



ECOLOGYSOLUTIONS

Part of the ES Group

LAND BETWEEN VILLIERS ROAD
AND PENRHYN ROAD,
KNOWSLEY BUSINESS PARK

Ecological Assessment

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1. INTRODUCTION

1.1. Background and Proposals

- 1.1.1. Ecology Solutions was commissioned by Pembury Developments Limited in November 2021 to complete an Ecological Assessment of the land between Villiers Road and Penrhyn Road in Knowsley Business Park, Knowsley, Merseyside (see Plan ECO1).
- 1.1.2. The proposal for the site comprises the erection of a new building for Class E (industrial), B2 general industrial and B8 storage/distribution including ancillary offices, landscaping, yards, access points off Villiers Road, car parking, cycle parking and associated engineering works.

1.2. Site Characteristics

- 1.2.1. The site is bounded to the north and west by Penrhyn Road, and to the south by Villiers Road, and is centred within an existing industrial estate. Beyond this to the north lies the A580 and a continuation of the industrial site, to the south and west lies the M57 and residential properties, and to the east lies arable farmland.
- 1.2.2. The site is dominated by scrub with centrally placed patches of rough and rush dominated grassland. A line of planted semi-mature trees is present located alongside the western and southwestern boundaries. A small area of hardstanding is present towards the southern border and area of tarmac and scrap is present towards the centre of the site, connected by a track. Security fencing is present around the site perimeter.

1.3. Ecological Assessment

- 1.3.1. This document assesses the ecological interest of the site. The importance of the habitats within the site is evaluated with due consideration given to the guidance published by the Chartered Institute of Ecology and Environmental Management (CIEEM)¹.

¹CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Version 1.1 – Updated September 2019. Chartered Institute of Ecology and Environmental Management, Winchester.

2. SURVEY METHODOLOGY

- 2.1. The methodology utilised for the survey work can be split into three areas, namely desk study, habitat survey and faunal survey. These are discussed in more detail below.

2.2. Desk Study

- 2.2.1. In order to compile background information on the site and surrounding area Ecology Solutions contacted Merseyside BioBank Local Environmental Record Centre (MBBLERC).
- 2.2.2. Further information on designated sites from a wider search area was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC)² database. This information is reproduced at Appendix 1, and where appropriate on Plan ECO1.

2.3. Habitat Survey

- 2.3.1. The site was surveyed in January 2022 and based around Phase 1 survey methodology³, as recommended by Natural England, whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential that require further survey. Any such areas identified can then be examined in more detail.
- 2.3.2. Using the above method, the site was classified into areas of similar botanical community types, with a representative species list compiled for each habitat identified.
- 2.3.3. All the species that occur in each habitat would not necessarily be detectable during survey work carried out at any given time of the year, since different species are apparent at different seasons. The timing of the survey work undertaken was outside the optimum season for botanical surveys, however it is considered that a sufficient coverage of present species has been attained given the nature of the habitats present on site.

2.4. Faunal Survey

- 2.4.1. Obvious faunal activity, such as birds or mammals observed visually or by call during the course of the surveys, was recorded. Specific attention was paid to any potential use of the site by protected species, priority species or other notable species.
- 2.4.2. In addition to general observations of faunal activity, specific surveys were undertaken for Badger *Meles meles* and bats.

Badgers

² <http://www.magic.gov.uk>

³ Joint Nature Conservation Committee (2010). *Handbook for Phase 1 Habitat Survey – a Technique for Environmental Audit*. England Field Unit, Nature Conservancy Council, reprinted JNCC, Peterborough.

- 2.4.3. Specific surveys were undertaken to search for evidence of Badgers within the site in January 2022 and comprised two main elements. The first of these was a thorough search for evidence of Badger setts. For any setts that were encountered, each sett entrance was noted and plotted even if the entrance appeared disused. The following information was recorded:
- i) The number and location of well used or very active entrances; these are clear of any debris or vegetation and are obviously in regular use and may, or may not, have been excavated recently.
 - ii) The number and location of inactive entrances; these are not in regular use and have debris such as leaves and twigs in the entrance or have plants growing in or around the edge of the entrance.
 - iii) The number of and location disused entrances; these have not been in use for some time, are partly or completely blocked and cannot be used without considerable clearance. If the entrance has been disused for some time all that may be visible is a depression in the ground where the hole used to be and the remains of the spoil heap.
- 2.4.4. Secondly, Badger activity such as well-worn paths and run-throughs, snagged hair, footprints, latrines and foraging signs was recorded so as to build up a picture of the use of the site, if any, by Badgers.

Bats

- 2.4.5. The site was surveyed in January 2022 to assess its potential to support bats.
- 2.4.6. Trees within the site were assessed for their potential to support roosting bats. Features typically favoured by bats and evidence of past use by bats were searched for, including:
- Obvious holes, e.g. rot holes and old Woodpecker holes;
 - Dark staining on the tree, below the hole;
 - Tiny scratch marks around a hole from bats' claws;
 - Cavities, splits and / or loose bark from broken or fallen branches, lightning strikes etc.; and
 - Very dense covering of mature Ivy over trunk.
- 2.4.7. In addition, the site was assessed for its suitability for foraging and commuting bats.

3. ECOLOGICAL FEATURES

- 3.1. A habitat survey was undertaken at the site in January 2022.
- 3.2. The following main habitat / vegetation types were identified within the site during the surveys undertaken:

- Scrub;
- Rough grassland;
- Rush dominated grassland;
- Hardstanding and tarmacadam; and
- Trees.

- 3.3. The location of these habitats, which are described individually below, is shown on Plan ECO2.

3.4. Scrub

- 3.4.1. The site is dominated by scrub, with the most abundant species present being Alder *Alnus glutinosa* and Bramble *Rubus fruticosus*. Hard Rush *Juncus inflexus*, and Canadian Goldenrod *Solidago canadensis* are also locally abundant (see Photograph 1).
- 3.4.2. Frequently observed species include Silver Birch *Betula pendula*, Dogwood *Cornus sanguinea* and Cocksfoot *Dactylis glomerata*, with locally frequent areas of Common Reed *Phragmites australis*.
- 3.4.3. Occasionally seen within the scrub were Creeping Thistle *Cirsium arvense*, Rosebay Willowherb *Chamerion angustifolium*, Poplar *Populus* sp. saplings, Pine *Pinus* sp. and Cotoneaster *Cotoneaster* sp.
- 3.4.4. Dog Rose *Rosa canina*, Oak *Quercus robur*, Pendulous Sedge *Carex pendula*, Gorse *Ulex europaeus* and Evening Primrose *Oenothera biennis* were also recorded rarely.

3.5. Rough Grassland

- 3.5.1. Two separate sections of this habitat are present on site; a larger section located towards the centre-east of the site, and smaller one located towards the centre-west of the site. Cocksfoot is the dominant species alongside abundant False Oat-grass *Arrhenatherum elatius* (see Photograph 2).
- 3.5.2. Creeping Bent *Agrostis stolonifera* was frequently observed, as was locally frequent areas of Common Spotted-orchid *Dactylorhiza fuchsia*. The occasional presence of Ribwort Plantain *Plantago lanceolata*, Mugwort *Artemisia vulgaris*, Yorkshire Fog *Holcus lanatus*, Daisy *Bellis perennis*, Tufted Vetch *Vicia cracca*, Common Fleabane *Pulicaria dysenterica*, Common Mouse-ear *Cerastium fontanum*, Smooth Cat's-ear *Hypochaeris glabra*, Selfheal *Prunella vulgaris* and Broad-leaved Dock *Rumex obtusifolius* were also noted.
- 3.5.3. Rare occurrences of Creeping Cinquefoil *Potentilla reptans*, Round-leaved Cranesbill *Geranium rotundifolium* and Colts-foot *Tussilago farfara* were also present.

3.6. Rush Dominated Grassland

- 3.6.1. A single small area of this habitat is present towards the centre of the site. Hard Rush and Mosses *Bryophyta* are abundant in this habitat with frequent observations of Cocksfoot, Creeping Thistle, and Common Fleabane *Pulicaria dysenterica* and rare observations of Rosebay Willowherb.

3.7. Hardstanding and Tarmacadam

- 3.7.1. A small area of hardstanding is present by the southern border. This turns into a track intersecting the site heading north towards the centre of the site where a mound of broken tarmacadam and scrap, as well as a small area of standing water is present (see Photographs 3, 4 and 5).

3.8. Trees

- 3.8.1. A number of semi-mature Poplar, Silver Birch, Cherry *Prunus avium* and Pine *Pinus* sp. trees are present along the western and southwestern boundaries (see Photograph 6).

3.9. Background records

- 3.9.1. Fourteen records were returned for Bluebell *Hyacinthoides non-scripta*, a species listed under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). The closest and most recent of these related to a woodland 0.7km south of the site in 2021.
- 3.9.2. A further two species: Cornflower *Centaurea cyanus* and Marsh Stitchwort *Stellaria palustris*, listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006, were returned approximately 0.9km southeast of the site in 2021, and approximately 1.2km southwest of the site in 2017 respectively.
- 3.9.3. The desk study suggests that the site contains a small amount of deciduous woodland, a priority habitat, along the southern boundary. This is not considered to be the case, with the tree belt recorded likely being part of a previously landscaping proposal and is unlikely to meet the classification of deciduous woodland.

4. WILDLIFE USE OF SITE

- 4.1. General observations were made during the surveys of any faunal use of the site and wider study area with specific attention paid to the potential presence of protected species. To date initial surveys have been completed with regard to Badgers and bats.

4.2. Badgers

- 4.2.1. No sign of Badger was recorded during the course of the site survey. The site may provide potential foraging and dispersal opportunities for any locally present Badger social group, however due to the site's location within an existing industrial estate this is unlikely. No further surveys or mitigation is considered necessary for this species.

Background Records

- 4.2.2. No records for Badger were returned by the data search.

4.3. Bats

- 4.3.1. The site is devoid of any roosting opportunities for any locally present bat population. None of the trees are of an age or size that support Potential Roost Features (PRFs).

- 4.3.2. The areas of scrub and trees do provide suitable foraging and dispersal grounds for locally present bat species, albeit with the wider countryside towards the east of the industrial estate offering far richer opportunities. It is likely that the immediate surroundings of the site are well lit at night, having potential detrimental effects on the local bat activity and detracting the site's use by this group.

Background Records

- 4.3.3. The data search returned four records for Common Pipistrelle *Pipistrellus pipistrellus*. The closest record relates to a location approximately 0.7km southeast of the site from 2016, and the most recent record relates to a location approximately 0.9km southeast of the site from 2020.

- 4.3.4. Three records were returned for Soprano Pipistrelle *Pipistrellus pygmaeus* by the data search. The most recent of these relates to a location approximately 0.9km southeast of the site from 2021, while the closest relates to a location approximately 0.4km south of the site from 2016.

- 4.3.5. A further four records were returned for Pipistrelle *Pipistrellus* sp. by the data search. The most recent record dates from 2021 and relates to a location within a 10km grid square approximately 2.4km southwest of the site, and the closest record relates to a 1km grid square located approximately 0.7km southeast of the site from 2013.

- 4.3.6. A single record from 2017 was returned for Noctule Bat *Nyctalus noctule*, seen foraging approximately 0.4km northwest of the site.

- 4.3.7. A single record for a foraging Daubenton's Bat *Myotis daubentonii*, was returned by the data search and relates to a location approximately 0.3km north of the site from 2017.
- 4.3.8. Two records for an unidentified bat species were also returned in the data search. These were both observed foraging approximately 0.7km north of the site and date from 2017.
- 4.3.9. No granted Natural England European Protected Species (EPS) licence applications for bats are present within a 2km radius of the site. The closest relates to the destruction of a resting site for Common Pipistrelle in 2010 approximately 2.6km west of the site.

4.4. Other Mammals

- 4.4.1. No mammal species, or evidence of mammal species such as tracks, droppings or footprints, were noted over the course of the survey in 2022.
- 4.4.2. No evidence of Hedgehog *Erinaceus europaeus* was observed on site however, the site does contain suitable scrub and grassland habitat that may offer foraging, dispersal and hibernation opportunities. While the site is surrounded within an industrial estate, it can not be ruled out that this species would not utilise the site for to some degree.
- 4.4.3. It is considered that other small common mammal species could make use of vegetation within the site. None of the small mammals are likely to be notable or species of conservation concern given the site location and local records.

Background Records

- 4.4.4. A single record was returned for Water Vole *Arvicole amphibius* by the data search within the last ten years. This record relates to a location beyond the M57 approximately 1.7km southwest of the site and dates from 2015.
- 4.4.5. Twelve records for Hedgehog were returned by the data search. The closest record relates to a location within a 10km grid square approximately 0.5km south of the site and dates from 2013. The most recent record dates from 2021 and relates to a location in a 1km grid square approximately 0.6km southwest of the site.
- 4.4.6. A single record for Red Squirrel *Sciurus vulgaris* was returned. This record relates to a location approximately 0.8km southeast of the site from 2017.
- 4.4.7. No records for Brown Hare *Lepus europaeus* were returned within the last ten years by the data search. The most recent record returned dates from 2007 and relates to a location within a 1km grid square approximately 0.7km northeast of the site.
- 4.4.8. No further records for any protected mammal species were returned by the data search, Although Knowsley Brook Local Wildlife Site (LWS), located only 180 metres west of the site is designated due to its presence of breeding Water Voles. Considering the intervening industrial habitat, and lack of suitable habitat for Water Voles on site, there are negligible opportunities present for this species.

4.5. **Birds**

- 4.5.1. The areas of scrub and trees within the site are considered to offer foraging, dispersal, and nesting opportunities for bird species with a number of common bird species were identified by sight or call during the survey work. These include Black-headed Gull *Chroicocephalus ridibundus* flying over, suspected Jack Snipe *Lymanocryptes minimus*, Wood Pigeon *Columba palumbus*, Dunnock *Prunella modularis* and Great Tit *Parus major*.

Background Records

- 4.5.2. No recent records of any bird species protected under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), or Section 41 of the NERC Act 2006 were returned by the data search within the last ten years.

4.6. **Reptiles**

- 4.6.1. The presence and extent of rough grassland on site is considered to offer potential opportunities to maintain a viable reptile population despite its relative isolation from suitable habitat in the wider landscape. Additionally, the pile of tarmac and scrap adjacent to the western section of this grassland may act as an artificial hibernaculum, and the trees and scrub present on site provide potential hibernation opportunities via their root systems.

Background Records

- 4.6.2. No records were returned by the data search for any protected reptile species within the last ten years.

4.7. **Amphibians (Great Crested Newt)**

- 4.7.1. There are no waterbodies on site considered to be suitable for Great Crested Newts *Triturus cristatus*. On review of aerial imagery and maps there would also appear to be an absence of any suitable waterbodies within 500m of the site that are not separated by a dispersal barrier, such as the A580.

- 4.7.2. The habitats within the site offer some suitable habitat for Great Crested Newts, superficially at least, during their terrestrial phase, however it is considered unlikely that any use of the site by this species occurs given the considerations above. No further surveys or mitigation is necessary for this group.

Background Records

- 4.7.3. A single Great Crested Newt was returned by the data search within the last 10 years. This record relates to a location within Acornfield Plantation Local Nature Reserve (LNR) and LWS approximately 1.3km north of the site and dates from 2014.

- 4.7.4. Six records of Common Toad *Bufo bufo* were returned by the data search. The closest and most recent record relates to a location beyond the M57 approximately 1.3km southwest of the site and dates from 2021.

- 4.7.5. Twenty records were returned for Common Frog *Rana temporaria*. The closest record relates to a location within a 10km grid square approximately 0.4km north of the site, beyond the A580, and dates from 2015. The most recent record dates from 2021 and relates to a location approximately 0.9km southeast of the site.
- 4.7.6. Four records were returned for Smooth Newt *Lissotriton vulgaris*. The closest and most recent record relates to a location approximately 0.3km north of the site, and the A580, and dates from 2017.
- 4.7.7. The closest Great Crested Newt survey licence to the site dates from 2016 and relates to a location approximately 4.1km southeast of the site. Great Crested Newts were confirmed to be present. The closest granted Natural England EPS licence for Great Crested Newts is from 2017 and relates to damaging and destroying a resting place approximately 4.7km southeast of the site.

4.8. Invertebrates

- 4.8.1. Given the habitats found on the site, it is expected that there would be a limited assemblage of common invertebrate present, although there is no reason to suspect the likely presence of any scarce or notable invertebrate species.

Background Records

- 4.8.2. A single record of a White-letter Hairstreak Butterfly *Satyrrium w-album*, protected under Schedule 5 of the Wildlife and countryside act 1981 (as amended) was returned by the data search. This record relates to a location within a 10km grid square approximately 2.4km southwest of the site from 2017.
- 4.8.3. The data search returned no further protected invertebrate species recorded within the last ten years.

5. ECOLOGICAL EVALUATION

5.1. The Principles of Ecological Evaluation

- 5.1.1. The guidelines for ecological evaluation produced by CIEEM⁴ propose an approach that involves professional judgement, but makes use of available guidance and information, such as the distribution and status of the species or features within the locality of the project.
- 5.1.2. The methods and standards for site evaluation within the British Isles have remained those defined by Ratcliffe⁵. These are broadly used across the United Kingdom to rank sites so priorities for nature conservation can be attained. For example, current Sites of Special Scientific Interest (SSSI) designation maintains a system of data analysis that is roughly tested against Ratcliffe's criteria.
- 5.1.3. In general terms, these criteria are size, diversity, naturalness, rarity and fragility, while additional secondary criteria of typicality, potential value, intrinsic appeal, recorded history and the position within the ecological / geographical units are also incorporated into the ranking procedure.
- 5.1.4. Any assessment should not judge sites in isolation from others, since several habitats may combine to make it worthy of importance to nature conservation.
- 5.1.5. Further, relying on the national criteria would undoubtedly distort the local variation in assessment and therefore additional factors need to be taken into account, e.g. a woodland type with a comparatively poor species diversity, common in the south of England, may be of importance at its northern limits, say in the border country.
- 5.1.6. In addition, habitats and species of local importance are often highlighted within a local Biodiversity Action Plan (BAP). The North Merseyside BAP highlights a number of priority habitats and species. Where these occur within the site they are highlighted.
- 5.1.7. Levels of importance can be determined within a defined geographical context from the immediate site or locality through to the international level.
- 5.1.8. The legislative and planning policy context are also important considerations and have been given due regard throughout this assessment.

5.2. Habitat Evaluation

Designated Sites

- 5.2.1. **Statutory Designations.** There are no statutory designated sites of nature conservation interest within or immediately adjacent to the site (see Plan ECO1).

⁴ CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal*. Chartered Institute of Ecology and Environmental Management, Winchester.

⁵ Ratcliffe, D A (1977). *A Nature Conservation Review*. Two Volumes. Cambridge University Press, Cambridge.

- 5.2.2. The closest LNR is Acornfield Plantation LNR, which lies approximately 1.1km northeast of the site. This LNR consists of mature broadleaf woodland, unimproved acid and neutral grassland, a pond and stream, and a valley and basin mire. Breeding Water Voles, as well as one regionally important and forty-six locally rare plant species, are also present.
- 5.2.3. Croxteth Park LNR, located approximately 1.4km southwest of the site, contains deciduous woodland, rough grassland, pasture, multiple ponds, and supports a good assemblage of bird and insect species.
- 5.2.4. The closest SSSI is Stanley Bank Meadow SSSI. This designated site is located approximately 10km east of the site and is designated for its wet neutral lowland grassland, a locally rare habitat in Merseyside.
- 5.2.5. **Non-statutory Designations.** There are no non-statutory designated sites within or immediately adjacent to the site. Knowsley Brook LWS is the closest such site and is located approximately 180 metres west of the site; designated due to its presence of breeding Water Voles.
- 5.2.6. It is considered that the above statutory and non-statutory designated sites are sufficiently removed from the site as to be unaffected. Nonetheless in line with best practice it is advised any development works adhere to current guidelines to reduce potential construction environmental effects (dust, surface run-off, noise and lighting).

Habitats

- 5.2.7. The habitats within the site consist of common and widespread species; however, they are of interest, largely due to the opportunities they offer wildlife rather than any intrinsic value.
- 5.2.8. As detailed above, the grassland located centrally within the site potentially has value to wildlife due to its suitability for common reptile species, and it is understood that this habitat is to be removed to allow for the new construction.
- 5.2.9. The treeline along the western and southwestern boundaries is also relatively valuable, primarily due to the opportunities it may offer bat and bird species. The landscaping proposals of the site should seek to retain, strengthen and enhance the value of this habitat with additional planting of native tree and shrub species, where possible.
- 5.2.10. Additional landscaping across the development should also aim to improve the overall biodiversity of the site through an ecologically led landscaping scheme, focussed on utilising native species of known value for wildlife.

5.3. Faunal Evaluation

Bats

- 5.3.1. **Legislation.** All bats are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and included on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations"). These include provisions making it an offence to:

- Deliberately kill, injure or take (capture) bats;
 - Deliberately disturb bats in such a way as to:-
 - (i) be likely to impair their ability to survive, to breed or rear or nurture their young; or to hibernate or migrate; or
 - (ii) affect significantly the local distribution or abundance of the species to which they belong;
 - Damage or destroy any breeding or resting place used by bats;
 - Intentionally or recklessly to obstruct access to any place used by bats for shelter or protection (even if bats are not in residence).
- 5.3.2. The words deliberately and intentionally include actions where a court can infer that the defendant knew that the action taken would almost inevitably result in an offence, even if that was not the primary purpose of the act.
- 5.3.3. The offence of damaging (making worse for the bat) or destroying a breeding site or resting place is an absolute offence. Such actions do not have to be deliberate for an offence to be committed.
- 5.3.4. In accordance with the Habitats Regulations the licensing authority (Natural England) must apply the three derogation tests as part of the process of considering a licence application. These tests are that:
1. The activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety;
 2. There must be no satisfactory alternative; and
 3. The favourable conservation status of the species concerned must be maintained.
- 5.3.5. Licences can usually only be granted if the development is in receipt of full planning permission.
- 5.3.6. **Site Usage.** The site is devoid of any suitable roosting opportunities for bats, however, the tree and scrub habitats do provide suitable foraging and dispersal grounds for any locally present bat species, albeit likely lowered given the site's immediate surroundings.
- 5.3.7. **Mitigation / Enhancements.** In keeping with good design principles, it is advised that any new artificial lighting be designed to prevent significant increases in light spill on retained and new boundary landscaping, where possible to do so.
- 5.3.8. Landscape proposals should seek to retain and bolster existing linear features for bats. New native tree, shrub and hedgerow planting along the boundary would also offer new opportunities for foraging bats, while seeding of new wildflower grassland beneath retained trees could improve the invertebrate interest on site and increase potential foraging opportunities for this group.
- 5.3.9. Additional enhancements could be providing with the installation of bat boxes on suitable retained trees (see Appendix 2).

Hedgehogs

- 5.3.10. **Legislation.** Hedgehogs are not a protected species, but they are a priority species under Section 41 of the NERC Act 2006.
- 5.3.11. The NERC Act 2006 requires the Secretary of State to:
- ...take such steps as appear...to be reasonably practicable to further the conservation of the living organisms and types of habitat included in any list published under this section, or...promote the taking by others of such steps.**
- 5.3.12. **Site Usage.** Hedgehogs were not recorded during survey work. The site however contains suitable grassland and scrub habitats for foraging, dispersing and hibernating hedgehogs.
- 5.3.13. **Mitigation / Enhancements.** As a precautionary measure, any clearance of log piles or other Hedgehog shelter features will be subject to inspection to ensure that Hedgehogs are absent. In the event that an individual is encountered, it will be carefully placed in an appropriate lidded box and immediately removed to an area of suitable habitat at the margins of the site away from working areas.
- 5.3.14. Any trenches or deep pits associated with construction that are to be left open overnight should be provided with a means of escape in case a Hedgehog enters. This is particularly important if the trench fills with water. This should take the form of a roughened plank of wood placed in the trench as a ramp to the surface.
- 5.3.15. The inclusion of new native shrub and grassland on the site boundaries would offer foraging and dispersal opportunities for this species helping to offset the loss of the existing shrub and grassland.

Birds

- 5.3.16. **Legislation.** Section 1 of the Wildlife and Countryside Act 1981 (as amended) is concerned with the protection of wild birds, whilst Schedule 1 lists species that are protected by special penalties. All species of wild birds receive general protection whilst nesting.
- 5.3.17. **Site Usage.** An assemblage of common bird species was recorded during the course of the habitat survey, and the trees and scrub offer suitable nesting and foraging opportunities for birds.
- 5.3.18. **Mitigation / Enhancements.** As a precautionary measure it would be recommended that clearance of any suitable nesting habitat be undertaken outside the bird nesting season (March to July inclusive) to avoid any potential offence. Should the above timing constraints conflict with any timetabled works, it would be recommended that works commence only after a suitably qualified ecologist has undertaken checks to ensure no nesting birds are present, and any confirmed nests left in situ until the young have fledged.
- 5.3.19. The inclusion of new native tree and shrub planting undertaken as part of any proposed scheme may offer replacement and new foraging and nesting opportunities for birds. The planting of berry / fruit-bearing species would

also provide enhanced foraging opportunities. Additionally, positioning bird boxes on retained trees will further increase nesting potential post development (see Appendix 3).

Reptiles

- 5.3.20. **Legislation.** Rare, endangered or declining species receive full protection under the Wildlife & Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2017, equivalent to bats as set out above. Species that are fully protected are Smooth Snake *Coronella austriaca* and Sand Lizard *Lacerta agilis*.
- 5.3.21. Owing to their abundance in Britain, Common Lizard *Zootoca vivipara*, Slow Worm *Anguis fragilis*, Grass Snake *Natrix Helvetica* and Adder *Vipera berus* are only 'partially protected' under the Wildlife & Countryside Act and as such only receive protection from:
- Intentional killing and injuring; and
 - Being sold or other forms of trading.
- 5.3.22. The habitat of common reptiles is therefore not directly protected. However, because of their partial protection, disturbing or destroying their habitat while they are present may lead to an offence.
- 5.3.23. All reptile species are listed as a Species of Principal Importance under Section 41 of the NERC Act 2006. The NERC Act places responsibility upon public bodies to have regard for the conservation of biodiversity in England.
- 5.3.24. **Site Usage.** The rough grassland provides sufficient suitable habitat for foraging reptile species, and the trees, scrub, and pile of tarmac and scrap present on site offer hibernation opportunities. It is therefore considered plausible that reptile species may be present on the site.
- 5.3.25. **Mitigation / Enhancements.** The grassland on site offers suitable habitat for common reptile species, and subsequently it is considered that reptile presence / absence surveys are required. This will consist of a total of seven presence / absence surveys between the months of April and September inclusive. The results of the surveys would inform any required mitigation strategy and enhancements going forward.

Invertebrates

- 5.3.26. **Site Use.** Given the habitats present it is likely an assemblage of common invertebrate species is present throughout the site.
- 5.3.27. **Mitigation / Enhancements.** No specific mitigation is required. New areas of wildflower planting utilising a diverse selection of native species of known importance to wildlife would both elevate the site's floristic diversity and provide significant gains for entomology across the created habitats.
- 5.3.28. Where it is necessary to remove any trees or as part of future management works, wood removed should be retained as wood piles in discrete locations to offer a resource for saproxylic species.

6. PLANNING POLICY CONTEXT

- 6.1. Planning policy for development at the site is administrated at two levels, nationally through the National Planning Policy Framework (NPPF) and locally through the policies of Knowsley Council.

6.2. National Policy

National Planning Policy Framework (July 2021)

- 6.2.1. Guidance on national policy for biodiversity and geological conservation is provided by the National Planning Policy Framework (NPPF), published in March 2012, revised on 24 July 2018, 19 February 2019 and again on 20 July 2021. It is noted that the NPPF continues to refer to further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system provided by Circular 06/05 (DEFRA / ODPM, 2005) accompanying the now-defunct Planning Policy Statement 9 (PPS9).
- 6.2.2. The key element of the NPPF is that there should be *“a presumption in favour of sustainable development”* (paragraphs 10 to 11). It is important to note that this presumption *“does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site”* (paragraph 182). ‘Habitats site’ has the same meaning as the term ‘European site’ as used in the Habitats Regulations 2017.
- 6.2.3. Hence, the direction of Government policy is clear. That is, the presumption in favour of sustainable development is to apply in circumstances where there is potential for an effect on a European site, if it has been shown that there will be no adverse effect on that designated site as a result of the development in prospect.
- 6.2.4. A number of policies in the NPPF are comparable to those in PPS9, including reference to minimisation of impacts to biodiversity and provision of net gains to biodiversity where possible (paragraph 174).
- 6.2.5. The NPPF also considers the strategic approach that Local Authorities should adopt with regard to the protection, maintenance and enhancement of green infrastructure, priority habitats and ecological networks, and the recovery of priority species.
- 6.2.6. Paragraphs 179 to 181 of the NPPF comprise a number of principles that Local Authorities should apply, including encouraging opportunities to incorporate biodiversity in and around developments; provision for refusal of planning applications if significant harm cannot be avoided, mitigated or compensated for; applying the protection given to European sites to potential Special Protected Areas (SPA), possible Special Areas of Conservation (SAC), listed or proposed Ramsar sites and sites identified (or required) as compensatory measures for adverse effects on European sites; and the provision for the refusal for developments resulting in the loss or deterioration of ‘irreplaceable’ habitats – unless there are ‘wholly exceptional reasons’ (for instance, infrastructure projects where the public

benefit would clearly outweigh the loss or deterioration of habitat) and a suitable compensation strategy exists.

- 6.2.7. National policy therefore implicitly recognises the importance of biodiversity and that with sensitive planning and design, development and conservation of the natural heritage can co-exist and benefits can, in certain circumstances, be obtained.

6.3. Local Policy

Knowsley Local Plan Core Strategy (Adopted January 2016)

- 6.3.1. Knowsley Council adopted the Local Plan Core Strategy in 2016. This sets out the objectives and policies that will guide future developments within Knowsley up until 2028.

- 6.3.2. The Knowsley Replacement Unitary Development Plan (UDP), a transitional document adopted in 2006, does not contain any further policies relating to ecology with these already having been incorporated into the above-mentioned Local Plan Core Strategy.

- 6.3.3. Pertinent policies for nature conservation within Knowsley Local Plan Core Strategy are listed below.

- 6.3.4. **Policy CS8 Green Infrastructure** concerns ensuring Knowsley's existing green infrastructure is protected, maintained and enhanced in order to:

Sustain and promote biodiversity (including designated sites, priority habitats and protected and endangered species) in accordance with importance and contribution to ecological landscapes.

- 6.3.5. To achieve this the effective movement of wildlife through green links such as open spaces, watercourses, and biodiversity assets will be promoted and biodiversity will be protected, enhanced, or introduced into these existing areas of green infrastructure through development integration.

- 6.3.6. New developments are required to meet the needs of the local environment and must:

Seek to protect, maintain and where possible enhance biodiversity within and around new developments according to their designation and significance to provide space for nature; and

Provide adequate mitigation and / or, as a last resort, compensation for green infrastructure or biodiversity loss, in circumstances where harm resulting from the development is otherwise unavoidable.

- 6.3.7. **Policy CS21 Greenspaces and Trees** seeks to support Policy CS8 and states that new developments resulting in the loss of urban greenspace will not be permitted unless at least one of the following criteria are met:

A surplus of provision for all types of greenspace would be maintained relative to local standards;

The land is considered unsuitable in terms of size, location or character to prevent or address individual deficiencies or different types of greenspace relative to local standards;

Appropriate mitigation is provided through replacement facilities of at least an equal quantity, quality, and accessibility...

- 6.3.8. If the benefits of the proposal fail to outweigh the value of urban greenspace lost (including existing biodiversity and environmental benefits) then the development will be resisted.
- 6.3.9. Furthermore, Knowsley Council encourages proposals that incorporate the retention of existing trees, woodland, and vegetation that contribute beneficially towards the local environment in regards to its biodiversity and wildlife interest.
- 6.3.10. The planting of new trees, soft landscaping, and installing habitat features that benefit biodiversity are also desirable. Additionally, it is encouraged that when unavoidable, lost trees are replaced with an additional two trees for every tree lost, taking into account the species and size of the tree.

6.4. Discussion

- 6.4.1. The development proposals for the site would be judged against the policies summarised above. The potential for protected species to be present has been identified, with further surveys required to be undertaken to establish the presence / absence of reptile species on site. Beyond this, it is considered that following the mitigation measures set out in this report the proposed development has the capacity to accord fully with national and local policy and avoid any significant impacts on nearby designated sites for nature conservation.

7. SUMMARY AND CONCLUSIONS

- 7.1. Ecology Solutions was commissioned by Pembury Developments Limited in November 2021 to complete an Ecological Assessment of the land between Villiers Road and Penrhyn Road in Knowsley Business Park, Knowsley, Merseyside.
- 7.2. The proposal for the site comprises the erection of a new building for Class E (industrial), B2 general industrial and B8 storage/distribution including ancillary offices, landscaping, yards, access points off Villiers Road, car parking, cycle parking and associated engineering works.
- 7.3. The site was subject to an extended Phase 1 habitat survey in January 2022 and comprises primarily of scrub, with centralised areas of rough and rush dominated grassland, and a treeline located along the western and southwestern boundary. Small amounts of hardstanding, tarmac, standing water and a track are also present, and the site is bound by security fencing. The site is located within an existing industrial estate and bounded to the north and west by Penrhyn Road, and to the south by Villiers Road.
- 7.4. **Statutory Sites.** There are no statutory designated sites of nature conservation interest within or immediately adjacent to the site. The closest LNR is Acornfield Plantation, which lies approximately 1.1km northeast of the site.
- 7.5. The closest SSSI is Stanley Bank Meadow located approximately 10km east of the site designated for its wet neutral lowland grassland, a locally rare habitat in Merseyside.
- 7.6. **Non-statutory Sites.** There are no non-statutory designated sites within or immediately adjacent to the site. Knowsley Brook LWS is the closest such site and is located approximately 180 metres west of the site; designated due to its presence of breeding Water Voles.
- 7.7. Given the intervening land use and spatial separation there is not likely to be any direct adverse effect as a result of the proposed development on the locally present statutory and non-statutory designated sites.
- 7.8. **Habitats.** The habitats within the site consist of common and widespread species with limited intrinsic value; however, they are of interest due to the opportunities they present towards wildlife. It is understood the grassland located centrally within the site, which currently potentially offers the most wildlife value due to its suitability for common reptile species is to be removed to allow for the new construction. The treeline by the western and southwestern borders is also relatively valuable, primarily due to the opportunities it may offer bat and bird species and landscaping proposals of the site should seek to retain, strengthen and enhance the value of this habitat with additional planting of native tree and shrub species, where possible.
- 7.9. The development should seek to improve the overall biodiversity of the site through an ecologically led landscaping scheme, focussed on utilising native species of known value for wildlife.
- 7.10. **Badgers.** No Badger activity has been recorded within or immediately adjacent to the site during survey work. Badgers may possibly utilise the site for foraging and dispersal, although due to the urban positioning of the site this is considered

unlikely. As such, no further surveys or mitigation is considered necessary for this species.

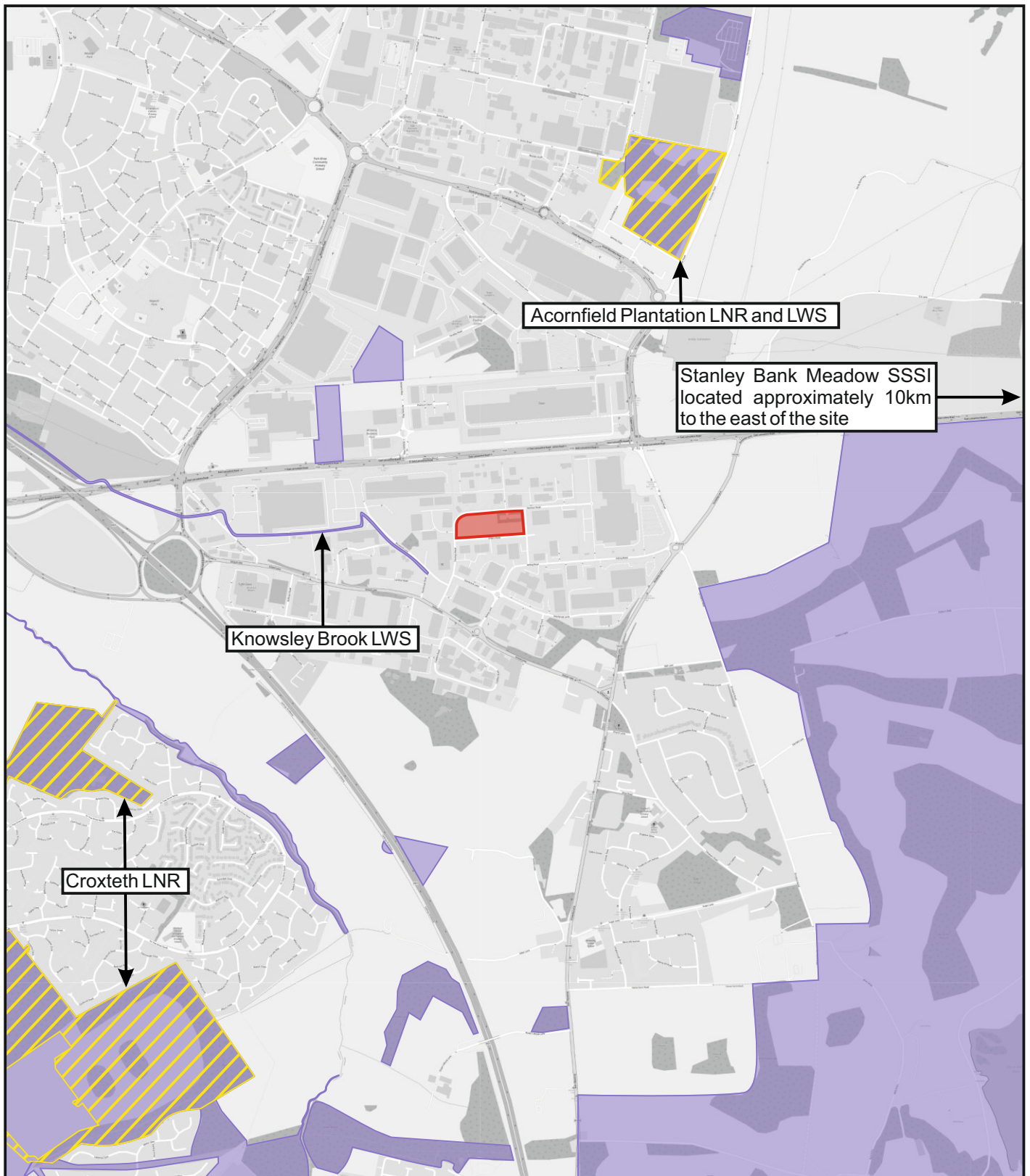
- 7.11. **Bats.** The site is devoid of any roosting opportunities for bats, although the trees and scrub do provide suitable foraging and dispersal grounds for locally present bat species, albeit likely lowered given the surroundings.
- 7.12. It is advised that any new artificial lighting be designed to prevent significant increases in light spill on retained and new boundary landscaping, and landscape proposals should seek to retain and bolster existing linear features for bats. New native tree, shrub and hedgerow planting along the boundary would offer new opportunities for foraging bats, while seeding of new wildflower grassland could improve the invertebrate interest on site and increase potential foraging opportunities for this group. The installation of bat boxes on suitable retained trees would also offer further enhancements to the site.
- 7.13. **Hedgehogs.** Hedgehogs were not recorded during survey work. The site contains suitable shrub and grassland habitat for foraging, dispersing and hibernating Hedgehogs. which can be maintained post development through the planting of native shrub and grassland species around the site boundary.
- 7.14. As a precautionary measure, any clearance of dense scrub should be subject to inspection to ensure that Hedgehogs are absent. Mitigation should be undertaken across the construction phase to ensure that no entrapment occurs for this species and other small mammals.
- 7.15. The retention and enhancement of boundary vegetation will ensure that opportunities for this group are retained post-development.
- 7.16. **Birds.** A limited assemblage of common bird species was recorded during the course of the habitat survey with the trees and scrub offer suitable nesting and foraging opportunities for birds. This may be enhanced by the positioning of bird boxes on retained trees to increase nesting opportunities, and the planting of additional native tree and shrub species, particularly berry / fruit bearing species, around the site boundary.
- 7.17. As a precautionary measure it would be recommended that clearance of any suitable nesting habitat be undertaken outside the bird nesting season (March to July inclusive) to avoid any potential offence. Should the above timing constraints conflict with any timetabled works, it would be recommended that works commence only after a suitably qualified ecologist has undertaken checks to ensure no nesting birds are present, and any confirmed nests left in situ until the young have fledged.
- 7.18. **Reptiles.** The rough grassland offers suitable habitat for reptile species, and the scrub, and pile of tarmac and scrap piles present on site offer hibernation opportunities. As such, it is considered that presence / absence reptile surveys are required to determine whether reptiles are present. This will consist of a total of seven presence / absence surveys between the months of April and September inclusive. The proceeding mitigation and enhancements required would depend upon the results of this survey.
- 7.19. Post development it is considered that the site will provide negligible opportunities for reptile species.

- 7.20. **Amphibians.** No waterbodies suitable for Great Crested Newts or other amphibian species were recorded on site. Also, upon reviewing aerial photography there would appear to be an absence of any suitable waterbodies within 500m of the site boundary not separated from the site from infrastructure. The habitats within the site do offer some suitable habitat for Great Crested Newts, superficially at least, during their terrestrial phase, however it is considered unlikely that any use of the site by this species occurs therefore no further additional surveys or mitigation for this species are warranted.
- 7.21. **Invertebrates.** Given the habitats present it is likely a limited assemblage of common invertebrate species would be present. New areas of wildflower planting using native nectar rich species would provide an enhancement for invertebrate species post development. Where it is necessary to remove any trees including future management, wood removed should be retained as wood piles in discrete locations to offer a resource for saproxylic species.
- 7.22. In conclusion, survey work undertaken to date has identified that the site is of relatively low ecological value, however some suitability for protected species has been highlighted with mitigation and enhancements set out within this report to safeguard the identified ecological receptors. Further survey work is recommended in respect of reptile in order to determine the potential impacts of the proposed development and to devise mitigation strategies as appropriate. With appropriate mitigation it is considered that the development of the site would fully accord with current legislation and local and national policy.

PLANS

PLAN ECO1

Site Location and Ecological Designations



KEY:

-  SITE LOCATION
-  LOCAL NATURE RESERVE (LNR)
-  LOCAL WILDLIFE SITE (LWS)



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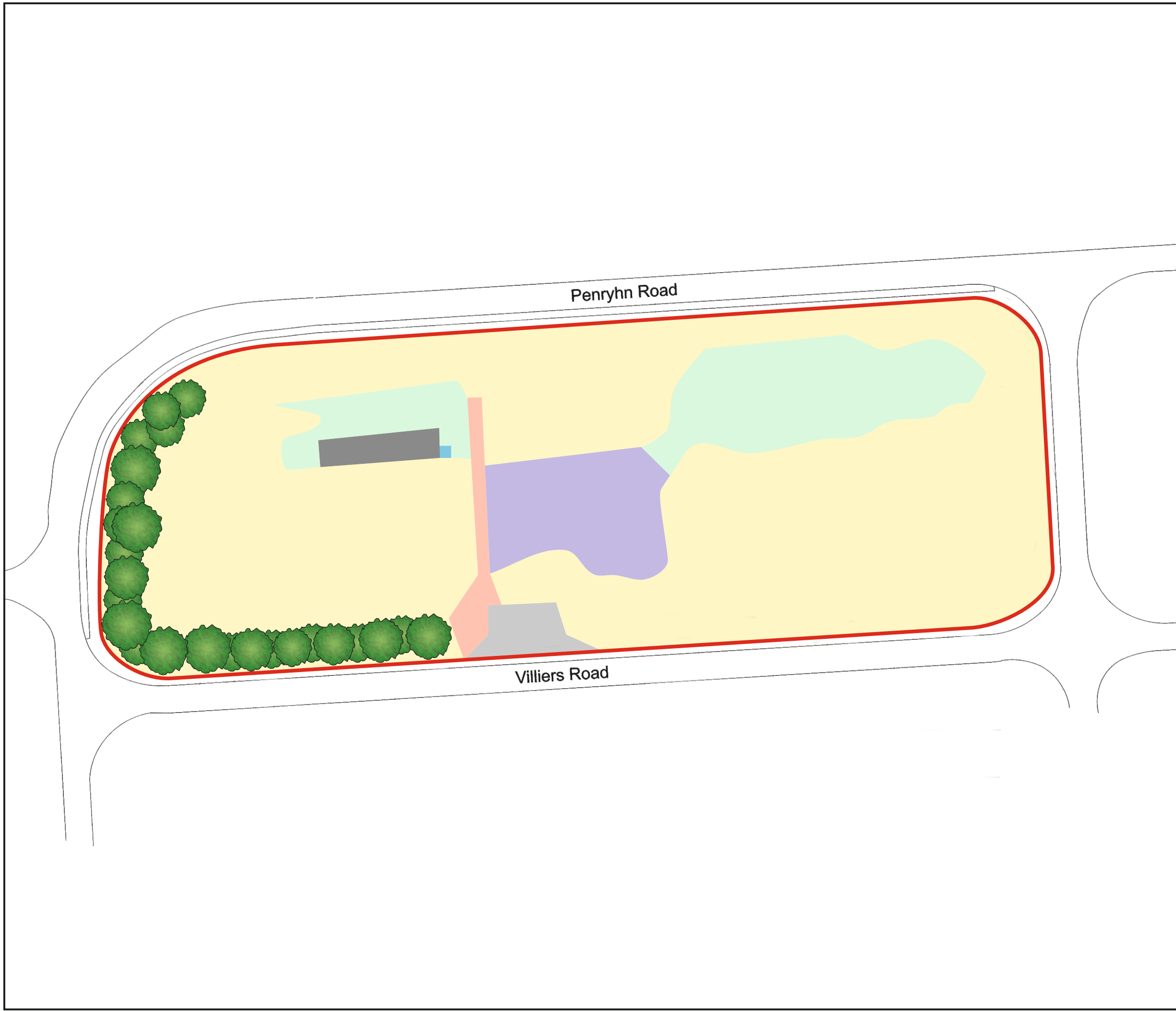
**10337: LAND BETWEEN VILLIERS ROAD
AND PENRHYN ROAD,
KNOWSLEY BUSINESS PARK**

**PLAN ECO1: SITE LOCATION AND
ECOLOGICAL DESIGNATIONS**

Rev: A
Feb 2022

PLAN ECO2

Ecological Features



KEY:

-  SITE BOUNDARY
-  ROUGH GRASSLAND
-  RUSH DOMINATED GRASSLAND
-  SCRUB
-  TRACK
-  HARDSTANDING
-  TARMACADAM
-  STANDING WATER
-  TREE



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KNOWSLEY BUSINESS PARK

PLAN ECO2:
ECOLOGICAL FEATURES

Rev: A
Feb 2022

PHOTOGRAPHS

PHOTOGRAPH 1: Scrub



PHOTOGRAPH 2: Rough grassland



PHOTOGRAPH 3: Tarmacadam



PHOTOGRAPH 4: Track



PHOTOGRAPH 5: Standing Water



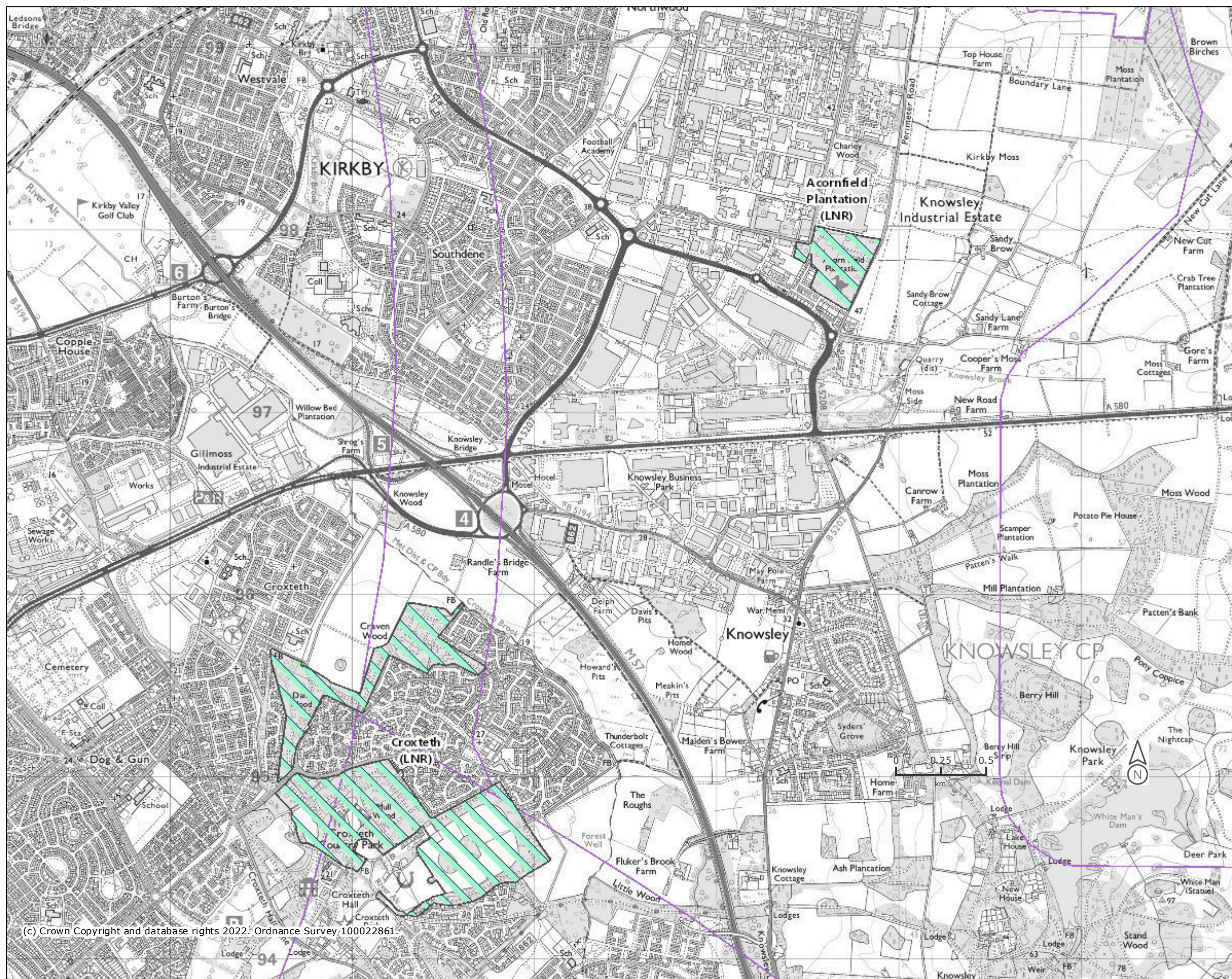
PHOTOGRAPH 6: Trees



APPENDICES

APPENDIX 1

Information downloaded from Multi-Agency
Geographic Information for the Countryside (MAGIC)



Legend

- Local Nature Reserves (England)
- National Nature Reserves (England)
- Ramsar Sites (England)
- Proposed Ramsar Sites (England)
- Sites of Special Scientific Interest (England)
- SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)
- Special Areas of Conservation (England)
- Possible Special Areas of Conservation (England)
- Special Protection Areas (England)
- Potential Special Protection Areas (England)

Ancient Woodland (England)

- Ancient and Semi-Natural Woodland
- Ancient Replanted Woodland

Projection = OSGB36

xmin = 337100

ymin = 393800

xmax = 347900

ymax = 399300

Map produced by MAGIC on 1 February, 2022.

Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

APPENDIX 2

Bat Box Examples

Bat Boxes

Schwegler bat boxes are made from 'woodcrete' and have the highest rates of occupation of all types of box.

The 75% wood sawdust, clay and concrete mixture is ideal, being durable whilst allowing natural respiration and temperature stability. These boxes are rot and predator proof and extremely long lasting.



2F Bat Box

A standard bat box, attractive to the smaller British bat species. Simple design with a narrow entrance slit on the front.

Woodcrete construction, 16cm diameter, height 33cm.

1FF Bat Box

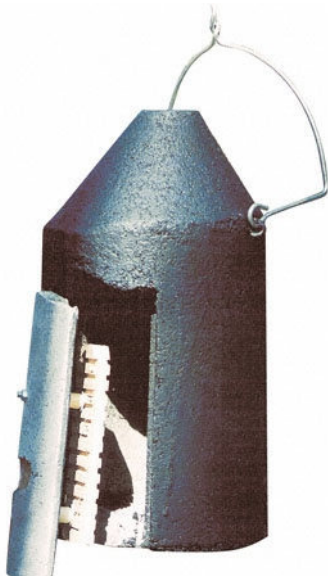
The rectangular shape makes the 1FF suitable for attaching to the sides of buildings or in sites such as bridges, though it may also be used on trees. It has a narrow crevice-like internal space to attract Pipistrelle and Noctule bats.

Woodcrete (75% wood sawdust, concrete and clay mixture)

Width: 27cm

Height: 43cm

Weight: 8.3kg

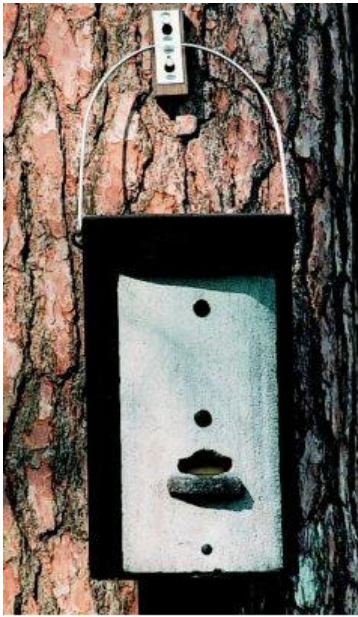


2F-DFP Bat Box with Double Front Panel

The 2F-DFP is a general purpose box attractive to the smaller British bats, with a roughened wooden panel inside the box to simulate a crevice.

This box is favoured by Daubenton's bat and Nathusius' pipistrelle.

Woodcrete construction, 16cm diameter, height 33cm.



1FS Large Colony Bat Box

This bat box has a very large internal space that allows large colonies of bats to congregate. This makes it popular with large colonies of bats in summer, particularly for Noctule, Nathusius' Pipistrelle and Brown Long-eared bat colonies. The large internal space makes this box ideal for summer nursery colonies as well as winter hibernation roosts.

*Woodcrete (75% wood sawdust, concrete and clay mixture)
Diameter: 38cm
Height: 44cm
Weight: 10kg*

2FN Bat Box

A large bat box featuring a wide access slit at the base as well as an access hole on the underside. Particularly successful in attracting Noctule, Bechstein's and Brown Long-eared bats.

Woodcrete construction, 16cm diameter, 36cm height .



1FW Bat Hibernation Box

This huge box is designed to provide a protected environment which is particularly important through the cold winter months when bats are hibernating. Three wooden panels within the box imitate crevices for roosting.

Woodcrete construction, 38cm diameter, height 50cm, weight 28kg.

This heavy box requires secure mounting if placed above the ground and should be sited away from public areas.

APPENDIX 3

Bird Box Examples

Bird Boxes

Schwegler bird boxes have the highest rates of occupation of all types of box. They are designed to mimic natural nest sites and provide a stable environment with the right thermal properties for chick rearing and winter roosting. Many boxes are made from 'Woodcrete'. This 75% wood sawdust, clay and concrete mixture is breathable and very durable making these bird boxes extremely long lasting.



1B Bird Box

This is the most popular box for garden birds and appeals to a wide range of species. The box can be hung from a branch or nailed to the trunk of a tree with a 'tree-friendly' aluminium nail.

Available in four colours and three entrance hole sizes. 26mm for small tits, 32mm standard size and oval, for redstarts.

3S Bird Box

The Schwegler 3S Starling nest box has become established as the standard design both in the UK and Europe. Not only will the 3S nest box attract starlings, it is just as likely to provide overnight shelter for great spotted, middle spotted and lesser spotted woodpeckers. When there are fewer starlings, other species such as pied flycatchers and nuthatches may breed in these boxes. Because of the relatively large entrance hole (45mm diameter), the interior is well lit which encourages occupation. The large diameter nesting chamber (140mm) also helps to encourage occupation.



2GR Nest Box

Owing to the special design of the large nesting area and front panel, this box is especially well protected against predators.

Available with a single oval entrance hole or as shown with three 27mm holes for small Tits. Nesting area: 14cm x 19cm.





1N Deep Nest Box

A deeper than standard nest box which is ideal for Robins, Spotted Flycatchers, Pied Wagtails, Tits and Sparrows. Its depth offers protection from cats, Magpies, Jays and Martens.

Two entrance holes, 30 x 50mm. Nesting area 15 x 21cm.

2H Bird Box

This box is attractive to robins, pied wagtails, spotted flycatcher, wrens and black redstarts.

Schwegler boxes have the highest occupation rates of all box types. They are carefully designed to mimic natural nest sites and provide a stable environment for chick rearing and winter roosting. They can be expected to last 25 years or more without maintenance.



2M Bird Box

A free-hanging box offering greater protection from predators.

Supplied complete with hanger which loops and fastens around a branch.

With standard general-purpose 32mm diameter entrance hole.

Schwegler boxes have the highest occupation rates of all box types. They are carefully designed to mimic natural nest sites and provide a stable environment for chick rearing and winter roosting. They can be expected to last 25 years or more without maintenance.





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