



**M Block Gravesend Hospital,
Gravesend**

Update Preliminary Ecological Appraisal

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1.0 INTRODUCTION

- 1.1 Corylus Ecology undertook an update Preliminary Ecological Appraisal at Gravesend Hospital M Block in Gravesend, Kent hereinafter referred to as the 'Site'. The report aims to evaluate the key ecological constraints and recommend further surveys that would be required for a planning application. The Site is centred on OS grid reference TQ 64464 74342.
- 1.2 The Preliminary Ecological Appraisal included a Phase 1 Habitat Survey and Protected Species Assessment, including a Preliminary Roost Assessment for bats. The Phase 1 Habitat Survey provides information relating to the habitats within the Site and identifies potential for and, if apparent, evidence of use by protected species. In addition, it provides recommendations for further surveys if required. The Preliminary Roost Assessment looks for evidence of and potential for roosting bats during daylight hours and informs whether further emergence/re-entry surveys are required.
- 1.3 The objectives of the surveys were to:
- classify and map the habitats within the Site according to those within the Phase 1 manual;
 - determine the potential for protected species, including bats, to occur within the Site;
 - identify key ecological constraints to allow early avoidance or minimisation of ecological effects through appropriate design; and
 - suggest appropriate further surveys.

2.0 METHODOLOGY

Preliminary Desk Study

- 2.1 Records of designated sites, priority habitats and granted European Protected Species Mitigation (EPSM) Licences within 3km of the Site were sought from freely available internet resources such as the MAGIC interactive mapping service (Natural England, 2019).

Phase 1 Habitat Survey

- 2.2 The Site was subject to a Phase 1 Habitat Survey on 29th January 2019 which was updated on 12th August 2022. The habitats present on the Site were mapped in accordance with the 'Handbook for Phase 1 Habitat Survey' (JNCC, 2003). Habitat areas and features of topographical and/or ecological interest were described in the form of target notes. These notes were later used to create botanical species lists by target note area and to create a colour coded Phase I Habitat map. All nomenclature follows Stace (2010). Non-native or invasive species were also identified and mapped where appropriate.

Protected Species Assessment

- 2.3 This survey aims to assess the potential for protected species to occur due to the habitats present. It does not include any species-specific survey methods that are designed to demonstrate whether the Site is in fact used by such species, except in the case of badgers where evidence of their presence can be detected.

Bat Building Survey

- 2.4 The bat building survey was undertaken by Jenny Passmore (licence number 2016-23195-CLS-CLS) and Christian Gunn (2015-13609-CLS-CLS) of Corylus Ecology on 29th January 2019 and updated on 12th August 2022. The survey included an assessment of areas for potential for bats to roost and a search for evidence, such as droppings and staining immediately below potential roost areas, the base of structures and window sills. The suitability of any voids or cavities were assessed and access points from the outside were looked for, including holes in the roof lining and any gaps which were letting daylight into the voids. No internal surveys were undertaken. Structures are placed into four categories of potential according to the Bat Conservation Trust guidelines; Negligible, Low, Moderate and High (Collins, 2016). Any signs of breeding birds were also noted.
- 2.5 The survey would involve a habitat assessment of the surrounding area to determine suitability for bats, as this can impact the likelihood of a bat roost occurring in the building as well as assisting with the evaluation of impacts on foraging habitat.

3.0 RESULTS

3.1 Site Description

- 3.1.1 The Site measures approximately 0.38ha and includes a large multi-storey building with the surrounding habitat consisting of largely disturbed ground. The Site is within an urban landscape in Gravesend, Kent bordered by commercial buildings and roads on all sides. The River Thames is approximately 115m to the north.

3.2 Desk Study

Statutory Designations

- 3.2.1 The closest designated site is South Thames Estuary and Marshes Site of Special Scientific Interest (SSSI) which is located 2.6km to the east. This is an extensive mosaic of grazing marsh, saltmarsh, mudflats and shingle which is characteristic of the estuarine habitats of the north Kent marshes. The site supports outstanding numbers of waterfowl with total counts regularly exceeding 20,000. Many species regularly occur in nationally important numbers and some species regularly use the site in internationally important numbers. The breeding bird community is also of particular interest. The diverse habitats within the site support a number of nationally rare and scarce invertebrate species and an assemblage of nationally scarce plants. The Site is within the Impact Risk Zone (IRZ) of this SSSI.

Non-statutory Designations

Local Wildlife Sites/Sites of Nature Conservation Importance (SNCIs)

- 3.2.2 The closest non-statutory designation is Canal and Grazing Marsh Local Wildlife Site which is located 2km to the east of the Site. Another Local Wildlife Site, Ebbsfleet Marshes, is located 2.1km south-west of the Site.

Priority Habitats

- 3.2.3 Under Section 41 of The Natural Environment and Rural Communities (NERC) Act 2006, an inventory of Priority Habitats was devised, which is a list of habitats and species of principal importance for the conservation of biodiversity in England. The nearest priority habitat is the mudflats of the Thames Estuary, located 122m to the north; the mudflats are extremely narrow to the north and north-west but become wider to the north-east in front of Gravesend marina. On the northern banks of the estuary, there are occasional sections of coastal saltmarsh behind the areas of mudflat. An extensive area (c.690ha) of coastal and floodplain grazing marsh occurs 2.4km to the east and extends further east. A small area (c. 1.6ha) of reedbed occurs 2.7km south-west of the Site. The nearest deciduous woodland is 190m to the south-west and there are further small fragments of woodland to the north-east, east, south and west but none of these areas are ancient woodland. A small traditional orchard (c. 0.1ha) occurs 2.2km to the south-west.

EPSM Licences

- 3.2.4 There are two bat European Protected Species Mitigation (EPSM) licences granted within a 3km radius of the Site. The closest is 2.2km north-east and was permitted for the destruction of a common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus* and brown long-eared *Plecotus auritus* bat resting and breeding place for the period of 2019 – 2025. The other bat licence permitted the destruction of a common pipistrelle resting place, active from 2016-2021 and located 2.4km to the west, near Northfleet station. There is a dormouse EPSM licence 2.2km south-west for the period 2020-2021.

3.3 Phase 1 Habitat Survey

- 3.3.1 The habitats present on Site are shown within Figure 1, with further detail provided by way of specific target notes which are denoted by the letters 'TN'. Photographs of selected target notes are provided in Figure 2.

Dense Scrub

- 3.3.2 There is a small area of dense scrub TN4 to the south of the building. This includes butterfly bush *Buddleia davidii*, bramble *Rubus fruticosus* agg., elder *Sambucus nigra* and ash *Fraxinus excelsior*. The ground flora includes annual mercury *Mercurialis annua*, common mallow *Malva sylvestris*, field bindweed *Convolvulus arvensis*, sea couch grass *Agropyron pungens* and common nettle *Urtica dioica*.

Tall Ruderal

- 3.3.3 The majority of the Site is formed of tall ruderal vegetation TN2. Species include false oat-grass *Arrhenatherum elatius*, cock's foot *Dactylis glomerata*, perennial rye grass *Lolium perenne*, creeping bent *Agrostis capillaris*, yarrow *Achillea millefolium*, black mustard *Brassica nigra*, dove's-foot cranesbill *Geranium molle*, petty spurge *Euphorbia peplus*, ribwort plantain *Plantago lanceolata*, wood sedge *Carex sylvatica*, red dead-nettle *Lamium purpureum*, rough hawksbit *Leontodon hispidus*, common mallow, perennial sow-thistle *Sonchus arvensis*, bristly ox-tongue *Helminthotheca echioides*, dandelion *Taraxacum officinalis* agg., broadleaved dock *Rumex obtusifolius*, wild carrot *Daucus carota*, white clover *Trifolium repens*, buck's-horn plantain *Plantago coronopus* and common ragwort *Senecio jacobaea*.

Boundary Features

- 3.3.4 TN3 is a chain link fence to 1.5m with occasional dead stems of ivy *Hedera helix* and mature elder, ash and sycamore *Acer pseudoplatanus*. A small section is formed of a brick wall TN3a. The brick wall is generally in good condition, with no significant cracks or cavities.

Hardstanding

- 3.3.5 TN1 is an area of hardstanding and compacted earth.

3.4 Bat Building Survey

- 3.4.1 Building B1 is a six-storey building constructed of brick to the second floor with the upper four floors clad with a type of cement or fibre panelling. There are missing and broken windows throughout, some of which are boarded with timber and several of the external sections of panelling are missing, leading into a cavity behind. The majority of the spaces behind the cladding appear to be occupied by feral pigeon *Columbia livia* nests in places. An internal assessment of the building was not possible on the day of survey for health and safety reasons, these being the unsafe nature of the access point, the overall poor and dilapidated condition of the building and evidence of human occupation. No evidence for a bat roost was noted externally. Overall the building has been assessed as having 'Negligible' potential to support a bat roost (Collins, 2016).



Photo 1 – Building B1

- 3.4.2 B2 is a brick structure with a concrete flat-roof and an air vent and door on the eastern side. Access was not possible internally to survey the interior of the building. No evidence or potential for a bat roost was noted externally. With regards to potential there is possible bat access into the building in a small gap at the door, however due to the nature of the building, the construction materials and location of the building it is considered unlikely that a bat roost would be present in the building. Overall the building and has been assessed as having 'Negligible' potential to support a bat roost (Collins, 2016).
- 3.4.3 B3 is a concrete structure, formed of three sections of 2m high concrete block wall. B3 was likely used as a bin store, and is without a roof or covering. The structure has been assessed as having 'Negligible' potential to support a bat roost (Collins, 2016).

3.5 Protected Species Assessment

Bat Tree Roosts and Bat Habitat

- 3.5.1 There are no trees suitable to support a bat roost within the Site. The Site and the immediate surrounding area support habitats which would not be considered suitable for foraging and commuting bats, being largely urban and well-lit from high levels of artificial lighting. There are few vegetated habitats within the immediate surrounding area and it is considered unlikely that sustained bat foraging would be possible within or adjacent to the Site. Overall the Site and the immediate adjacent habitats are considered to have 'Negligible' potential for foraging and commuting bats under the BCT guidelines.

Reptiles

- 3.5.2 The habitat on Site has been unmanaged and has developed suitability for reptiles. However the Site is surrounded by roads and hardstanding so is isolated from other suitable habitat.

Other Protected Species

- 3.5.3 There is no suitable habitat for protected species such as great crested newt *Triturus cristatus* or dormice *Muscardinus avellanarius* on the Site. With regard to badger *Meles meles*, no field signs such as snuffle holes, latrines, setts or paths were noted and the site has been secured with site hoarding which prevents access.

Breeding Birds

- 3.5.4 The building has the potential to support breeding birds during the main breeding season 1st March to 1st September. Feral pigeon *Columba livia* are present in the building.
- 3.5.5 The extensive flat roof is suitable for species such as peregrine falcon *Falco peregrinus* or gull species *Laridae* sp. Furthermore, there are foraging resources in the vicinity for peregrine or gull species. It was not possible to survey the upper levels of the roof due to the health and safety reasons outlined in section 3.4.

4.0 EVALUATION

- 4.1 A Preliminary Ecological Appraisal has been undertaken at the M Block former hospital building in Gravesend, Kent. The proposals involve the renovation of the existing building B1 into flats and the addition of a block of flats in an 'L shape' along the western boundary and western half of the northern boundary.
- 4.2 The nearest designated area is the South Thames Estuary and Marshes Site of Special Scientific Interest (SSSI) which is located 2.6km to the east and the Site is within the Impact Risk Zone for this SSSI. The guidance is that the LPA should consult Natural England for advice for planning applications which are outside or extend outside of existing settlements and urban areas. This planning application does not fit this criteria and further consultation is not required.
- 4.3 The buildings support 'Negligible' potential for roosting bats due to the lack of suitable roosting features. It was noted that where the cavity wall was open or damaged feral pigeon was nesting, with some areas supporting multiple nests. The surrounding urban habitat is considered poor quality bat habitat, with high levels of disturbance, high artificial light levels and a general absence of suitable foraging or commuting habitat in the immediate surrounding area. It is considered unlikely that if bats are present in the wider area they would be using the building for summer day roosts. Further surveys are not required to confirm the presence or likely absence of a bat roost. With regards to bat activity surveys, the Site and surrounding area is considered to support 'Negligible' quality bat habitat and further surveys to understand the impacts of the development on the local bat assemblage are not required (Collins, 2016).
- 4.4 The vegetated habitats have developed since 2019 and the Site has increased suitability for reptiles. However, due to the isolation of the habitat in an urban landscape without connecting habitat and the fairly recent development of suitable habitat, the likelihood of reptiles using the Site is negligible. The Site is adjacent to neighbouring residential gardens however these are small and also isolated from other suitable habitat.
- 4.5 As a precaution and for the benefit of other wildlife that may be present, it recommended that the vegetation is subject to a two-phase cut during March – October and also prior to any site clearance. This would involve the following
- Cut vegetation to height of 150mm with hand tools
 - Cut to ground level a week later.
- 4.6 There are no habitats suitable for other protected species on the Site such as wintering birds, amphibians and dormice and no further surveys are recommended in this regard. It is recommended that the vegetated habitats of the Site are regularly managed to prevent the Site developing suitability for protected species.

- 4.7 With regard to badgers, no field signs were noted and the site hoarding is likely to make the Site inaccessible for this species. A precautionary walkover to search for recent field signs will be required prior to works commencing.
- 4.8 The trees, scrub and the building have the potential to support nesting and breeding birds. All wild birds, including eggs and chicks, are protected against injury or killing and their nests are protected against damage or destruction when in use by the Wildlife and Countryside Act 1981 (as amended). It is therefore recommended that any vegetation clearance and demolition work is undertaken outside of the core bird breeding season, limiting this work to the period 1st September to 1st March. A licence from Natural England to remove feral pigeon from the Site may be required.
- 4.9 If these dates do not coincide with clearance work then it is recommended that there is a check of the roof of the building for nesting raptor or gull species prior to demolition. In addition to the protection afforded by the Wildlife and Countryside Act, peregrine falcon is also listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) which means they are protected from disturbance whilst building a nest and rearing young. If any breeding birds are noted, works in the vicinity of the nest would have to cease until fledging has occurred.

National Planning Policy Framework

- 4.10 The National Planning Policy Framework (July 2021) sets out planning policies on protection of biodiversity and geological conservation through the planning system. Section 15 of the National Planning Policy Framework (NPPF) states that planning policies and decisions should contribute to and enhance the natural and local environment by:
- safeguarding local wildlife-rich habitats and wider ecological networks including designated sites, wildlife corridors and stepping stones and areas identified by national and local partnership for enhancement
 - promoting the conservation, restoration and enhancement of priority habitats and ecological networks
 - promoting the protection and recovery of protected species
 - identifying and pursuing opportunities for measurable net gains for biodiversity
- 4.11 It is recommended that ecological enhancements should primarily be designed to benefit pollinating invertebrates, such as bees and wasps. The Kent coast is a hotspot for rare bumblebee species including shrill carder bee *Bombus sylvarum*, brown-banded carder bee *Bombus humilis* and moss carder bee *Bombus muscorum* as well as several rare solitary bees such as the sea aster mining bee *Colletes halophilus*. These species exist in small, isolated populations along the coast which makes populations

vulnerable. Enhancement measures would involve the planting of flower-rich habitat, including green roofs and living walls.

- Living roofs are capable of supporting a range of nectar-rich plants and increasing biodiversity on the Site, particularly for invertebrates.
- Initial recommendations for a green wall include the following climbers: Austrian clematis *Clematis alpine*, common honeysuckle *Lonicera periclymenum*, passion flower *Passiflora caerulea* and star jasmine *Trachelospermum jasminoides*.
- Ornamental planting at street level should use native and heavy-fruiting species such as cherry *Prunus avium*, rowan *Sorbus aucuparia*, damson *Prunus domestica* and crab apple *Malus sylvestris*.

Insect Boxes

- 4.12 It is also recommended that eight insect boxes are provided and installed on sheltered but sunny elevations of the building near to areas of planting. Insect bricks (such as the 'Bee Brick') that can be integrated into the external walls are also widely available and easy to incorporate into new builds.

Swift Bricks

- 4.13 Due to the high elevation of the proposed building it is likely to be suitable for nesting swifts *Apus apus*. Therefore it is recommended that six purpose-made swift bricks (such as the *Vivara Pro*, *Woodstone* or those available from *Ecosurv*) are integrated into the proposed buildings at height. Swifts are colonial so the bricks should be installed in groups of three. The bricks will be installed during the construction process, avoiding the southern elevations preferably on the eastern elevations, above 5m or below the eaves. It is best to install them away from direct sunlight and not above any windows or doors.

5.0 CONCLUSION

- 5.1 A Preliminary Ecological Appraisal has been undertaken of the former M Block hospital building in Gravesend, Kent.
- 5.2 The buildings support 'Negligible' potential for bats, and no further surveys are recommended.
- 5.3 The Site has been unmanaged since 2019 and ephemeral has developed into tall ruderal vegetation. However suitability for reptiles is limited due to poor habitat connectivity. As a good practice measure, it is recommended that the vegetation is cut with a two-stage process and maintained up until works commence on Site.
- 5.4 A precautionary walkover to search for recent badger field signs will be required prior to works commencing.
- 5.5 No further surveys for other protected species, such as wintering birds, dormice or amphibians have been recommended.
- 5.6 It has been recommended that the vegetation clearance and building demolition is undertaken outside of the core bird breeding season 1st March to 1st September. If this is not possible the roof of the building should be checked for nesting gull or raptor species prior to the demolition phase. If any active nests are identified, work will need to cease until fledging has occurred.
- 5.7 It is noted there are coastal habitats (mudflats) some 125m to the north and the Kent coast is known for supporting a range of rare bee and wasp species. Recommendations for biodiversity enhancements have been made and include planting to maximise opportunities for pollinators (green roofs, living walls, fruit tree planting) as well as provision of insect bricks and swift bricks.

REFERENCES

- Beebee, T. & Griffiths, R. 2000. *Amphibians and Reptiles*. Harper Collins Publishers, Hammersmith, London.
- Bright, P, Morris, P. and Mitchell-Jones, T. 2006. *The Dormouse Conservation Handbook*. 2nd Edition. English Nature, Peterborough.
- Collins, J. (ed.) 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd Edition*. The Bat Conservation Trust, London.
- Froglife. 1999. *Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation*. Froglife Advice Sheet 10. Froglife, Halesworth.
- Institute of Lighting Professionals (ILP) and Bat Conservation Trust (BCT). 2018. *Guidance Note 8: Bats and Artificial Lighting*.
- JNCC (Joint Nature Conservation Committee) 2004. *The Bat Workers Handbook*. JNCC, Peterborough.
- JNCC (Joint Nature Conservation Committee) 2003. *Handbook for Phase I Habitat Survey. A technique for Environmental Audit*. JNCC, Peterborough.
- Natural England. 2022. *MAGIC website*. Available from: <http://magic.defra.gov.uk/>. August 2022.
- Oldham, R.S., Keeble, J., Swan, M.J.S., and Jeffcote, M. 2000. *Evaluating the Suitability of Habitat for the Great Crested Newt (Triturus cristatus)*. Herpetological Journal, Vol. 10, pp. 143-155.
- Rose, F. 2006. *The Wild Flower Key*. Frederick Warne, London.
- Stace, C. 2019. *New Flora of the British Isles. 4th Edition*. Cambridge University Press.



Key

- Site Survey Area
- Tree
- Dense Scrub
- Tall Ruderal
- Hard Standing
- Target Note 1

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