A number of bridges were recorded over watercourses (TN 27, 54, 75, 77 and 78). These bridges had features accessible to bats and with suitable night time perching/roosting features. The culvert on the eastern side of Ifield Brook (TN 46) approximately 1m in diameter with a horizontal grill had large gaps on the entrance to allow access to bats.

The woodlands, hedgerows, watercourse, ponds, areas of scrub, ruderal vegetation, semi-improved grassland and field margins were suitable habitat for commuting and foraging bats.

Following the Phase 1 survey, bat surveys were undertaken. The results of these surveys are presented in the Bat Survey Report (Arcadis 2019e)

### 3.4.8 Hazel Dormouse

The desk study returned two records of dormice (*Muscardinus avellanarius*) within 2km of the site, 1.8km and 2km south east.

The woodlands and connecting hedgerow habitat were considered suitable to support this species, with a dense understorey and suitable food plants. There was also connectivity to suitable habitat in the wider landscape. It is possible dormice may be present within the site and may also use the site as a dispersal corridor.

Following the Phase 1 habitat survey dormouse surveys were undertaken. The results of these surveys are presented in the Dormouse Survey Report (Arcadis 2019i).

### 3.4.9 Water voles

The desk study returned no records of water vole (*Arvicola amphibius*) within 2km of the site. Most of the ditches within the site were dry at the time of survey. The sections of the River Mole that were less shaded by woodland were suitable to support water vole.

Following the Phase 1 survey, water vole surveys were undertaken. The results of these surveys are presented in the Otter and Water Vole Survey Report (Arcadis 2019j).

### 3.4.10 Otters

The watercourses within the site were suitable to support otters (*Lutra lutra*). A number of sites along the River Mole, Ifield Brook and Ifield Mill Stream contained suitable resting sites. The ponds and wet ditches were suitable foraging habitat.

Following the Phase 1 survey otter surveys were undertaken. The results of these surveys are presented in the Otter and Water Vole Survey Report (Arcadis 2019j).



### **3.4.12 Red Squirrel**

The desk study returned a single red squirrel (*Sciurus vulgaris*) record 28m west of the site within Ifieldwood along Rusper Road. Considering the decline in this species in the mainland of England and the lack of more recent records in the area, it is considered unlikely that this species is associated with the site.

### **3.4.13 Other Mammals**

The desk study returned hedgehog (*Erinaceus europaeus*) records within 2km of the site. Two records were within the eastern part of the site at Furlong Farm and within Persimmon Controlled Land. Habitats present within the site were suitable to support this species included the woodland, hedgerows, and grassland.

A single harvest mouse (*Micromys minutus*) record was recorded at Gatwick Airport, north of the site. Habitats suitable to support harvest mouse present within the site included the hedgerows, and areas of grassland around the arable field margins.

Rabbits (*Oryctolagus cuniculus*) were recorded across the site with burrows identified in two locations (TN 17 and 18). Evidence of rabbit grazing was recorded in Ifield Brook and Meadows LWS.

## 4 Discussion

The desk study and field survey revealed the following ecological features of some value to nature conservation.

### 4.1 Designated sites

Ifield Brook Wood and Meadows LWS and Hyde Hill LWS are within the site. Ifield Pond and surroundings SINC, Willoughby Fields LWS and Wood near Lower Prestwood Farm LWS are located between 100m-500m of the site. These LWS are of county value to biodiversity and the proposed development could have a significant impact on these sites.

Crawley Borough Council has made a commitment to halting the overall decline in biodiversity by ensuring that developments minimise impacts to biodiversity and provide net gains where possible including establishing coherent ecological networks that are more resilient to current and future pressures. Proposals which will result in significant harm to biodiversity will be refused unless they can be located on alternative sites with less harmful impact; or the harm can be adequately mitigated, or, as a last resort, compensated for. To ensure a net gain in biodiversity, Crawley Borough Council has made a pledge that designated areas including locally designated sites will be conserved and enhanced where possible and the council will support their designation and management, therefore the proposed development may be in breach of the Local Development Plan (Crawley Borough Council 2015)

Horsham Council have made a similar pledge ensure that development does not cause a net loss in biodiversity and provides net gains in biodiversity where possible. All development proposals should seek to enhance existing biodiversity through a range of measures on or off the site and should create and manage new habitats where appropriate. Developments that will result in the loss of existing green infrastructure will be resisted unless new opportunities will be provided that mitigates or compensates for this loss to ensure ecosystem services within the area are retained. Where developments are anticipated to have a direct or indirect adverse impact on sites or features for biodiversity, they will be refused unless it can be demonstrated the reason for the development clearly outweighs the need to protect the value of the site and appropriate mitigation and compensation measures are provided (Horsham District Council 2015))

### 4.2 Plants and Habitats

Habitats recorded within the site include semi-natural and plantation broadleaved woodland, mixed plantation woodland, semi-improved grassland, marshy grassland, amenity grassland, dense and scattered scrub, ruderal vegetation, arable fields, scattered trees, hedgerows, short ephemeral vegetation, watercourse, waterbodies, buildings, bare ground and hard standing. The proposed development has the potential to lead to widespread habitat loss, with potential impacts on biodiversity. These habitats are suitable to support protected, notable and local priority species of fauna. Loss of habitats would result in a loss of suitable resting, foraging and breeding habitats and ultimately potential loss of these species. It is advised that valuable habitats are retained (habitats of principal importance as identified in the Natural Environment and Rural communities Act (Anon,2006). These include: rivers, ponds, arable field margins, hedgerows and lowland mixed deciduous woodland. This will ensure maximum connectivity across the site is maintained, allowing species to continue to move across the site and avoiding habitat fragmentation.

The non-native invasive species Cherry Laurel, Rhododendron and New Zealand Pigmyweed have been recorded in locations across the site. If works occur in the vicinity of these species there is a risk of spread which in the case of the latter two species would be in contravention of legislation (Appendix A).

### 4.3 Species

Protected and notable species are known to be present on site. These include: brown hairstreak, small heath, white admiral, small heath, chalk hill blue, great crested newt, slow-worm, grass snake and badger. There is the potential that other protected and notable species may also be present on site including invertebrate species, breeding birds, roosting bats, dormouse, otter, water vole, harvest mouse and other mammal species.

Subsequent to the Phase 1 Habitat survey, dedicated species surveys were undertaken. For the assessment of the presence / absence and value of the site to these species please see the relevant reports (Arcadis 2019a – j).

## 5 Recommendations for General Mitigation and Possible Enhancements

### 5.1 Consultation

It is considered that any loss/damage to a LWS would have significance in nature conservation terms and would therefore require a robust mitigation strategy to address any potential impacts. Any proposed development would need to be in accordance with local policy, in addition to national policy and legislation and therefore it is recommended that consultation with Crawley Borough Council is at an early stage to ensure that the development does not result in a net loss of biodiversity.

It is advised that further consultation with the Sussex Wildlife Trust and Sussex Badger Trust is undertaken to obtain additional records for otters within 5km of the site and badgers within 2km of the site.

### 5.2 General Mitigation

The recommendations outlined below have been provided to minimise the ecological effects of the proposed development and deliver a net gain in biodiversity as required by legislation and policy (Appendix A).

- All contractors should attend a tool box talk prior to construction works commencing on the site. The toolbox talk should cover the ecological constraints on site (e.g. presence of protected species), mitigation (including areas to be avoided / undisturbed) and action to be taken in the event of discovering a protected species during works.
- The loss of and impacts to LWS habitat is considered significant and mitigation will be required. It is unlikely that there is enough space on site to ensure there is no overall reduction in biodiversity and an area for off-site compensatory habitat creation will need to be identified early during the design process through consultation.
- Where possible valuable habitats including hedgerows, woodland, scrub, grassland, ponds and watercourses should be retained.
- Standard good site practices and pollution control measures should be implemented during construction works, as outlined in Control of Water Pollution from Construction Sites – Guidance for Consultants and Contractors (CIRIA, 2001) and Environmental Good Practice on Site (CIRIA, 2015) to ensure that watercourses, ponds and ditches are not adversely affected by dust, uncontrolled surface water run-off, inappropriate storage of materials and inappropriate refuelling of machinery.
- Works should be undertaken outside of all tree root protection zones (RPZ) and tree protective fencing as described in section 6.2 of British Standard 5837:2012 (BSI 2012) should be installed (distance of fencing from trunk = 12x trunk diameter and at least at maximum canopy/branch distance for hedgerows) prior to plant and machinery arriving on site and construction works commencing. The fencing should remain intact throughout the duration of the works and only be removed upon completion.
- The invasive species Cherry Laurel, Rhododendron and New Zealand Pigmyweed have been recorded within the site. This would need to be managed in accordance with current best practice guidelines and legislation to ensure that these species are not spread in the wild.

### 5.3 Possible Enhancements

All development proposals will be expected to incorporate features to encourage biodiversity where appropriate, and where possible enhance existing features of nature conservation value within and around the development.

To ensure the Local Wildlife Sites remain in good condition in the long-term and continue to provide a valuable habitat for local biodiversity, appropriate long-term management should be implemented to ensure maximum connectivity is maintained, allowing species to continue to move across the site and avoiding habitat fragmentation.

- Where possible valuable habitats including hedgerows, woodland, scrub, grassland, ponds and watercourses should be retained, enhanced and extended and long-term appropriate management of these habitats should be implemented. This will help to maintain habitat connectivity and provide a variation of habitat types with structured diverse ranges of vegetation types which will provide suitable refuge and a varied foraging resource for invertebrates, nesting birds, reptiles, amphibians and mammals. Any new planting should be native and attractive to wildlife with long term management of both retained

and new habitats secured to provide benefit to wildlife and take into account seasonal and legislative constraints. This will also provide a visually attractive landscape that will be attractive to residents and other stakeholders e.g. footpath users.

- Within the proposed areas of strategic open space designated cycle and pedestrian routes should be incorporated to alleviate pressure on existing LWS and areas to be used for ecological mitigation. This will allow the public to enjoy the open spaces but will limit impacts to biodiversity caused by, for example, disturbance and trampling.
- Green roofs and green walls could be incorporated into the design of new buildings (particularly those with flat roofs e.g. education/amenity buildings). This would help to recreate habitat lost as part of the proposed development works footprint by incorporating a variety of wildlife habitats within the roofs and walls, without impacting the masterplan overall layout.
- Where possible the provision of refuges, foraging resources and breeding and hibernation sites should be incorporated into the masterplan design. Cut/cleared vegetation from the working corridor could be used to create habitat piles within the retained habitat outside of the working corridor.
- The boundaries of development plots should allow for wildlife dispersal e.g. gaps in fences/walls for hedgehogs. Houses and other buildings should incorporate bird nesting and bat roosting features (e.g. integral nest boxes).
- As part of development, opportunities should be sought to create new habitats within the proposed development. This could include the installation of bat / bird boxes on retained trees and incorporating bird nesting and bat roosting features (e.g. integral nest boxes) into the design of buildings.

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**Figure 1: Phase 1 Habitat Survey Map**











