



PRELIMINARY ECOLOGICAL APPRAISAL (PEA)

SIDCUP LIBRARY

HADLOW ROAD, SIDCUP

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CONTENTS

1.	SUMMARY	4
2.	INTRODUCTION	5
3.	SITE LOCATION PLAN	6
4.	LOCATION PLAN	7
5.	PROPOSED SITE LAYOUT	8
6.	METHODOLOGY	9
7.	CURRENT ECOLOGICAL CONDITIONS	12
8.	PHOTOGRAPHS	18
9.	ECOLOGICAL CONSTRAINTS	19
10.	MITIGATION MEASURES	21
11.	SUGGESTED ENHANCEMENT MEASURES	24
12.	REFERENCES	26
13.	APPENDIX 1: SUMMARY OF PLANNING POLICY AND LEGISLATION	27
14.	APPENDIX 2: SUITABILITY ASSESSMENT OF ROOSTING HABITAT (STRUCTURES AND TREES)	31
15.	APPENDIX 3: HABITAT PLAN	32

1. SUMMARY

- S.1 This report details a Preliminary Ecological Appraisal (PEA) undertaken in respect of proposed development at Sidcup Library, Hadlow Road, Sidcup, DA14 4AQ.
- S.2 Proposals include the redevelopment of Sidcup Library to provide residential accommodation.
- S.3 A PEA site visit was undertaken by Native Ecology on 16th June 2021.
- S.4 The application site, hereafter referred to as 'the Site', comprises a public library building with associated car park area and landscaping. The Site extends to approximately 0.2ha.
- S.5 No further ecological survey work is recommended.
- S.6 Mitigation, without the requirement for further survey work, is recommended for bats, hedgehog and nesting birds (detailed within Section 10).
- S.7 Section 11 includes recommended appropriate biodiversity enhancement measures which could be included within development proposals.
- S.8 Appendix 1 gives an overview of relevant legislation, which should be read in conjunction with this report.

2. INTRODUCTION

- 2.1 This report details a Preliminary Ecological Appraisal undertaken in respect of proposed development at Sidcup Library, Hadlow Road, Sidcup, DA14 4AQ (site centred TQ 46468 71749).
- 2.2 Figure 1, Section 3 provides a site location plan.

COMMISSION

- 2.3 Native Ecology was commissioned by Bexleyco Homes in May 2021 to undertake a Preliminary Ecological Appraisal within the site.

APPLICATION SITE

- 2.4 The application site, hereafter referred to as 'the Site', comprises a public library building with associated car park area and landscaping. The Site extends to approximately 0.2ha.
- 2.5 Figure 2, Section 4 provides a location plan showing the application site boundary.

PROPOSED WORKS

- 2.6 Proposals include the redevelopment of Sidcup Library to provide residential accommodation.
- 2.7 Figure 3, Section 5 provides a proposed site layout plan.

PURPOSE OF REPORT

- 2.8 This report aims to provide general advice on ecological constraints associated with proposed development within the site and includes recommendations for mitigation and further survey work, where required.
- 2.9 The objectives of the report are to:
- Describe the current ecological conditions present within the site.
 - Identify any key ecological constraints to the proposed development both with regards protected species and sites.
 - Identify where mitigation will allow significant ecological effects to be avoided or minimised wherever possible.
 - Identify any further ecological surveys required in order to assess the possible impact on protected and important / notable species.
 - Recommend ecological enhancements to be incorporated into the development proposals.

3. SITE LOCATION PLAN

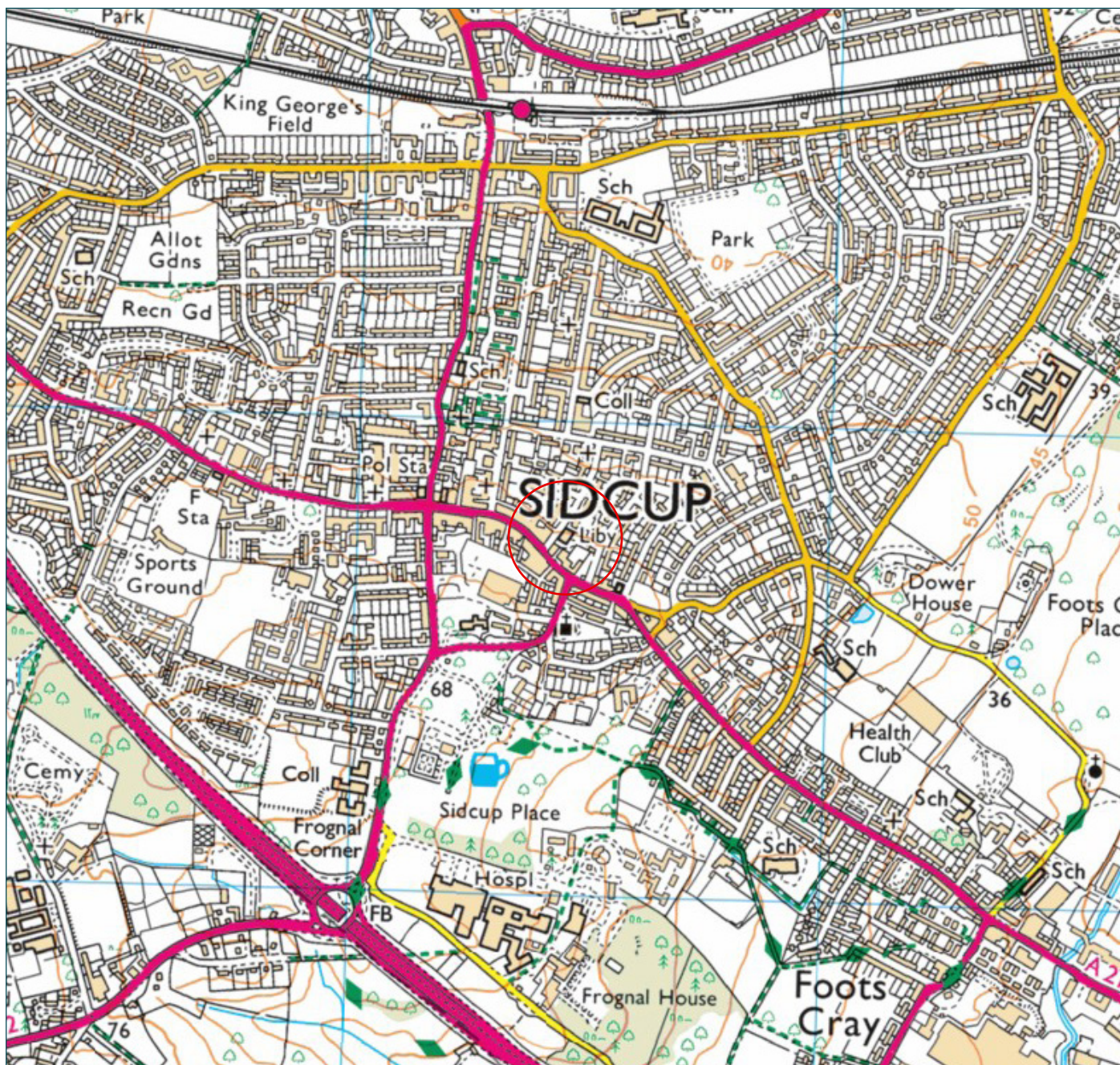


Figure 1. Location of development site. Reproduced from OS Explorer 148 1:25,000 Ordnance Survey © Crown copyright and database rights [2015] (Site centred TQ 46468 71749).

4. LOCATION PLAN

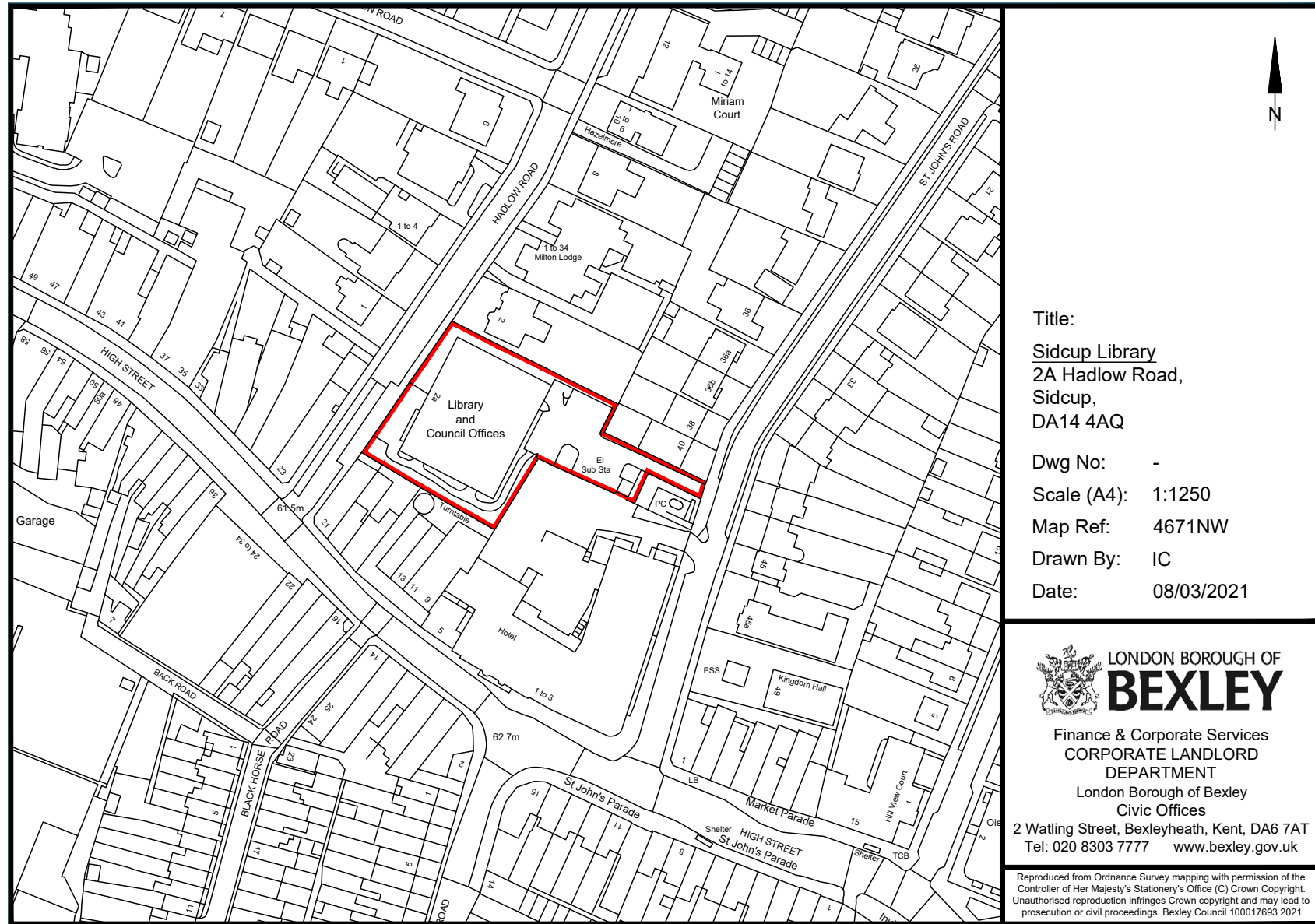


Figure 2. Location plan showing application site boundary (London Borough of Bexley, Drawing Ref. 4671NW, dated 08/03/2021).

5. PROPOSED SITE LAYOUT



Figure 3. Proposed site layout plan (Stitch Architects and Urban Designers, taken from Redevelopment Feasibility Study document Issue A, dated 14th April 2020).

6. METHODOLOGY

DESK STUDY

Zone of Influence

- 6.1 The 'zone of influence' for a project is the area over which ecological features may be subject to significant effects as a result of the proposed project and associated activities (CIEEM, 2017a).
- 6.2 This report provides an assessment of the effects of a proposed development on protected or ecologically valuable sites, habitats or species where these effects extend beyond the development boundary of the site.

Designated sites

- 6.3 Potential impacts to designated sites, including Natura sites and SSSIs, have been considered.
- 6.4 The Multi Agency Geographic Information for the Countryside (MAGIC) website was used to obtain information about statutory designated sites of international importance such as Special Protection Areas (SPA) within 7.2km of the Site.
- 6.5 Information was obtained about statutory designated sites of national importance such as Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR) within 2km of the Site and ancient woodland within 500m of the Site.

Data search

- 6.6 Ordnance survey maps, the Multi Agency Geographic Information for the Countryside (MAGIC) website and aerial images were used to identify waterbodies within 250m of the Site boundary. MAGIC Map was also used to obtain information on locations where European Protected Species Mitigation (EPSM) Licences for great crested newt have been issued by Natural England within 1km of the Site.

FIELD STUDY

- 6.7 A Preliminary Ecological Appraisal site visit was undertaken by James Madden BSc MSc Grad CIEEM of Native Ecology on 16th June 2021.

Table 1. Survey details

Survey date	16th June 2021
Surveyor	James Madden BSc MSc Grad CIEEM
Time on site	13:05 - 14:10
Weather	28°C, 40% cloud cover, light breeze, no rain, ground dry

UK Habitat Classification

- 6.8 Habitats within the Site were mapped and classified in accordance with the The Professional Edition of the UK Habitat Classification.
- 6.9 There are 5 levels of hierarchy, which provide an increasing level of detail. For the purpose of this assessment, habitats have been mapped for Primary Habitats up to Level 4.
- 6.10 Secondary codes have been assigned, where appropriate. These Secondary Codes allow recording of additional information, linked to the Primary Habitats. In some cases, habitat types are defined by a Secondary Code only, where Primary Habitats do not sufficiently represent the habitat present.

Protected species and habitats

- 6.11 During the survey the species and habitats identified within the Site were recorded. An assessment was also made as to the presence or potential presence of protected, important or Nationally Rare species.
- 6.12 Protected species and habitats considered include those listed under the Schedules of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and of the Wildlife and Countryside Act 1981.
- 6.13 In addition, an assessment has been made as to the possible impacts of the proposed development on nature conservation interests, in accordance with information relevant to the National Planning Policy Framework and Local Planning Policy.

Bats

Preliminary Roost Assessment (bats)

- 6.14 A systematic search of the exterior and interior of the building within the Site was undertaken to identify potential bat access points and roosting places and to locate any evidence of bats such as bat droppings, urine staining and fur-oil staining. The inspection included exterior features of the building, such as sills, window panes, walls and the ground beneath potential access points to look for signs of bats, such as droppings.
- 6.15 A preliminary ground level roost assessment of trees within the site was undertaken to determine whether trees possessed Potential Roost Features (PRFs) for bats. Where possible, trees were assessed as providing either negligible, low, moderate or high suitability for roosting bats (see Appendix 2 for suitability assessment and survey effort required for structures and trees).
- 6.16 The suitability of roosting habitat and foraging and commuting habitat within the site was assessed following recommendations provided within Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd edition, Bat Conservation Trust (Collins, 2016).

Badger

- 6.17 During the site survey any badger field signs observed were recorded and mapped. These included; sett entrances, latrines, pathways, snuffle holes, footprints, and push-throughs.

Reptiles

- 6.18 The suitability of habitats within the Site to support reptiles was assessed during the Preliminary Ecological Appraisal site visit. Any incidental sightings were recorded.

Great crested newt

- 6.19 The level of survey effort and data collection required to support a Planning Application or European Protected Species Mitigation (EPSM) Licence for great crested newts is relative to the potential impact. For EPSM Licence applications, typically ponds within 250m of the construction zone are surveyed for the presence (and population assessment) of great crested newts.
- 6.20 Following the guidance of Natural England (2015) waterbodies located beyond 250m from the development are only surveyed if all of the following conditions are met:
- ponds have potential to support a large great crested newt population;
 - the development footprint contains particularly favourable habitat, especially if it constitutes the majority available locally;
 - the development would have a substantial negative effect on that habitat; and
 - there is an absence of dispersal barriers.
- 6.21 Based on the listed criteria above, a proportionate survey area for the Site includes the assessment of any ponds within 250m of the construction zone.

Habitats and Species of Principal Importance

- 6.22 An assessment was made as to the likely presence of Habitats and Species of Principal Importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and birds on the Red and Amber lists of birds of conservation concern.

LIMITATIONS

- 6.23 This report aims to provide general advice on ecological constraints associated with the development of the site, it does not include detailed information on particular species or species groups but instead makes recommendations for further, species-specific surveys required.
- 6.24 In accordance with CIEEM guidance, consideration should be given to the validity of survey data after a period of 12 month from the date of the survey. This may require a site visit to assess whether ecological conditions within the site have changed and may require further ecological survey work due to the transient nature of some protected species.

7. CURRENT ECOLOGICAL CONDITIONS

DESIGNATED SITES

Statutory Sites of International Importance

- 7.1 There are no Statutory Sites of International Importance within 7.2km of the Site boundary.

Statutory Sites of National Importance

- 7.2 There is one Site of Special Scientific Interest (SSSI) and two Local Nature Reserves (LNR) located within 2km of the survey area.

Table 2. Details of Statutory Sites of National Importance within 2km of the site boundary.

Designation	Site name	Distance and direction from site	Qualifying features
SSSI	Ruxley Gravel Pits	1.7km south-east	Ruxley Gravel Pits are one of the few areas of relatively undisturbed open water in Greater London south of the Thames. They contain a high diversity of habitats and species; the variety of insects and breeding wetland birds are also notable features. Over 500 species of vascular plant and 169 species of bird, including 53 breeding species, have been recorded. There is also a species-rich community of insects with 23 butterfly, 9 dragonfly, and in excess of 500 beetle species. This variety of insects in particular reflects the structural and floristic diversity of the range of habitats present: wooded islands and fringes of mature trees, scrub, swamp and fen, and open water (Natural England, 2021).
LNR	Foots Cray Meadows	1km south-west	'Foots Cray Meadows provide a wealth of diverse habitats for flora and fauna. It consists of a rolling landscape, ancient woodland, the River Cray and its adjacent woodlands and wildflower margins' (Natural England, 2021a).
LNR	Scadbury Park	1.4km east	'The reserve is designed to allow native species of plant life and wild life in the area to thrive in a part of London where they would probably struggle to exist without such a place' (Natural England, 2021b).

- 7.3 According to the Impact Risk Zones for Ramsar Sites, Special Areas of Protection (SPA), SACs and SSSIs shown on Natural England's MAGIC map application, the planning application type means there is no requirement for the Local Planning Authority to consult with Natural England during the planning process regarding statutory designated sites.
- 7.4 It is unlikely that the proposed development will impact the above designated sites either directly or indirectly due to the small scale and nature of proposals and the distance between sites.
- 7.5 No further assessment or mitigation is required for statutory designated sites.

Non-statutory sites

Local Sites

- 7.6 There are no Local Sites in close proximity to the Site. It is unlikely that the proposed development will impact Local Sites either directly or indirectly due to the small scale and nature of proposals. No further assessment or mitigation is required in relation to Local Sites.

Ancient Woodland

- 7.7 There are no parcels of ancient woodland within 500m of the Site. No further assessment or mitigation is required in relation to ancient woodland.

HABITATS WITHIN THE SITE

Habitats of Principal Importance

- 7.8 There are no habitats of principal importance located within the Site.

Other habitats

Buildings

- 7.9 There is one building present within the Site. The library building comprises a brick-built structure with a stepped roof line up to the height of three storeys. The building has a gently sloping roof clad in metal. There is a brick-built 'tower' housing the boiler room that is taller than the surrounding roof.
- 7.10 Table 3 overleaf describes the habitats present within the Site in accordance with UK Habitat Classification.

Table 3. Habitat types present within the Site, including level (UKHab), size and description (continued overleaf).

HABITAT TYPE				DESCRIPTION
Level 2 label	Level 3 label	Level 4 label	Level 5 label / Secondary codes	
Urban (u)	Built-up areas and gardens (u1)	Developed land; sealed surface (u1b)	Buildings (u1b5)	Described in section above.
			Other developed land (u1b6)	Areas of hard standing are present including a tarmac parking area to the east of the building and pathways around the building.
			Introduced shrub (1160)	Ornamental planting beds with introduced shrubs are present around the building and parking area. Species include <i>Cotoneaster horizontalis</i> , snowberry (<i>Symphoricarpos albus</i>), <i>Buddleia davidii</i> , <i>Lonicera sp.</i> , <i>Hebe sp.</i> , <i>Berberis sp.</i> , <i>Viburnum tinus</i> , <i>Euonymus sp.</i> , rose (<i>Rosa sp.</i>), <i>Pyracantha sp.</i> , holly (<i>Ilex sp.</i>), <i>Elaeagnus sp.</i> and holm oak (<i>Quercus ilex</i>).
			Mature tree (1171)	3no. mature lime trees with epicormic growth are present along the northern site boundary to the east of the library building. Other mature trees within the this habitat type include a sycamore (<i>Acer pseudoplanatus</i>) on the southern boundary and a sycamore on the northern boundary.
Grassland (g)	Modified grassland (g4)	-	Frequently mown (66)	An small area of mown grass is present between the west elevation of the library building and the 5no. lime trees that line the western boundary with Hadlow Road. Species include perennial ryegrass (<i>Lolium perenne</i>), daisy (<i>Bellis perennis</i>) and dandelion (<i>Taraxacum officinale agg.</i>).
			Mature tree (1171)	5no. mature lime trees, pollarded in the past, are present along the western site boundary with Hadlow Road.

SURROUNDING HABITATS

7.11 The Site is bounded by Hadlow Road to the west, residential housing with gardens to the north, St John's Road to the east and commercial buildings with car parking area to the south. An electrical substation is present adjacent to the eastern site boundary. Habitats within the surrounding landscape comprise dense urban and suburban areas of Sidcup, beyond which lie parks and playing fields and patches of woodland.

PROTECTED AND NOTABLE SPECIES

Bats

Roosting habitat

Buildings

- 7.12 No bats, or evidence of bats, was found during the internal inspection of the library building, which comprised an inspection of the boiler room.
- 7.13 No potential roost features were recorded within the fabric of the building, such as cracks in the brick work. The boiler room was assessed as providing negligible suitability for roosting bats being well illuminated by daylighting passing through windows and lacking the perching opportunities favoured by bats.
- 7.14 No further survey work or mitigation is required for roosting bats in buildings.

Trees

- 7.15 No visible potential roost features were recorded in the trees within the Site. The 3no. lime trees that line the northern site boundary are of a size and age where by they may possess potential roost features within the canopy that are not visible from the ground.
- 7.16 Roosting bats in trees are considered further in Section 9.

Foraging and commuting habitat

- 7.17 Habitats within the site, including the mature trees and introduced shrubs, offer suitable foraging habitat for bats. These habitats are unlikely to be of significant value to commuting bats due to the location of the Site in a dense urban area.
- 7.18 Foraging bats are considered further in Section 9.

Hazel dormice

- 7.19 There is no habitat suitable for hazel dormice within, or in close proximity the site. No further survey work or mitigation is required for hazel dormice.

Otter

- 7.20 There is no habitat suitable for otter within, or in close proximity the site. No further survey work or mitigation is required for otter.

Badger

- 7.21 During the survey, no signs of badger were present within the Site. Given its location within a dense urban area and the isolation of the Site by roads, badger are unlikely to enter the Site. No further survey work or mitigation is recommended for badger.

Water vole

- 7.22 There is no habitat suitable for water vole within, or in close proximity to the site. No further survey work or mitigation is required for water vole.

Hedgehog

- 7.23 Habitats within the Site and gardens in the surrounding area provide foraging opportunities for hedgehog, which may be present in the locality.
- 7.24 Hedgehog are considered further in Section 9.

Birds

- 7.25 Due to the habitats present, no Schedule 1 birds are expected to nest within the Site.
- 7.26 The mature trees, shrub planting beds and ivy (*Hedera helix*) present on the north wall elevation of the library building provide suitable nesting habitat for a number of common bird species as well as red and amber listed birds such as house sparrow and starling.
- 7.27 Although there were no signs of nesting birds, the presence of nesting birds within the buildings cannot be entirely ruled out.
- 7.28 Birds are considered further in Section 9.

Reptiles

- 7.29 The habitats within the Site provide negligible suitability for reptiles. The planting beds are shaded by trees, introduced shrubs and / or the building and the Site is relatively isolated from any habitat of significantly greater suitability for reptiles. Reptiles are unlikely to be present.
- 7.30 No further survey work or mitigation is required for reptiles. In the unlikely event that a reptile is found, works should cease and an ecologist be contacted for advice.

Great crested newt

- 7.31 The grassland and ornamental planting beds provide areas of terrestrial habitat of low to moderate suitability for great crested newt, if present.
- 7.32 There are no waterbodies present within the site. According to OS maps, MAGIC map and aerial images, there are no waterbodies present within 250m of the site boundary.
- 7.33 Due to the lack of waterbodies within the surrounding landscape, great crested newt are unlikely to be present within the site.
- 7.34 No further survey work or mitigation is recommended for great crested newt.

Invertebrates

- 7.35 Habitats within the Site, such as the mature lime trees and ornamental shrubs, provide suitable habitat to support a range of common and widespread invertebrates. Protected or rare invertebrates are unlikely to be present.
- 7.36 No further survey work or mitigation is recommended for invertebrates.

Flora

- 7.37 Due to the past and present management of the Site, the areas of habitat are unlikely to support protected plant species.
- 7.38 *Cotoneaster horizontalis* is present within the Site. This species is listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) as a non-native invasive plant species. Snowberry, holm oak and *Buddleia davidii* are also present within the Site. These species are listed as species of concern by the London Invasive Species Initiative (LISI).
- 7.39 Invasive plant species are considered further in Section 9.

8. PHOTOGRAPHS



Photograph 1. Rear elevation of library building.



Photograph 2. South elevation of library building.



Photograph 3. Front elevation of library building.



Photograph 4. Interior of boiler room.



Photograph 5. 3no. mature lime trees present along northern site boundary.



Photograph 6. Introduced shrubs along access road from St John's Road.

9. ECOLOGICAL CONSTRAINTS

- 9.1 The potential impacts of the proposed development on those Ecological Features that have not been scoped out in Section 7 are considered below.

PROTECTED AND NOTABLE SPECIES

Roosting bats - trees

- 9.2 The three mature lime trees within the Site, situated along the northern site boundary, are of a sufficient size and age where by they may possess potential roost features for bats within the canopy level that are not visible from the ground. Development proposals include the removal of these trees.
- 9.3 Therefore, precautionary mitigation is recommended to minimise the risks of harming individual bats, as per industry standard guidelines (detailed in Section 10).

Foraging and commuting bats

- 9.4 Proposals do not include the severance of any potential foraging or commuting corridors for bats.
- 9.5 Habitats within the site, notably the mature trees, offer suitability for foraging bats. The Site is small and relatively isolated from other larger areas of suitable habitat.
- 9.6 Bats are nocturnal and rely on dark habitat corridors for foraging. In the absence of precautionary mitigation, indirect impacts could occur through spillage of artificial lighting associated with the redevelopment of the Site. With the planting of new trees and shrubs within the Site, potential impacts to foraging and commuting bats can be minimised.
- 9.7 Development proposals are unlikely to impact on foraging and commuting bats and no further survey work is recommended.
- 9.8 Precautionary mitigation to avoid impacts through the careful design of lighting is recommended (outlined within Section 10).

Hedgehog

- 9.9 Development proposals are unlikely to impact on local hedgehog populations and therefore no further survey work is required. However, in the absence of suitable mitigation, individual hedgehogs may be harmed during works.
- 9.10 Precautionary mitigation to reduce the risk of killing or injuring individual hedgehog is detailed within Section 10.

Nesting birds

- 9.11 Given the relatively small area of suitable bird nesting habitat within the site, it is unlikely that development proposals will impact bird populations within the locality. No further survey work for nesting birds is recommended.

- 9.12 The mature trees and introduced shrubs within the Site provide suitable nesting habitat for common and widespread bird species, as well as those listed as Red and Amber within the Birds of Conservation Concern.
- 9.13 Developments proposals include the removal of mature trees and shrubs to facilitate development.
- 9.14 Mitigation measures to avoid impacts to nesting birds through the timing of works are outlined within Section 10. Enhancement measures, outlined within Section 11, have the potential to improve the value of habitats within the wider Site ownership boundary for birds in the long term.

Flora

- 9.15 *Cotoneaster horizontalis* is present within the Site. This species is listed on Schedule 9 of the Wildlife and Countryside Act (WCA) 1981 (as amended) as a non-native invasive plant species. It is an offence under the WCA 1981 to allow a plant species listed on Schedule 9 to spread in the wild.
- 9.16 Snowberry, holm oak and *Buddleia davidii* are also present within the Site. These species are listed as species of concern by the London Invasive Species Initiative (LISI).
- 9.17 It is recommended that a specialist contractor who deals with the removal of invasive plant species is contacted for advice.

10. MITIGATION MEASURES

PROTECTED AND NOTABLE SPECIES

Roosting bats - Trees

10.1 Precautionary mitigation is detailed below for the removal of the three mature lime trees present along the northern site boundary that will reduce the risk of the killing or injury of individual bats from low to negligible.

- The arborist who is to carry out works under the instruction of the Client will be alerted to the possibility of bats being present.
- The arborist will liaise with an appropriate Ecological Clerk of Works (ECoW) with respect to the need for vigilance during felling activities.
- Tree removal will be undertaken between late August and early October or between March and April (depending on the presence of nesting birds).
- Work will be undertaken in a sensitive manner. Any potential roost features identified will not be sawn. Any potential roost features within limbs will be lowered to the ground and left at the base of the tree for at least 48 hours.
- In the unlikely event that a bat is found during works, arboricultural works will cease and a licenced bat ecologist contacted immediately.

Foraging and commuting bats

Habitat retention and enhancement

10.2 It is recommended that measures are designed into a Landscape Strategy to enhance boundary habitat for foraging bats. This should include the planting of new replacement trees and the inclusion of planting that attracts nocturnal insects that will in turn provide a food source for bats (detailed in Section 11).

Careful lighting design

10.3 In order to reduce a low potential, indirect impact on foraging and commuting bats to negligible, mitigation to reduce any effects of artificial lighting should be implemented, as far as possible and where applicable, in accordance with guidance issued by the Bat Conservation Trust and Institute of Lighting Professionals (ILP, 2018).

- Boundary vegetation should not be illuminated so that dark flight corridors for bats are retained.
- Any external lighting should be operated with motion sensors, where health and safety allows.
- Metal halide and fluorescent sources should not be used.
- A warm white spectrum (ideally 2700Kelvin) should be adopted to reduce the blue light component.

- LED luminaries should be used which have a sharp cut off and lower intensity to avoid light trespass.
- Luminaries should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.
- Column heights should be as low as possible to avoid unnecessary light spill.
- Luminaries should be mounted on the horizontal to avoid upward spill.
- Accessories such as baffles, hoods and louvres should be used to further reduce any light spill and direct it to where it is needed.

Hedgehog

10.4 The following mitigation should be implemented for hedgehog during the clearance of any vegetation within the Site in order to avoid harm to individual animals:

- Care should be taken when clearing vegetation to avoid harming hedgehog that may be sheltering within the site:
- If a hedgehog is found (without young) within the site between April and October inclusive then it should be carefully relocated to an area outside the development site that offers immediate shelter.
- If a nesting hedgehog with young is found between May and October inclusive (breeding season) then an ecologist should be contacted immediately for advice.
- If a hibernating hedgehog is found between November and March inclusive (hibernation season) then an ecologist should be contacted immediately for advice.

10.5 The following mitigation should be implemented for hedgehog during the construction phase:

- All holes and excavations should be covered over each night to prevent animals from being trapped or injured.
- If this is not possible, a structure/plank should be placed into the hole to enable animals to escape.
- Any removal of building materials or other debris, should be undertaken with care to prevent harm to hedgehog.
- If any hedgehogs are found during the construction phase they should be carefully relocated to an area outside the development site that offers immediate shelter.

10.6 The following mitigation will be implemented for hedgehog post-development:

- Any close board fencing to be used will be fitted with small openings within gravel boards to allow hedgehogs access throughout the site. At least one entrance hole will be fitted into each boundary.

Nesting Birds

Habitat retention and enhancement

- 10.7 It is recommended that measures, such as native tree and shrub planting, are designed into the Landscape Strategy to enhance habitat for nesting birds.

Avoid impact to nesting birds

- 10.8 The following mitigation should be implemented to avoid impact to nesting birds:
- Works to any vegetation and demolition works to the building should be undertaken between September and February inclusive to avoid the bird nesting season.
 - Should impacts to vegetation and the building be unavoidable between March and September, then the following mitigation should be undertaken:
 - A nesting bird survey should be undertaken by a suitably experienced ecologist within at least 48hours prior to any impacts.
 - A watching brief should be carried out by a suitably experienced ecologist during any works that impact suitable vegetation within the site.
 - If nesting/nest-building birds are found, no works should commence/continue that are likely to damage or significantly disturb a nest until the young have fully fledged.
- 10.9 Works undertaken during the bird nesting season may result in significant delays to the development programme should activities need to cease due the presence of an active nest. It should be noted that some bird species, such as blackbirds and robins are multiple brooders and may therefore nest within the Site for a number of months.

11. SUGGESTED ENHANCEMENT MEASURES

- 11.1 It is recommended that the following compensation and enhancement measures are included within the proposals. Possible habitat enhancement measures are outlined below.

TREE PLANTING

- 11.2 Tree planting within the Site would benefit nesting birds and foraging bats, amongst other species. Trees that produce fruits, such as *Prunus* and *Sorbus* species, will provide additional foraging habitat for birds within the locality.

HEDGEROW CREATION

- 11.3 Native species hedgerows could be created along Site boundaries and around boundaries of properties. Species such as hazel, hawthorn, hornbeam, beech, spindle, holly, yew, privet, field rose, dog rose and guelder rose could be included.
- 11.4 Flowering species, such as hawthorn, privet and rose would provide opportunities for nectar feeding invertebrates, such as bumblebees, hover flies and butterflies. Creation of these habitat feature would also benefit bats by providing additional foraging habitat and birds through additional nesting habitat.

NATIVE AND NECTAR RICH PLANTING PLAN

- 11.5 It is recommended that any planting plans around new buildings include native, flower rich species, including those that flower in the late and early seasons to enhance the biodiversity value of the site.
- 11.6 The inclusion of climbing plants would add sheltering opportunities for invertebrates and birds. They can also produce nectar rich flowers for butterflies, bees and hover flies and fruit for birds and small mammals.
- 11.7 The inclusion of herbs, such as lavender and sage, would provide nectar for an array of invertebrate species, including bees, butterflies and moths. Providing a range of herb plants would ensure flowering throughout the seasons. The inclusion of plants that produce scent at night would attract night flying invertebrates and as such would also provide foraging opportunities for bats.

BAT BOXES

- 11.8 Development provides an opportunity to enhance the site for bats via provision of roosting opportunities.
- 11.9 Integrated bat boxes, such as a 1FR Schwegler Bat Tube, or similar, could be installed on new buildings within the Site. Integrated bat boxes should be primarily located on the south and west facing aspects located at least 3m above the ground, but can also be installed on different elevations to provide a variety of different environmental roost conditions.

BIRD BOXES

- 11.10 Bird boxes, including for house sparrow and starlings, such as woodcrete exterior or integrated terrace boxes, could be integrated into new buildings. Boxes should be located 2-4m in height and arranged so that loose colonies of house sparrows are encouraged. Open fronted woodcrete nest boxes could also be installed on building elevations. Bird boxes should be located close to eaves and on the north or east elevations to avoid direct sunlight.
- 11.11 Bird boxes suitable for house martins, such as Schwegler House Martin nest No. 13 or similar, could be integrated into the external fabric of the new buildings at ridge height, where possible.

LOG PILES

- 11.12 Where space in the planting plan allows, log piles could be created within the Site to provide habitat for saproxylic invertebrates, such as stag beetles.

BEE BRICKS

- 11.13 To increase the nesting opportunities for pollinating solitary bees such as red mason bee *Osmia bicornis* and leaf-cutting bees *Megachile* sp., bee bricks (Green&Blue, or similar) could be incorporated into the fabric of the new buildings.
- 11.14 Be bricks should be positioned on a southern elevation at a minimum height of 1m from ground level. Cavities with failed nests shall be cleared out annually (if required) in October after the egg laying season has finished.

12. REFERENCES

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13. APPENDIX 1: SUMMARY OF PLANNING POLICY AND LEGISLATION

13.1 Species afforded protection under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 are also known as European Protected Species. European Protected Species include all species of bats, hazel dormice and great crested newt.

13.2 European Protected Species relate to those listed within the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and are afforded the highest level of protection. These species are also protected under the Wildlife and Countryside Act 1981. Taken together this level of protection makes it an offence to:

- deliberately capture, injure or kill any wild animal of a European protected species,
- deliberately disturb wild animals of any such species
- deliberately take or destroy the eggs of such an animal
- damage or destroy a breeding site or resting place of such an animal

13.3 Disturbance of animals includes in particular any disturbance which is likely:

- to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or
- in the case of animals of a hibernating or migratory species, impair their ability to hibernate or migrate
- to affect significantly the local distribution or abundance of the species to which they belong

13.4 The legislation requires that any derogation be dealt with by licencing through an appropriate licencing body (Natural England in England). In determining whether a licence can be granted the licencing body must apply the requirements of Regulation 53, and in particular, the three tests:

1. Regulation 55(2)(e) states: a licence can be granted for the purposes of “preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment”.

2. Regulation 55(9) states: The relevant licensing body must not grant a licence under this regulation unless it is satisfied—

- (a) that there is no satisfactory alternative; and
- (b) that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

PLANTS

13.5 A number of plant species are protected under Schedule 8 of the Wildlife and Countryside Act 1981. This Schedule lists plant species that are protected under Section 13, which protects from picking and sale of plants or parts of plants listed in Schedule 8.

BIRDS

13.6 All nesting birds are protected under the Wildlife and Countryside Act 1981. With certain exceptions, it is an offence to:

- Kill, injure or take wild birds;
- Take, damage or destroy the nest of wild birds while in use or being built;
- Take or destroy the eggs of wild birds;
- Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Birds of Conservation Concern

13.7 After reviewing the status of all bird species in the UK, the leading non-governmental bird conservation organisations agreed priorities for bird conservation. This led to the publication of a list of Birds of Conservation Concern. Bird species are either listed as red, amber or green, depending on their status and conservation objectives. Birds listed as red require urgent, effective conservation action.

BADGERS

13.8 Badgers are protected under the Protection of Badgers Act 1992. Under this legislation it is an offence to:

- Wilfully kill, injure or take a badger (or attempt to do so).
- Cruelly ill-treat a badger.
- Dig for a badger.
- Intentionally or recklessly damage or destroy a badger sett, or obstruct access to it.
- Cause a dog to enter a badger sett.
- Disturb a badger when it is occupying a sett.

COMMON REPTILES

13.9 All common and widespread reptiles, which include viviparous lizard, slow worm, grass snake and adder are protected under the Wildlife and Countryside Act 1981. This makes it an offence to:

- Intentionally or recklessly kill or injure reptiles
- Sell, offer for sale, possess or transport for the purpose of sale or publish advertisement to buy or sell any reptile.

INVERTEBRATES

13.10 A small number of invertebrates are protected under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, relating to the designation of SACs, including white-clawed crayfish and Desmoulin's whorl snail.

13.11 A number of invertebrate species also protected under the Wildlife and Countryside Act, such as the heath fritillary and fairy shrimp. Species listed under Schedule 5 are protected from one, some or all of the following:

- Intentional killing, injuring, taking
- Possession or control (live or dead animal, part or derivative)
- Damage to, destruction of, obstruction of access to any structure or place used by a scheduled animal for shelter or protection
- Disturbance of animal occupying such a structure or place
- Offering for sale, possessing or transporting for the purpose of sale (live or dead animal, part or derivative)
- Advertising for buying or selling live or dead animal, part or derivative

STATUTORY PROTECTED SITES

13.12 Special Protection Areas and Special Areas of Conservation are protected under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

13.13 Sites of special scientific interest (SSSIs) are protected under the Wildlife and Countryside Act 1981. Natural England is responsible for notifying SSSIs, ensuring they are managed appropriately and assessing and monitoring their condition.

13.14 National Nature reserves are created to protect important wildlife habitats, while also providing a resource for scientific research and recreation. Declared under the National Parks and Access to the Countryside and the Wildlife and Countryside Act 1981.

NON-STATUTORY PROTECTED SITES

Ancient Woodland

13.15 Land with continuous woodland cover since at least 1600AD. Ancient woods are recognised in UK planning policy, but do not have statutory protection.

NATURAL ENVIRONMENT AND RURAL COMMUNITIES (NERC) ACT 2006

13.16 Following consultation with Natural England, the Secretary of State identified species and habitats considered to be of principal importance for the conservation of biological diversity in England. These species and habitats are listed under Section 41 of the Act. The list is to be kept under review and revisions are made as necessary as part of the progress reports on the Biodiversity Strategy for England.

13.17 Following the Biological Diversity in Japan, 2012, a new initiative in England, 'Biodiversity 2020', replaced the former UK Biodiversity Action Plan Species aiming to reinforce the protection of Section 41 habitats and species.

THE NATIONAL PLANNING POLICY FRAMEWORK

13.18 The National Planning Policy Framework was revised in February 2019 and sets out the Government's planning policies for England and how these are expected to be applied. Within this document, Chapter 15 is titled Conserving and Enhancing the Natural Environment.

13.19 Of particular relevance within this chapter are the following statements:

Planning policies and decisions should contribute to and enhance the natural and local environment by:

- *minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.*

To protect and enhance biodiversity and geodiversity, plans should:

- *promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.*

When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

14. APPENDIX 2: SUITABILITY ASSESSMENT OF ROOSTING HABITAT (STRUCTURES AND TREES)

Table 4. Assessing potential suitability of roosting habitat (structures and trees) for bats and survey effort required. Adapted from Bat Surveys for Professional Ecologists, Good Practice Guidelines 3rd Edition (Collins, 2016).

Suitability	Description of roosting habitat	Survey effort* and timing
Negligible	Negligible habitat features on site likely to be used by roosting bats.	None required.
Low	A structure or tree with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).	<p>Buildings/structures:</p> <p>One survey visit. One dusk emergence or dawn re-entry survey.</p> <p>Timing: May to August.</p> <p>Trees:</p> <p>None required.</p>
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	<p>Two separate survey visits. One dusk emergence and a separate dawn re-entry survey.</p> <p>Surveys should be spaced a minimum of two weeks apart.</p> <p>Timing: May to September with at least one survey undertaken between May - August.</p>
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	<p>Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn.</p> <p>Surveys should be spaced a minimum of two weeks apart.</p> <p>Timing: May to September with at least two surveys undertaken between May - August.</p>

* Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures and trees.

15. APPENDIX 3: HABITAT PLAN

See overleaf

- T1 Library building.
- T2 3no. mature limes requiring precautionary mitigation if felled.
- T3 Area of dense *Cotoneaster sp.*.
- T4 5no. mature lime trees.
- T5 Mature sycamore.

