

Preliminary Ecological Appraisal

**Land at Thames Way,
Northfleet, Kent DA11 8HN**

Report to:
Speedgreen (Thames Way) Limited

5th July 2025
Revision 1 (28th July 2025)



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Information, including any survey data, contained within this report must only be relied upon for a maximum period of 18 months from the date of the report. If there is any alteration to site conditions within this period, the assessment should be updated.

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1. Summary

Background

- 1.1 Land at Thames Way has been proposed for a new development project.
- 1.2 Calumma Ecological Services was commissioned to undertake a preliminary ecological assessment of the site.

Habitats and Designated Sites

- 1.3 The proposed development site is an area of previously disturbed land alongside Thames Way. A sewage treatment works is located to the rear of the site.
- 1.4 The application area is largely dominated by dense bramble scrub with scattered small trees and shrubs. Areas of open grassland, mosses and tall ruderal vegetation are present. A hedgerow is located along the southern boundary.
- 1.5 Habitat within the application area has previously been designated as open mosaic habitat on previously developed land (draft) and may therefore represent priority habitat.**
- 1.6 The proposed development site is located close to sites designated for their conservation interest.**

Birds

- 1.7 Woody vegetation includes features suitable for nesting birds. Singing blackcap were recorded during the site visit.
- 1.8 Care must be taken to ensure that nesting birds are not disturbed during proposed works.**

Bats

- 1.9 There are no structures or trees suitable for roosting bats within the application area.
- 1.10 Bats could forage and/or commute over nearby grassland, scrub and lakes.
- 1.11 Any external lighting should follow appropriate guidelines to minimise disturbance to foraging bats.**

Reptiles

- 1.12 Reptile records are available for the local area.
- 1.13 Although dominated by dense bramble scrub, the proposed development site includes more open areas of grassland and tall ruderal vegetation that offer foraging and sheltering potential for reptiles.
- 1.14 Follow-up survey work for reptiles is recommended.**

Amphibians

- 1.15 Great crested newt records are available for the local area.
- 1.16 No ponds are located within the application area. Five waterbodies are known to be located within 500 m.
- 1.17 Available terrestrial habitat offers amphibians good potential for sheltering and protection.
- 1.18 Follow-up survey and/or mitigation work for great crested newt is recommended.**

Badgers

- 1.19 No evidence of badger was observed within the application area.
- 1.20 Since nearby habitat offers potential for badger and dense scrub constrained access into the site, precautionary mitigation is recommended.**

Hazel Dormouse

- 1.21 Dormouse has previously been recorded in the local area.
- 1.22 Available habitat is considered suitable for dormouse.
- 1.23 Follow-up survey work for hazel dormouse is recommended.**

Beaver, Otter and Water Vole

- 1.24 Available habitat within the application area is considered unsuitable for beaver, otter and water vole.

Hedgehog

- 1.25 Hedgehogs could shelter and/or forage within the local area.
- 1.26 Precautionary mitigation for hedgehog is recommended.**

Rare and Notable Invertebrates

- 1.27 The proposed development site includes habitat that has previously been designated as open mosaic habitat. Although such habitat can be important for rare and notable species of invertebrate, the application area is now dominated by bramble scrub.
- 1.28 Appropriate enhancement work for invertebrates is recommended.**

Other Considerations

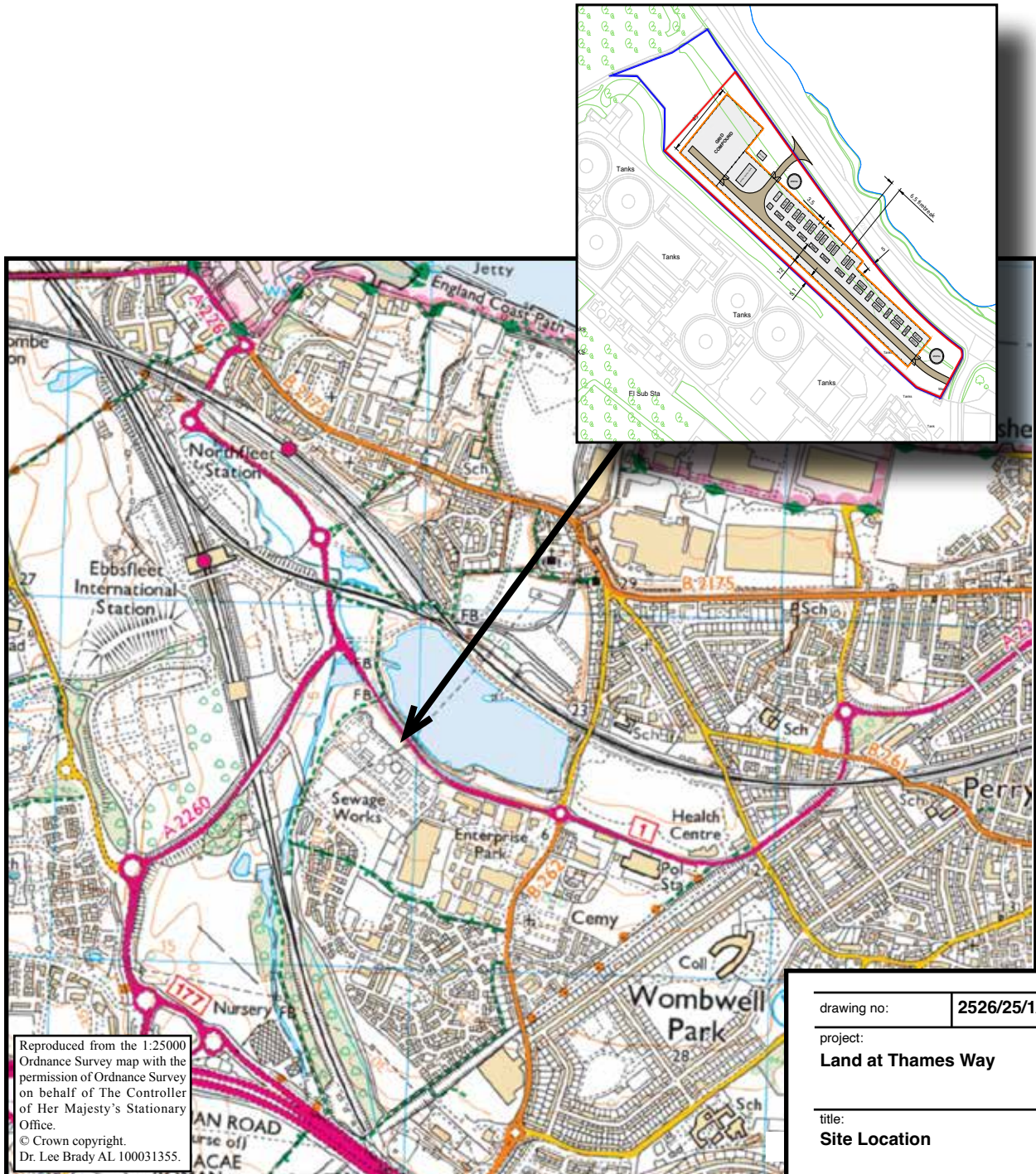
- 1.29 A more detailed habitat assessment is recommended to verify the previous designation as open mosaic habitat on previously developed land.**
- 1.30 Appropriate biodiversity enhancement features should be included with the proposed development project.**

2. Site Location and Assessment

Site Name:	Land at Thames Way - <i>the site</i> ; Fig. 2.1
Grid Reference:	TQ 619 736
County:	Kent
Planning Authority:	Gravesham Borough Council
Planning Refs:	tbd
National Character Area:	North Kent Plain
Client:	Speedgreen (Thames Way) Limited
Proposed Disturbance:	Installation of Battery Energy Storage System
Application Area:	0.9908 Ha
Project Size:	Small
Ecological Zone of Influence:	1 km
Survey Request:	Preliminary Ecological Appraisal
Surveyor:	Lee Brady PhD, BSc (Hons), MCIEEM Great Crested Newt Class Licence: 2015-19076-CLS-CLS Accredited Under Level 2 Bat Licence: 2023-11064-CL18-BAT
Assessment Period:	1 st July 2025
Limitations:	This assessment did not include detailed surveys of protected species. Preliminary ecological appraisals assess likely presence of species on a site and recommend follow-up survey work, management and mitigation as appropriate. This report may need to be updated if new information becomes available (e.g. ponds not previously known to be present).
Reliance:	Information, including any survey data, contained within this report must only be relied upon for a maximum period of 18 months from the date of the report. If there is any alteration to site conditions within this period, the assessment should be updated.

Fig. 2.1 Land at Thames Way, Northfleet, Kent DA11 8HN (TQ 619 736)

Location of study site.



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3. Legal Protection and Planning

The protection of animals and plants in the United Kingdom is governed by several different regulations and conventions. Principally, these include:

- The Wildlife & Countryside Act 1981 (as amended).
- The Habitats and Species Directive (92/43/EC) enacted through the Conservation of Habitats and Species Regulations 2010 (updated in 2017).
- The Natural Environment and Rural Communities (NERC) Act 2006.
- The Hedgerow Regulations 1997.
- The National Planning Policy Framework (as amended).
- Biodiversity Net Gain.

3.1 The Wildlife & Countryside Act

The Wildlife and Countryside Act was first introduced in 1981 and has since been amended and updated several times (e.g. Countryside and Rights of Way Act 2000).

The Wildlife and Countryside Act aims to balance conservation efforts with the needs of society and landowners, and provides a framework for the management and protection of wildlife and habitats in the UK.

The main provisions of the Wildlife and Countryside Act include:

- The protection of certain species of plants and animals, including birds, mammals, reptiles, and amphibians, from being killed, injured, or taken from the wild.
- The prohibition of certain methods of killing or taking animals, including the use of poisons, traps, and nets.
- The designation of Sites of Special Scientific Interest (SSSIs), which are areas of land that are of special scientific interest and are given legal protection to preserve their biodiversity and natural beauty.
- The regulation of hunting and killing of certain animals, such as deer, hares, and rabbits.
- The protection of hedgerows, trees, and other natural features in the countryside.
- The regulation of trade in endangered species and the control of invasive non-native species.

3.2 Conservation of Habitats and Species Regulations

The Conservation of Habitat and Species Regulations are designed to protect and conserve natural habitats and species of animals and plants that are of special importance. The regulations stem from the European Union's Habitats Directive, which was implemented in the UK through the Conservation of Habitats and Species Regulations 2010 (updated in 2017).

Under these regulations, certain habitats and species are afforded legal protection, including Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). These areas are designated based on their importance for conservation and biodiversity, and activities that may damage them are regulated or prohibited.

The regulations also require public authorities to conduct an appropriate assessment of any plans or projects that may have an impact on these designated areas. If it is determined that the plans or projects may have a significant effect on the habitats or species, they must be subject to further scrutiny and potential mitigation measures.

The Habitat Regulations apply to species in a number of ways. Firstly, certain species are designated as 'European Protected Species' (EPS), meaning they are afforded legal protection under the regulations.

The regulations prohibit any deliberate capture, killing or disturbance of EPS species, as well as damage to or destruction of their breeding or resting sites. In addition, public authorities must take steps to ensure that these species are protected, and that their habitats are maintained or improved.

The regulations also require public authorities to assess the potential impact of plans or projects on species and their habitats. If a project is likely to have a significant effect on a protected species, it may require a specific 'derogation' to be granted before it can proceed. This means that the public authority must demonstrate that the project is necessary for certain reasons, such as for public health or safety, and that there are no alternative solutions. Mitigation works that involve EPS usually requires successful application for an appropriate licence.

3.2.1 Habitats Regulations Assessment

Where a proposed development project is located within or close to an area designated or proposed for designation under the Birds and/or Habitats Directives (European sites; SAC/SPA) and/or the Ramsar Convention (Ramsar sites) an Appropriate Assessment under Regulation 61(1) of the Habitat Regulations may be required.

Regulation 63 states that:

“A competent authority, before deciding to undertake, or give any consent, permission, or other authorisation for a plan or project which:

(a) is likely to have significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects); and

(b) is not directly connected with or necessary to the management of the site must make an appropriate assessment of the implications for the site in view of that site's conservation objectives”.

The decision as to whether an Appropriate Assessment is required or not is based upon an assessment of 'Likely Significant Effect' (LSE), which is recognised as being a statement that the anticipated effects of the proposal will be more than trivial. That is, the anticipated changes resulting from the proposal have the potential to impact on a designated, or proposed to be designated, European/Ramsar site. It does not automatically follow that an impact will occur, or that the impact would be significant, with a decision of LSE being purely an indication of the need for an Appropriate Assessment.

For more information see:

<https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site>

3.3 The Natural Environment and Rural Communities Act

The Natural Environment and Rural Communities Act (NERC) seeks to promote and protect biodiversity in the UK. The act recognizes the importance of biodiversity for the health and wellbeing of humans, as well as for the functioning of ecosystems and the provision of ecosystem services.

The NERC establishes the duty for public authorities to have regard for the conservation and enhancement of biodiversity in the exercise of their functions. This means that public authorities must consider the impact of their actions on biodiversity and take steps to mitigate any negative impacts.

The NERC also establishes measures to protect important wildlife habitats, such as Sites of Special Scientific Interest (SSSIs), and to promote sustainable management of natural resources. The act includes provisions for the creation of biodiversity strategies and the establishment of biodiversity targets.

In addition, the NERC provides for the management of invasive non-native species, which can have a negative impact on biodiversity by outcompeting native species and disrupting ecosystems.

3.3.1 Priority Habitats and Priority Species

Previous planning policy refers to UK Biodiversity Action Plan (BAP) habitats and species as being a material consideration in the planning process. Although such habitats and species remain material considerations in the planning process, they are now described as *Species and Habitats of Principal Importance for Conservation* in England, or simply priority habitats and priority species. The list of habitats and species is still derived from Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. In 2007, a revised list was produced, following a 2-year review of UK BAP processes and priorities, which included a review of the priority species and habitats. Following the review, the list of UK BAP priority species increased from less than 600 to 1,150.

The UK BAP was succeeded by the 'UK Post-2010 Biodiversity Framework' in July 2012. The UK list of priority species, however, remains an important reference source and has been used to help draw up statutory lists of priority species in England, Scotland, Wales and Northern Ireland, as required under Section 41 of the Natural Environment and Rural Communities Act 2006 (England), Section 7 of the Environment (Wales) Act 2016, Section 2(4) of the Nature Conservation (Scotland) Act 2004, and Section 3(1) of the Wildlife and Natural Environment Act (Northern Ireland) 2011.

Note that as was previously the case when it was a BAP priority species, hen harrier continues to be regarded as a priority species although it does not appear on the Section 41 list.

3.4 The Hedgerow Regulations

The Hedgerow Regulations aim to protect important hedgerows in the countryside, which are an important feature of the UK's rural landscape and provide habitat for a range of wildlife.

Under the regulations, it is illegal to remove or destroy most countryside hedgerows without permission from the local planning authority. Hedgerows that are protected under the regulations are those that meet certain criteria, including age, length, and species composition. The regulations also require that new hedgerows are planted to replace those that are removed, to ensure that there is no net loss of hedgerow habitat.

The Hedgerows Regulations seek to strike a balance between the protection of important hedgerows and the needs of farmers and landowners. The regulations recognize that hedgerows can provide important functions for agriculture, such as acting as windbreaks and providing shelter for livestock, and allow for certain exemptions for hedgerow removal in certain circumstances.

3.5 The National Planning Policy Framework

The National Planning Policy Framework (NPPF) is a document in the UK that sets out the government's planning policies and guidance for local planning authorities. The NPPF was first introduced in 2012 and has since been updated several times.

The main provisions of the NPPF include:

- The promotion of sustainable development, which balances economic, social, and environmental considerations.
- The protection of the natural environment, including biodiversity, landscapes, and heritage assets.
- The promotion of sustainable transport and the reduction of greenhouse gas emissions.
- The promotion of high-quality design and the provision of affordable housing.
- The encouragement of healthy communities and the provision of infrastructure, such as schools and healthcare facilities.
- The promotion of economic growth and the provision of employment opportunities.
- The NPPF provides guidance to local planning authorities on how to make planning decisions that are consistent with the government's planning policies. The document aims to ensure that planning decisions are made in a transparent and consistent manner, and that they reflect the needs of local communities.

For more information see:

<https://www.gov.uk/government/publications/national-planning-policy-framework--2>

3.6 Biodiversity Net Gain

National policy sets out that planning should provide biodiversity net gains where possible. National Planning Policy Framework Paragraphs 170(d), 174(b) and 175(d) refer to this policy requirement and the Natural Environment Planning Practice Guidance (PPG) provides

further explanation on how this should be done. Delivering net gain is also referred to in the National Infrastructure Commission's Design Principles, National Policy Statements and the National design guide.

Biodiversity net gain (BNG) is a strategy to develop land and contribute to the recovery of nature. It is a way of making sure the habitat for wildlife is in a better state than it was before development. The Environment Act sets out the following key components of mandatory biodiversity gain:

- Amends Town & Country Planning Act (TCPA).
- Minimum 10% gain required calculated using the Biodiversity Metric & approval of a biodiversity gain plan.
- Additional gains may be requested by local planning authority.
- Habitat secured for at least 30 years via planning obligations or conservation covenants.
- Delivered on-site, off-site or via a new statutory biodiversity credits scheme.
- National register for net gain delivery sites.

Developers are required to leave development sites better off for biodiversity when the development is completed. The UK government is proposing to sell biodiversity credits to developers if the required biodiversity net gains cannot be achieved on-site or through the off-site market. Private landowners can help deliver these gains for both biodiversity and sometimes other ecosystem services.

For more information see:

<https://www.local.gov.uk/pas/topics/environment/biodiversity-net-gain>

The threshold for developments that must implement BNG include those that will affect priority habitats and/or projects that will affect an area greater than 25 m² of non-priority habitat and/or 5 or more meters of linear habitat (e.g. hedgerow).

Developments exempt from BNG include the following:

- Developments below the threshold.
- Householder applications.
- Self-build and custom build applications.
- Biodiversity gain sites.
- High speed rail transport network.

For more information that includes detailed definitions of exempt activities see:

<https://www.gov.uk/guidance/biodiversity-net-gain-exempt-developments>

3.6.1 Small Site Biodiversity Net Gain Metric

The Small Site Biodiversity Net Gain Metric (SSM) has been developed for sites that are defined as not major developments under the Town and Country Planning (Development Management Procedure) (England) Order 2015). These include:

- Residential development where the number of dwellings is between 1 and 9 on a site of an area 1 Ha or less, or if the number of dwellings is unknown, the site area is less than 0.5 Ha.
- Commercial development where floor space created is less than 1,000 square metres or total site area is less than 1 Ha.
- Development that is not the winning and working of minerals or the use of land for mineral-working deposits.
- Development that is not waste development.

Sites that do not meet these definitions are defined as major developments and must use the Statutory Biodiversity Metric Calculation Tool (SBMCT).

Further restrictions apply to the use of SSM on small sites. Sites with the following characteristics must use the SBMCT:

- Any site containing any habitats (including riparian zones) not included in the SSM.
- Any site where priority habitats are present.
- Any site where statutory protected sites or habitats are present.
- Any site where European protected species are present.

Even where all of the above criteria are met, the SSM does not have to be used. The SBMCT can always be used in its place.

3.7 The Mitigation Hierarchy

The mitigation hierarchy is a widely accepted framework used in UK planning policy and environmental regulation to manage the impacts of development on biodiversity. It is structured as a sequence of steps that must be considered in order of priority:

Avoid. Prevent impacts on biodiversity wherever possible, through careful site selection and design.

Minimise. Reduce the extent of any unavoidable impacts through design and management changes.

Mitigate. Implement measures to reduce the severity or duration of impacts on habitats and species.

Compensate (or Offset). Where impacts remain after avoidance and mitigation, provide biodiversity gains elsewhere to ensure no net loss, or ideally, a net gain.

This framework is embedded in national planning policy and biodiversity legislation, including the National Planning Policy Framework and the Environment Act 2021. It provides a structure for ensuring that development decisions are consistent with legal obligations to protect biodiversity and deliver Biodiversity Net Gain.

3.8 Species Protections

Species receive legal protection under different legislation that may prohibit sale, disturbance and/or killing/injury. The following is a summary of some of the species/groups that are most frequently impacted by development related projects.

3.8.1 Plants

A number of plant species are protected under Section 13 of the amended Wildlife and Countryside Act. It is an offence to intentionally pick, uproot or destroy any wild plant listed in Schedule 8 of the Act. The list includes both higher plants including several of the rarer orchids and lower plants including several mosses and lichens.

3.8.2 Birds

All wild birds (birds in a wild state resident in or visiting Great Britain) and their nests and eggs are protected under the Wildlife & Countryside Act. Particular emphasis is given to the protection of breeding birds. With certain exceptions, it is an offence to intentionally 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, disturb wild birds listed in Schedule 1 when nest building or at a nest containing eggs or young, or disturb dependent young of wild birds.

3.8.3 Bats

All species of bat and their breeding sites or resting places (roosts) are protected under Regulation 41 of The Conservation of Habitats and Species Regulations and Schedule 5 of the Wildlife and Countryside Act. It is an offence for anyone to intentionally kill, injure or handle a bat, to possess a bat (whether live or dead), deliberately disturb a roosting bat, or sell or offer a bat for sale without a licence. It is also an offence to damage, destroy or obstruct access to any place used by bats for shelter.

3.8.4 Reptiles

All native reptiles are listed on Schedule 5 of the Wildlife and Countryside Act. It is an offence for anyone to intentionally kill or injure a so-called 'widespread' reptile species (viviparous lizard, slow-worm, grass snake or adder), or sell or offer for sale without a licence.

The sand lizard and smooth snake, their breeding sites or resting places (any structure that may offer refuge) are protected under Regulation 41 of The Conservation of Habitats and Species Regulations. It is an offence for anyone intentionally to kill, injure or handle either of these two species, to possess an animal (whether live or dead), deliberately disturb a sheltering animal, or sell or offer an animal for sale without a licence. It is also an offence to damage, destroy or obstruct access to any place used by sand lizards and smooth snakes for shelter.

3.8.5 Amphibians

All native amphibians are listed on Schedule 5 of the Wildlife and Countryside Act. It is an offence for anyone to sell or offer for sale any native amphibian species without a licence.

The great crested newt and natterjack toad, their breeding sites (typically ponds) or resting places (typically a terrestrial habitat that offers refuge) are protected under Regulation 41 of The Conservation of Habitats and Species Regulations. It is an offence for anyone to intentionally kill, injure or handle either of these two species, to possess an animal (whether live or dead), deliberately disturb a sheltering animal, or sell or offer an animal for sale without a licence. It is also an offence to damage, destroy or obstruct access to any place used by natterjack toads or great crested newts for shelter.

3.8.6 Badger

Badgers and their setts are protected under the Protection of Badgers Act 1992, which makes it illegal to kill, injure or take badgers or to interfere with a badger sett. The term 'badger sett' is normally understood to mean the system of tunnels and chambers, in which badgers live, and their entrances and immediate surrounds. The 1992 Act specifically defines a sett as "any structure or place which displays signs indicating current use by a badger".

3.8.7 Hazel Dormouse

Individual animals, their breeding sites or resting places (nests) are protected under Regulation 41 of The Conservation of Habitats and Species Regulations and Schedule 5 of the Wildlife and Countryside Act. It is an offence for anyone intentionally to kill, injure or handle a dormouse, to possess a dormouse (whether live or dead), deliberately disturb a dormouse, or sell or offer a dormouse for sale without a licence. It is also an offence to damage, destroy or obstruct access to any place used by dormice for shelter.

3.8.8 Beaver, Otter and Water Vole

Water voles receive full protection under Schedule 5 of the Wildlife & Countryside Act. It is an offence to deliberately, capture, injure or kill them or to damage, destroy or obstruct their breeding or resting places. It is also an offence to disturb them in their breeding or resting places. Otters and beavers are protected under the Conservation of Habitats and Species Regulations. It is an offence for anyone to intentionally kill, injure or handle these species, to possess an otter or beaver (whether live or dead), deliberately disturb an otter or beaver, or sell or offer one for sale without a licence. It is also an offence to damage, destroy or obstruct access to any place used by otter or beaver for shelter.

3.8.9 Hedgehogs

Hedgehogs are protected against being killed or taken by certain methods under Schedule 6 of the Wildlife and Countryside Act 1981.

3.8.10 Invertebrates

Some invertebrates including several species of mollusc, crustacean, beetle, cricket, butterfly and moth are protected under Schedule 5 of the Wildlife and Countryside Act against deliberate killing, injuring and taking. Other species receive partial protection under the same act (e.g. against taking for sale).

3.9 Ecological Zone of Influence

The Ecological Zone of Influence (ZOI) is the area around a development project where ecological features might be affected by biophysical changes resulting from the project. This includes impacts during construction, operation, decommissioning, and restoration phases. The ZOI considers the type of project, the sensitivity of ecological features, project activities, environmental processes, and regulatory guidelines. It is a dynamic concept, regularly updated based on new information and project progression.

It can sometimes be useful to review some ecological data outside of the ecological zone of influence. For example, species records collected from a wider area may provide insights into likely occupancy within the ecological zone of influence.

For the purposes of this report the ZOI has been defined according to the following criteria:

3.9.1 Small Development Projects

Examples: single-family homes, small commercial buildings, minor road expansions.

Area: Red line application areas are usually up to 1 Ha.

ZOI Distance: for very small projects up to 500 m may be sufficient, but 1 km often used to overcome constraints imposed by data providers.

3.9.2 Medium Development Projects

Examples: Residential developments with multiple units, small industrial facilities, moderate road construction.

Area: Red line application areas are typically between 1 and 10 Ha.

ZOI Distance: Up to 5 km.

3.9.3 Large Development Projects

Examples: large industrial complexes, major highways, extensive urban developments, airports.

Area: Red line application areas are typically greater than 10 Ha.

ZOI Distance: Can be up to 50 km or more.

4. Desktop Study

4.1 MAGIC Geographic Information System

The MAGIC website offers reliable geographic information on the natural environment in Great Britain, encompassing rural, urban, coastal, and marine areas. Managed by Natural England (NE) and overseen by a Steering Group representing the MAGIC partnership organisations, the website presents this information through an interactive map equipped with mapping tools for exploration and analysis.

<http://magic.defra.gov.uk>

4.1.1 Priority Habitat Designations

Nearby priority habitat designations are illustrated in Appendix I.

Information available through MAGIC indicates that habitat within the application area forms part of a larger parcel of land that has previously been designated as open mosaic habitat on previously developed land (draft). Other priority habitats located within the ZOI include:

- Reedbeds.
- Deciduous Woodland.
- Traditional orchards.

4.1.2 Statutory Designated Areas

The locations of nearby statutory designated areas are illustrated in Appendix II.

No statutory designated sites are associated with the proposed development site. Other statutory sites located within the ZOI include:

- Swanscombe Peninsula SSSI.

4.1.3 Non-statutory Designated Areas

The locations of nearby non-statutory designated areas are illustrated in Appendix II.

No non-statutory designated sites are associated with the proposed development site.

4.1.4 Site of Special Scientific Interest Impact Risk Zone

NE has created a tool that is accessed via MAGIC to determine the risk of development impact on designated areas (including SSSIs, SACs, SPAs and Ramsar sites). Available information indicates that the proposed development is located within a SSSI risk zone.

The SSSI risk tool provides guidance on when the Local Planning Authority should consult NE. NE will then provide advice on any potential impacts and how these might be avoided or mitigated. Available information indicates that the LPA will be required to consult with NE.

4.1.5 European Protected Species Licences

The locations of nearby EPS licences are illustrated in Appendix III.

Information available via MAGIC reveals that several EPS mitigation licences have been issued by NE within the ZOI. Species for which licences have been issued include:

- Hazel dormouse.
- Common pipistrelle bat.

4.1.6 Great Crested Newt Class Survey Licence Returns

The locations of nearby great crested newt survey records are illustrated in Appendix IV.

Information available via MAGIC reveals that great crested newt has not previously been reported to NE within the 1 km ZOI.

4.2 Kent Landscape Information System (KLIS)

The Kent Landscape Information System website facilitates informed decision-making by offering detailed information on Kent's landscape and biodiversity. Targeted primarily at landowners, farm advisors, and those engaged in land use planning, the site is also a valuable resource for the general public. It provides information on countryside access, landscape character, opportunities for habitat creation and landscape restoration, the Kent habitat survey, and areas designated for conservation value.

<https://webapps.kent.gov.uk/KCC.KLIS.Web.Sites.Public/Default.aspx>

4.2.1 Kent Habitat Survey 2012

Habitat designations are illustrated in Appendix V.

The 2012 Kent Habitat Survey characterised the study area as (1) neutral grassland (2) broadleaved, mixed and yew woodland and (3) boundary and linear features.

4.2.2 Local Wildlife Sites and Reserves

Nearby designations are illustrated in Appendix VI.

Information available through KLIS indicates that land within the site is located adjacent to Ebbsfleet Marshes etc, Northfleet Local Wildlife Site.

4.3 Records Searches

Available records for protected species have been obtained from Kent and Medway Biological Records Centre and Kent Reptile and Amphibian Group.

Note that the availability of records is directly related to survey effort. A lack of records does not necessarily indicate the absence of protected species.

4.3.1 Kent and Medway Biological Records Centre

Supplied records reflect both protected and otherwise notable species, including those listed on the NERC Act (Section 41), red-listed birds, and Schedule 1 or 5 species under the Wildlife and Countryside Act 1981 (as amended).

Amphibians

- Great crested newt (*Triturus cristatus*): Historic record (1981-1990) from Barming Station.
- Smooth newt (*Lissotriton vulgaris*), palmate newt (*L. helveticus*), common frog (*Rana temporaria*), and common toad (*Bufo bufo*) all recorded within 2 km, including multiple recent records.

Reptiles

- Slow-worm (*Anguis fragilis*): Recorded in 2009 and 2011 from Northfleet and Shorne Marshes.
- Common lizard (*Zootoca vivipara*) and grass snake (*Natrix helvetica*): Multiple records within 2 km, including recent records (2016) from Ebbsfleet and historic data from Swanscombe, Springhead, and Northfleet Marshes.

Birds

Supplied records reflect both protected and otherwise notable species, including those listed on the NERC Act (Section 41), red-listed birds, and Schedule 1 or 5 species under the Wildlife and Countryside Act 1981 (as amended). A total of 162 species were recorded within 1 km of the site, summarised below:

The records indicate both summer (April–July) and winter (August–March) occurrences, with many species showing confirmed breeding in the area.

The following notable species were recorded, based on their Red List (BoCC5:Red), NERC Act Section 41 (S41), Wildlife and Countryside Act 1981 (WCA1), or Kent Red Data Book (KRDB) status, or being a Biodiversity Action Plan (BAP) species:

- Lapwing (*Vanellus vanellus*): BoCC5:Red, S41, KRDB2 - confirmed breeding in the area.
- Cuckoo (*Cuculus canorus*): BoCC5:Red, S41, BAP, KRDB2 - breeding confirmed
- House sparrow (*Passer domesticus*): BoCC5:Red, S41, KRDB2 - breeding confirmed.
- Starling (*Sturnus vulgaris*): BoCC5:Red, S41, KRDB2 - breeding confirmed.
- Linnet (*Carduelis cannabina*): BoCC5:Red, S41, KRDB2 - breeding confirmed.
- Yellowhammer (*Emberiza citrinella*): BoCC5:Red, S41, KRDB2 - breeding confirmed.
- Song thrush (*Turdus philomelos*): BoCC5:Amber, S41, BAP, KRDB2 - breeding confirmed.

- Grey partridge (*Perdix perdix*): BoCC5:Red, S41, BAP, KRDB2 - historic breeding record.
- Corn bunting (*Miliaria calandra*): BoCC5:Red, S41, KRDB2 - breeding confirmed.
- Turtle dove (*Streptopelia turtur*): BoCC5:Red, S41, BAP, KRDB2 - breeding confirmed.
- Spotted flycatcher (*Muscicapa striata*): BoCC5:Red, S41, BAP, KRDB2 - breeding confirmed.
- Tree pipit (*Anthus trivialis*): BoCC5:Red, S41, BAP, KRDB2 - historic breeding
- Grasshopper warbler (*Locustella naevia*): BoCC5:Red, S41, BAP, KRDB1 - breeding confirmed.
- Nightjar (*Caprimulgus europaeus*): BoCC5:Amber, S41, BAP, KRDB1 - historic record (1968).
- Skylark (*Alauda arvensis*): BoCC5:Red, S41, BAP, KRDB2 - breeding confirmed.
- Yellow wagtail (*Motacilla flava*): BoCC5:Red, S41, BAP, KRDB2 - breeding confirmed.
- Lesser redpoll (*Carduelis cabaret*): BoCC5:Red, S41, BAP, KRDB1 - historic winter record.
- Marsh tit (*Parus palustris*): BoCC5:Red, S41, BAP, KRDB2 - historic record.
- Reed bunting (*Emberiza schoeniclus*): BoCC5:Amber, S41, BAP - breeding confirmed.
- Herring gull (*Larus argentatus*): BoCC5:Red, S41, KRDB2 - frequent in area.
- Pochard (*Aythya ferina*): BoCC5:Red, KRDB3 - wintering.
- Dartford warbler (*Sylvia undata*): BoCC5:Amber, WCA1, BirdsDir:A1 - wintering in Swanscombe Marshes.
- Black redstart (*Phoenicurus ochruros*): BoCC5:Amber, WCA1, KRDB1 - single breeding-season record.
- Mediterranean gull (*Larus melanocephalus*): BoCC5:Amber, WCA1, KRDB3 - regular in area.
- Little ringed plover (*Charadrius dubius*): WCA1, KRDB1 - non-breeding record from Swanscombe.
- Red kite (*Milvus milvus*), hobby (*Falco subbuteo*), and peregrine (*Falco peregrinus*): All WCA1 Schedule 1 raptors, with recent foraging or territorial records in vicinity.
- Kingfisher (*Alcedo atthis*): WCA1, BirdsDir:A1 - multiple recent records from the Ebbsfleet Valley.

Bats

Combined data from Kent Bat Group within a 5 km radius of TQ 619 736. 11 species of bat were recorded in the area (out of 17 recorded in Kent), with multiple roost records and extensive hibernation data.

- The surrounding landscape includes the River Thames, Northfleet industrial areas, rail and road corridors, and established woodland blocks in nearby urban greenspace.
- Day roosts, maternity roosts, hibernacula, and activity records were identified within 2 km of the site.
- Most records date from 1987 to 2023.

Notable species include:

- Nathusius' pipistrelle (*Pipistrellus nathusii*): WCA5, Bonn II, S41. Single activity record from TQ6174 (2023).
- Serotine (*Eptesicus serotinus*): WCA5, Bern II, Bonn II. Roost records at TQ6272 (1988) and activity records at TQ6174 (2017).
- Leisler's bat (*Nyctalus leisleri*): WCA5, Bern II, Bonn II. Multiple activity records from TQ6174 (2017).
- Soprano pipistrelle (*Pipistrellus pygmaeus*): WCA5, Bern II, Bonn II, S41. Roosts recorded at TQ6272 (1988, 1997) and activity at TQ6174 (2017).
- Brown long-eared bat (*Plecotus auritus*): WCA5, Bern II, Bonn II, S41. Activity recorded at TQ6174 (2017).
- Whiskered/Brandt's bat (*Myotis mystacinus/brandtii*): WCA5, Bern II, Bonn II. Activity recorded at TQ6174 (2023).
- Natterer's bat (*Myotis nattereri*): WCA5, Bern II, Bonn II. Hibernation site record at TQ6174 (2000).
- Daubenton's bat (*Myotis daubentonii*): WCA5, Bern II, Bonn II. Activity and hibernation records from TQ6174 (2023, 2000).
- Common pipistrelle (*Pipistrellus pipistrellus*): WCA5, Bern II, Bonn II. Roost and activity records across multiple locations including TQ6174, TQ6272, and TQ67C (1987–2023).
- Noctule (*Nyctalus noctula*): WCA5, Bern II, Bonn II, S41. Activity records from TQ6174 (2017).
- Unidentified *Myotis* spp. and bat sp.: Activity and grounded bat records throughout the search area.

Other Mammals

- Water vole (*Arvicola amphibius*): Multiple records from Ebbsfleet Stream and Swanscombe Marshes between 1996 and 2001.
- Hedgehog (*Erinaceus europaeus*), badger (*Meles meles*), common shrew (*Sorex araneus*), and pygmy shrew (*S. minutus*): All recorded within 2 km, with records spanning from the 1970s to early 2000s across Northfleet, Gravesend, and Swanscombe Marshes.

Invertebrates

- Stag beetle (*Lucanus cervus*): Recorded in 1998 at TQ630732.

- Shrill carder bee (*Bombus sylvarum*).
- Brown-banded carder bee (*Bombus humilis*).
- Various moths and butterflies with Nationally Scarce or UK BAP status.

Flora

Several species are classed as Vulnerable, Near Threatened, or Nationally Scarce.

- Bluebell (*Hyacinthoides non-scripta*): recorded from several locations up to 2018.
- Deptford pink (*Dianthus armeria*): Schedule 8 species.
- Cornflower (*Centaurea cyanus*).
- Small-flowered catchfly (*Silene gallica*).

4.3.2 Kent Reptile and Amphibian Group (KRAG)

KRAG is one of the primary data holders for reptiles and amphibians in Kent (including areas of former West Kent now included in Greater London). Information supplied by KRAG indicates that smooth newt and great crested newt have been recorded within 1 km of the application area. The closest validated great crested newt record was a historical observation reported from a site located 100 m to the north (Appendix VII).

Viviparous lizard, slow-worm and grass snake have also been recorded within 1 km of the application area. The closest reptile observation was for viviparous lizard, recorded 220 m to the south west.

KRAG has prepared a summary risk assessment that describes the likely presence of herpetofauna (Table 4.1). The risk assessment is based on statistical analysis of available distribution data but does not take into consideration the quality of habitat available within the proposed development site.

Species	Likelihood of Presence
<i>Amphibians</i>	
Common Frog	Likely
Common Toad	Possible
Natterjack	<i>n/a</i>
Smooth Newt	Likely
Palmate Newt	Possible
Great Crested Newt	Possible
<i>Reptiles</i>	
Viviparous Lizard	High
Slow-worm	Likely
Sand Lizard	Unlikely
Grass Snake	High
Adder	Unlikely
Smooth Snake	<i>n/a</i>

Table 4.1. Herpetofauna risk assessment prepared by Kent Reptile and Amphibian Group.

5. Proposed Development and Summary Site Description

5.1 Site Location

The proposed development site is situated adjacent to a sewage treatment works within the North Kent Plain National Character Area. The site is accessed from Thames Way.

5.1 North Kent Plain National Character Area

The North Kent Plan is characterised by an open, low and gently undulating landscape, with high- quality, fertile, loamy soils dominated by agricultural land uses. The area's geology is dominated by Palaeogene clays and sands, underlain by the chalk. The area includes a diverse coastline, made up of cliffs, intertidal sand and mud, salt marshes, sand dunes and shingle beaches. Much of the coastal hinterland has been built on, and the coast itself has been modified through the construction of sea walls, harbours and piers.

Large arable/horticultural fields with regular patterns and rectangular shapes predominate with a sparse hedgerow pattern. Orchards and horticultural crops characterise central and eastern areas, and are often enclosed by poplar or alder shelterbelts and scattered small woodlands. Woodland occurs on the higher ground around Blean and in smaller blocks to the west, much of it ancient and of high nature conservation interest.

The Stour and its tributaries are important features of the eastern part of the NCA, draining eastwards into the North Sea, with associated wetland habitats including areas of grazing marsh, reedbeds, lagoons and gravel pits. The River Medway cuts through the NCA as it flows into the Thames Estuary.

Other semi-natural habitats include fragments of neutral, calcareous and acid grassland.

5.2 Proposed Development

Installation of battery energy storage system

The application area is 0.9908 Ha and illustrated in Fig. 5.1.

5.3 Available Habitat

Habitat within the red line application area was assessed during a daytime walkover survey on 1st July 2025.

Weather conditions during the assessment: 30°C; no precipitation; light SW; 0% cloud; dry ground.

5.3.1 Aquatic Habitat

Ponds located within the local area have been identified using the following sources:

- Ordnance Survey (<https://www.bing.com/maps>);
- MAGIC (<http://magic.defra.gov.uk>);
- Google Earth.

No ponds are located within the application area. Five waterbodies are located within 500 m. The search area for waterbodies is illustrated in Fig. 5.2 and extant features listed in Table 5.1.

5.3.2 Terrestrial Habitat

The site comprises a mosaic of unmanaged habitats characteristic of previously disturbed ground undergoing natural succession. The vegetation includes extensive areas of dense bramble (*Rubus fruticosus* agg.) scrub, tall ruderal herbs and coarse grasses. Scattered trees and shrubs, including dog rose (*Rosa* spp.), hawthorn (*Crataegus monogyna*), and blackthorn (*Prunus spinosa*), are present throughout.

The habitat structure is varied, with a mix of dense scrub, tall herbaceous vegetation, and occasional open patches. Some areas were found to support ground mosses.

Two earth bunds are present on site, a small one toward the front and a larger one to the rear. The bunds contribute to the site's topographic and structural variation.

Overall, the habitat within the red line application area appears to include some of the broad characteristics used to define open mosaic habitat on previously developed land.

Habitat available within the proposed development area is illustrated in Figs. 5.3 - 5.4.

WB	Grid Reference	Distance (m)	Notes
1	TQ 62138 73715	25	Large water-filled quarry situated on opposite side of Thames Way (dispersal barrier).
2	TQ 61786 73813	95	Situated in adjacent LWS.
3	TQ 61579 73253	495	Situated in adjacent LWS.
4	TQ 61525 73274	490	Situated in adjacent LWS.
5	TQ 61817 74119	385	Situated in LWS on distal side of major dispersal barrier.

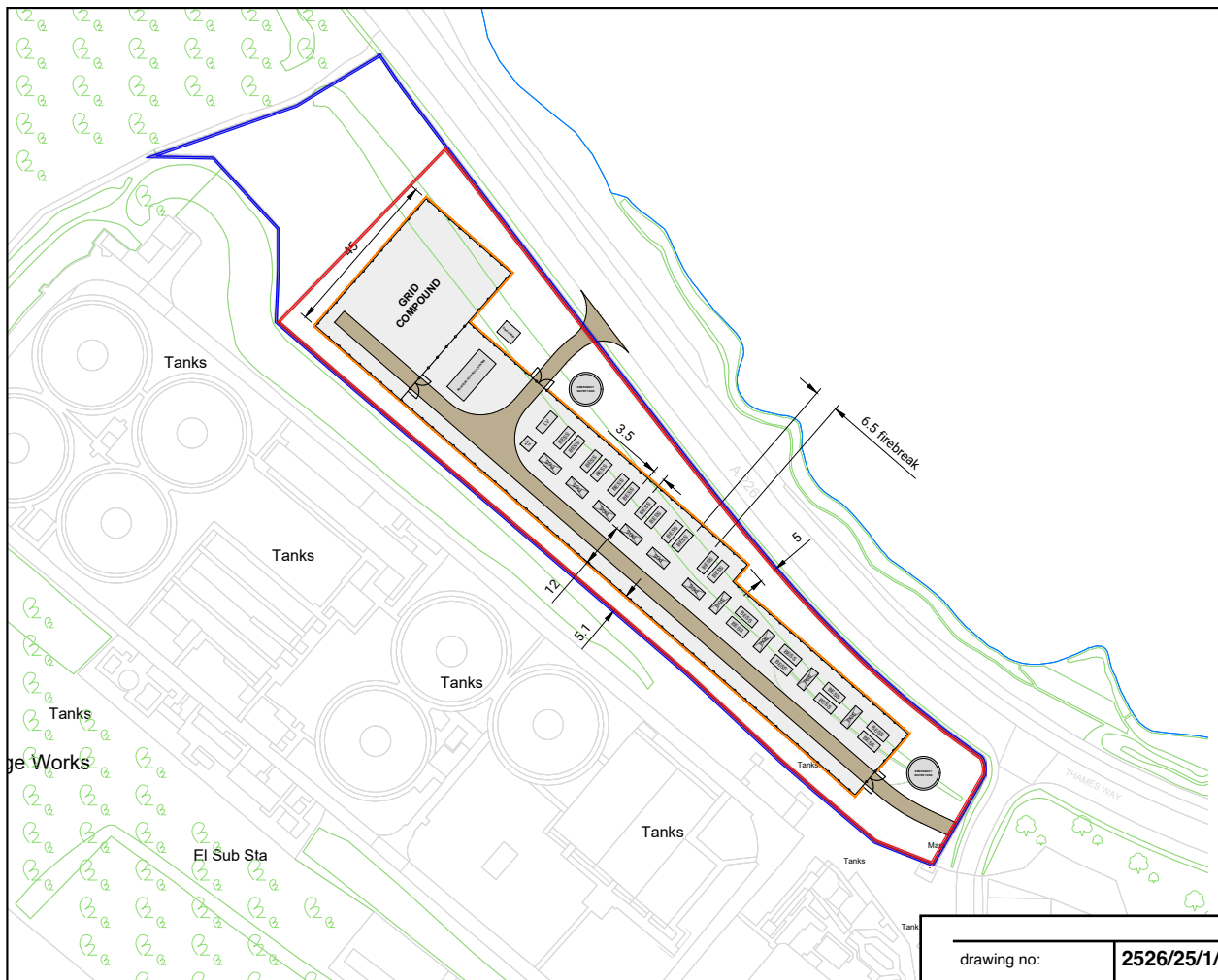
Table 5.1. Summary information for ponds (WB) known to be located within 500 m of the proposed development site. The locations of ponds are illustrated in Fig. 5.2.

5.4 Buildings

No buildings are located within the application area.

Fig. 5.1 Proposed Development Area

Red line application area: 0.9908 Ha.



drawing no: **2526/25/1/5.1**

project:
Land at Thames Way

title:
Development Area

scale: **N.T.S.**

date: **Jul 2025**



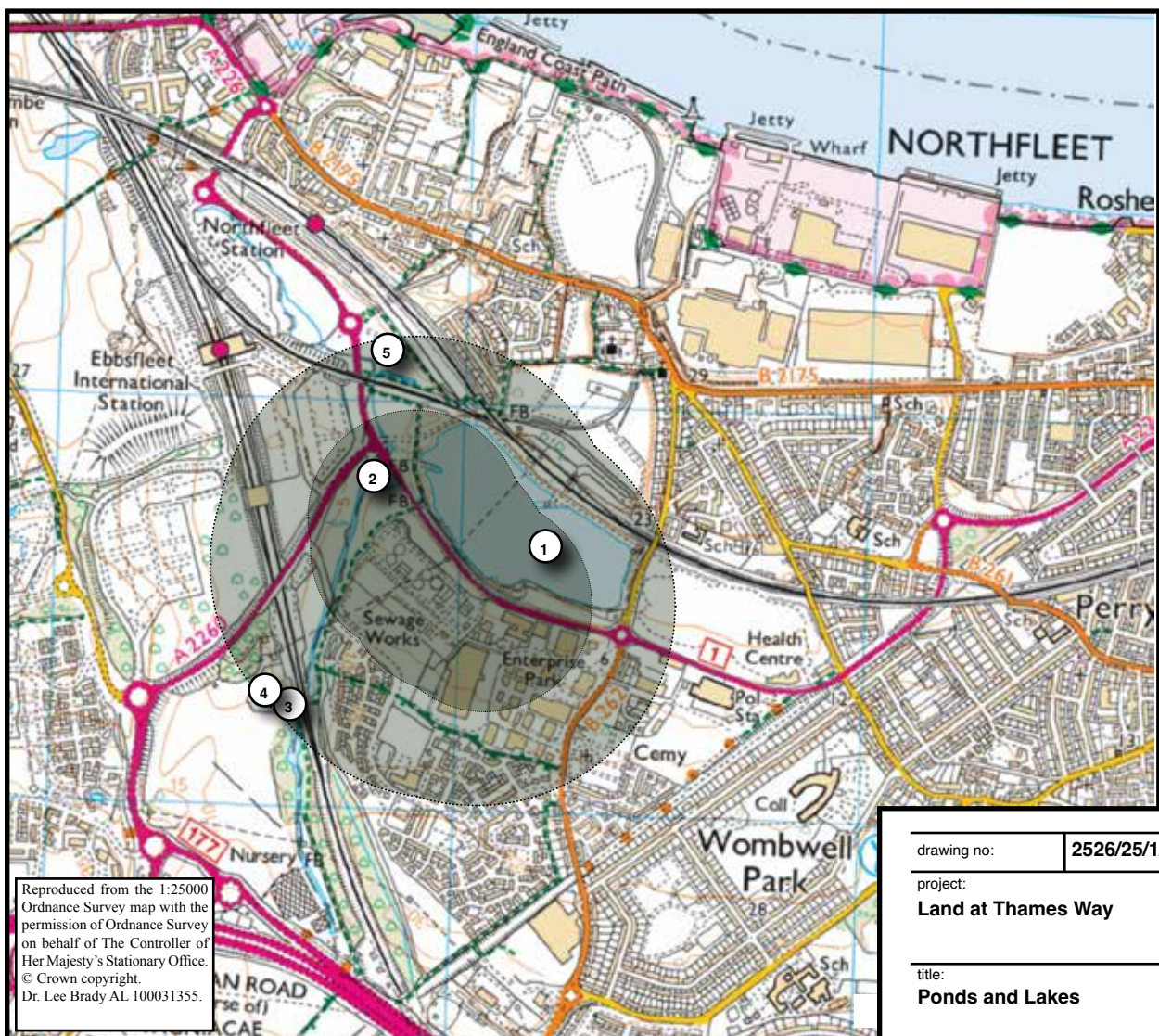
13 Woodside Cottages,
Dunkirk,
Kent ME13 9NY
info@calumma.co.uk
www.calumma.co.uk

Fig. 5.2 Ponds and Lakes

Figure illustrates ponds and lakes known to occur within recommended area of search for great crested newt.

No ponds are located within the application area. Five waterbodies are known to be located within 500 m.

For ponds located more than 250 m from a proposed development, Natural England recommend that survey work is most appropriate when (a) the pond has the potential to support a large population, (b) the development includes particularly favourable habitat, (c) the development will have a significant impact on available habitat, (d) there is an absence of dispersal barriers.



Key to Symbols



Fig. 5.3 Aerial Photographs

Indicative location of proposed application area, illustrating existing habitat (main plate 2024).

The application area includes several features typical of open mosaic habitats. Although vegetation is dominated by dense bramble scrub with scattered small trees/shrubs, early successional habitats such as open grassland, tall ruderal vegetation and ground mosses are also present. The application area is bordered by a water treatment works to the rear.



drawing no: **2526/25/1/5.3**

project:
Land at Thames Way

title:
Aerial Photographs

scale: **N.T.S.** date: **Jul 2025**



13 Woodside Cottages,
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Tall ruderal vegetation, grassland forbes and bramble flowers provide seasonal opportunities for invertebrates.

Fig. 5.4 Site Photographs

Figure illustrates habitat features located within the study area.



Although previously designated as open mosaic habitat on previously developed land, the site is now dominated by bramble scrub. Bramble scrub offers potential habitat for hazel dormouse that has previously been recorded in the local area.



Available grassland displays moderate structural complexity and offers potential for reptiles such as viviparous lizard, slow-worm and grass snake. The extent of available grassland is considered too limited to support significant numbers of ground nesting birds.

drawing no:	2526/25/1/5.4
project:	Land at Thames Way
title:	Site Photographs
scale: N.T.S.	date: Jul 2025

6. Protected Species Assessment

Species/Species Group	Likely Presence	Evidence	Further Work Required?
Birds	Likely	Woody vegetation offers good potential for common and widespread breeding birds.	Nesting birds must not be disturbed.
Bats	Roosting: None Commuting/Foraging: Likely	No structures or trees within site suitable for roosting bats. Foraging/commuting bats are likely to use available habitat within the local area.	External lighting should follow appropriate guidelines.
Reptiles	Confirmed	Grassland and tall ruderal vegetation within application area characterised by sward with moderate to high structural complexity. [Viviparous lizards observed during subsequent site visit.]	Reptile survey recommended.
Great Crested Newt	Breeding: None Sheltering: Possible	No extant ponds within application area. Several waterbodies located within 500 m. Available terrestrial habitat offers good potential for sheltering and protection.	Survey and/or mitigation recommended.
Widespread Amphibians	Breeding: None Sheltering: Likely	No extant ponds within application area. Several waterbodies located within 500 m. Available terrestrial habitat offers good potential for sheltering and protection.	Precautionary mitigation recommended.
Badgers	Possible	No evidence of badger observed, but dense scrub constrained site access and nearby habitat offers good potential.	Precautionary mitigation recommended.
Hazel Dormouse	Likely	Hazel dormouse recorded from nearby locations. Bramble scrub offers suitable habitat for dormouse.	Hazel dormouse survey recommended.
Beaver, otter and water vole	None	No suitable aquatic or terrestrial habitat within red line application area.	No.
Hedgehog	Possible	Hedgehog could occupy nearby locations. Available habitat suitable for foraging and sheltering.	Precautionary mitigation recommended.
Rare and Notable Invertebrates	Possible	Although open mosaic habitats can support diverse and specialised invertebrate communities, application area is heavily overgrown by bramble scrub.	Appropriate habitat enhancement recommended.

Table 6.1. Summary of protected species likely presence within application area and recommendations for further survey and/or mitigation work. Species for which additional survey work is recommended are highlighted. Refer to text for further details. Likely presence is categorised as follows: *None* – no suitable habitat present; *Negligible* – habitat present but limited in area or low quality; *Possible* – habitat present; *Likely* – habitat present and considered highly favourable for species; *Confirmed* – direct evidence of species observed within site.

6.1 Birds

Within the local area there are areas of grassland, rivers and scrub that are expected to support a varied bird population. Woody vegetation within the application area is highly likely to support breeding birds. Blackcap, a common scrub-nesting species, was recorded singing on site and may breed locally.

While bramble scrub and ruderal habitat provide nesting opportunities for common birds such as wren, dunnock and blackbird, no species of conservation concern were recorded during the site assessment, and no standing water or significant areas of grassland suitable for notable ground-nesting birds is present. A targeted breeding bird survey is therefore not considered proportionate.

Clearance of vegetation should be scheduled outside of the nesting bird season (March - August inclusive), or undertaken under the supervision of a suitably experienced ecologist following a nesting bird check.

6.2 Bats

Local habitat features include trees, waterbodies, rivers and scrub that provide potential roosting, foraging and commuting opportunities for bats.

6.2.1 Building Inspection

No buildings are located within the application area.

6.2.2 Trees

Trees located within the application area are not considered suitable for roosting bats.

6.3 Reptiles

Although dominated by bramble scrub, areas of open grassland and tall ruderal are present. Here, the ground sward displays moderate to high structural complexity and could support several species of reptile (e.g. viviparous lizard, slow-worm and grass snake).

Viviparous lizards (neonates and adult) were observed during a subsequent site visit.

Reptile survey work is recommended.

6.4 Amphibians

No extant ponds are located within the application area. Five waterbodies are known to be present within 500 m. Whilst all reasonable effort is made to identify ponds located around the site, small garden ponds and recently constructed ponds may not be included in available information sources. If additional ponds are subsequently identified close to the site, the amphibian risk assessment may need to be updated.

6.4.1 Natural England Risk Assessment

Natural England has published a risk map for Kent that predicts the likelihood of newts being present within a proposed development site. The proposed works area is partially located in an *Amber* risk zone.

"Red zones contain key populations of GCN, which are important on a regional, national or international scale and include designated Sites of Special Scientific Interest for GCN. Amber zones contain main population centres for GCN and comprise important connecting habitat that aids natural dispersal. Green zones contain sparsely distributed GCN and are less likely to contain important pathways of connecting habitat for this species. White zones contain no GCN."

6.4.2 Great Crested Newt Impact Assessment

The proposed works could impact on the local conservation status of great crested newt for the following reasons:

- Application area partially located in Amber Risk Zone.
- Five waterbodies known to be located within 500 m. Three waterbodies present on proximal site of likely dispersal barriers.
- Terrestrial habitat within application area suitable for foraging and sheltering.
- Historical record of great crested newt from local area.

Appropriate survey and/or mitigation work for great crested newt is recommended. Details of survey and mitigation available for gcN are detailed in Appendix VIII.

6.4.3 Other Widespread Amphibian Species

Common frog, common toad, smooth newt and palmate newt are likely to breed in nearby waterbodies, including those in residential gardens and ponds supporting fish.

The proposed development could impact on the local conservation status of widespread amphibian species for the following reasons:

- Five waterbodies known to be located within 500 m.
- Terrestrial habitat within application area suitable for foraging and sheltering.

Precautionary mitigation for widespread amphibians is recommended.

6.5 Badgers

No evidence of badger was observed within or adjacent to the proposed development area.

Since dense scrub constrained access into the site and habitat suitable for badger is located within the local area, precautionary mitigation is recommended.

6.6 Hazel Dormouse

Habitats typically suitable for dormouse include:

- Deciduous woodland, with a dense understory, species-rich shrub layer and thick ground cover.
- Hazel or sweet chestnut coppice.
- Continuous, thick, wide hedgerows over 4m high with connections to nearby suitable woodland.
- Thick continuous areas of scrub, particularly bramble, close to hedgerows or woodlands.

Hazel dormouse has previously been recorded within the local area. Bramble scrub located within the proposed development site offers habitat favourable for hazel dormouse.

Hazel dormouse survey work is recommended.

6.7 Beaver, Otter and Water Vole

Available habitat within the application area is unsuitable for beaver, otter and water vole.

6.8 Hedgehog

Available habitat within/adjacent to the application area is suitable for foraging and sheltering. Since hedgehog could be present in the local area, precautionary mitigation is recommended.

6.9 Rare and Notable Invertebrates

The application area has previously been designated as open mosaic habitat on previously developed land (draft).

Open mosaic habitats can support a diverse assemblage of invertebrates by providing a structurally varied environment with bare ground, early successional vegetation, and nectar-rich resources. These features offer breeding sites, basking and foraging opportunities, and refuges from predators, sustaining species of conservation concern that depend on patchy, disturbed, or ephemeral habitats.

The proposed development site lies adjacent to Northfleet Marshes (GR05 Local Wildlife Site) and in proximity to the Swanscombe Peninsula SSSI, both of which are known for their rich invertebrate assemblages, particularly associated with open mosaic habitats. However, the application area is currently dominated by dense bramble scrub, with limited remaining early-successional features.

Given the degraded condition of the habitat and the limited scale of the proposed development, detailed invertebrate survey work is not considered proportionate. Instead, targeted enhancement is recommended in retained areas to restore elements of open mosaic structure and support invertebrate diversity in a precautionary manner, reflecting the ecological context of the wider landscape.

7. Recommendations

Appropriate actions should be undertaken to ensure that there is minimal disturbance to protected species and any retained habitat. Retained habitat should be managed to promote biodiversity interest.

If any areas with potential for protected species are proposed for management or other disturbance (e.g. ground investigations or archaeological excavations), all works should first be discussed and agreed with a suitably experienced ecologist.

7.1 Flora

7.1.1 Verification Survey: Open Mosaic Habitat Status and Condition

The red line application area is identified on the MAGIC website as located within an area of open mosaic habitat (OMH) on previously developed land (draft), a UK Priority Habitat. However, a preliminary habitat assessment undertaken as part of the current appraisal indicates that land within the red line application area may no longer fully meet all of the latest UK Habitat criteria for OMH.

Field observations indicate that ~70% of the application area is now dominated by dense bramble scrub, with limited areas of grassland and tall ruderal vegetation and very little exposed or sparsely vegetated ground. Structural variation is reduced, and early-successional habitat features such as bare substrate and ephemeral vegetation appear largely absent.

Given the habitat's current structure and successional stage, it is recommended that a more detailed follow-up survey be undertaken. The existing draft designation by Natural England extends beyond the red line application area and includes additional habitat features that were outside the scope of the current appraisal and have not yet been assessed. If the OMH designation is to be verified, those features also need to be considered against the full set of UK Habitat OMH criteria.

The outcome will help determine whether the OMH designation remains appropriate and will provide a more robust basis for informing future site management or development proposals.

For more information see:

<https://www.gov.uk/government/collections/biodiversity-net-gain>

7.1.2 Trees

Where proposals are likely to be in close proximity to trees to be retained it is recommended that any works within the tree protection zones are carefully monitored to protect trees in the long-term. All tree protection, work to trees and any work in the vicinity of trees is to accord with the relevant sections of the following standards:

BS 3998 - Recommendations for Tree Work.

BS 4428 - Code of practice for general landscape operations.

BS 5837 - Guide for Trees in Relation to Construction.

BS 1722 - Fences.

7.2 Birds

7.2.1 Timing of Development Works

To avoid any potential offence under the Wildlife & Countryside Act, no clearance of features that could support nesting birds should be undertaken during the bird-nesting season (1st March to 31st August inclusive).

If this is not practicable, any potential nesting habitat to be removed must first be checked by a suitably experienced ecologist in order to determine the location of any active nests. Any active nests identified will then need to be cordoned off (within a minimum 5 m buffer) and protected until the end of the nesting season or until the birds have fledged. These checking surveys would need to be carried out no more than three days in advance of vegetation clearance. If vegetation clearance works have not been completed within this timeframe, an update check should be undertaken.

7.2.2 Bird Nesting Boxes

The applicant should consider installing one or more bird nesting boxes in suitable locations. Suitable exterior boxes should be installed at a height of ~3 m above ground with a minimum distance of 3 m between boxes. Boxes should face north to east. Suitable exterior boxes will be informed by the results of proposed survey work.

Details of the boxes that will be installed together with their locations should be included with the application.

7.3 Bats

7.3.1 Lighting

Some artificial lighting can be detrimental to roosting, foraging and commuting bats especially Daubenton's, Whiskered, Natter's and Long-eared. Impacts on bats are higher in the April/May and September/October time periods, when bats emerge earlier and when most lighting will be on. The impact on bats is increased after mid-October when British Summer Time ends (by subtracting an hour).

If lighting is required, this should be low or zero UV, which is preferred to reduce attraction of insects to lighting and therefore to reduce the attraction of foraging bats to these areas. The Bat Conservation Trust's *Bats and Lighting in the UK guidance* must be adhered to in the lighting design (Appendix IX).

Lighting should be directed away or shielded from any adjacent woodland/trees, and bat boxes to allow bats safe foraging routes where they will not be visible to predators.

7.4 Reptiles

7.4.1 Reptile Survey

Available habitat could support a population of one or more reptile species and a presence/likely absence survey work is recommended in order to inform appropriate mitigation.

- Survey all suitable terrestrial habitat within the application area.

- Survey work should be undertaken by a suitably experienced ecologist using appropriate methods (preferably artificial cover object survey).
- A minimum of 7 survey visits are required to reliably confirm presence/likely absence.
- Survey visits should be undertaken during suitable weather conditions from April to September.

If reptiles are subsequently confirmed present a suitable mitigation strategy should be prepared.

For more information see:

<https://www.gov.uk/guidance/reptiles-protection-surveys-and-licences>

7.5 Amphibians

7.5.1 Great Crested Newt

Based on available information, the development size and presence of nearby ponds, works may have to be undertaken under an appropriate mitigation licence. For more information see:

<https://www.gov.uk/guidance/great-crested-newts-surveys-and-mitigation-for-development-projects>

The following options are proposed: (1) survey ponds to determine likely presence of newts or (2) apply for District Level Licence that does not require survey work.

7.5.1.1 Pond Survey

If additional pond survey work is undertaken, particular attention should be focussed on WBs 2 - 4. If these ponds are not found to be occupied by great crested newt, a more limited mitigation strategy may be sufficient for the proposed scheme.

- Ideally, all accessible ponds located within 500 m of areas proposed for disturbance should be surveyed by experienced and licensed personnel. This should also include any garden ponds that are subsequently found to be present.
- Survey priority is as follows: (1) all ponds within 100 m of the application area; (2) all ponds within 250 m of application area; (3) all ponds within 500 m of application area.
- Access permission to survey ponds on land owned by third parties will be required.
- If great crested newts are not confirmed present, no further mitigation actions are required.
- If a Low Impact Class Licence is required only presence information is required.
- Four survey visits to each pond are required to confirm presence using traditional survey methods. If eDNA sampling is undertaken only one visit to each pond is required.
- If newts are confirmed present and a full mitigation licence is required a total of six survey visits will be required to each occupied pond to determine relative population size(s).

- Mitigation actions and licence requirements will depend upon survey results.

7.5.1.2 District Level Licence

A District Level Licence (DLL) that aims to fundamentally change the approach to great crested newt mitigation licensing has been launched by Natural England.

- Under the DLL, development over a whole district is covered by a single licence. In some counties this licence is issued by Natural England. In other counties the licence may be issued by local authorities or even private companies (e.g. NatureSpace).
- Compensatory habitat is created off site by a third party prior to development and developers pay a fee based on an estimated impact on great crested newts for each development.
- No amphibian survey work, mitigation or other compensatory habitat works are required on the development site in order to apply for a DLL. However, the applicant is advised that such works may still be required to satisfy local planning obligations or licenses issued by private companies such as NatureSpace.
- Calumma Ecological Services considers that the DLL offers a useful tool to help provide suitable compensation for development projects that will have only a low impact on great crested newt.
- The applicant is advised that the cost of a District Level Licence is determined by the total area of the proposed development located within 250 m of a pond and subject to modifiers that are based on risk zones and whether great crested newt has recently been confirmed present. Natural England identifies ponds based on OS mapping data and these can sometimes include garden ponds and ponds that are no longer extant. Other companies may require the applicant to identify ponds on a site plan.

For more information see:

<https://www.gov.uk/government/publications/great-crested-newts-district-level-licensing-schemes>

7.5.2 Widespread Amphibians

Based on available information, the development size and presence of nearby ponds means that proposed works could have a negative impact on populations of widespread amphibians (including common toad). Common toads are a UK Biodiversity Action Plan (BAP) species and a Species of Principal Importance (SPI) under Section 41 of the NERC Act 2006. While not protected under the Habitats Regulations, they are a material consideration in planning and development.

Since no ponds will be directly impacted by proposed development actions, precautionary mitigation is recommended:

- Minimise disturbance of terrestrial refuges (e.g. log piles, rubble, dense vegetation) by retaining these features where feasible or relocating them outside the works area.
- Maintain or create terrestrial habitat connectivity to support amphibian dispersal.

- Undertake vegetation clearance using a two-stage cut (e.g. initial strim to 150 mm, followed by a second cut to ground level after a suitable delay) to encourage gradual displacement of amphibians.
- Implement a careful hand search of potential refuges before clearance in suitable weather conditions (above 5 °C, avoiding frost) to check for amphibians.
- Avoid night working and artificial lighting of vegetated areas to reduce potential disturbance of amphibians foraging in terrestrial habitats.
- Store materials off the ground (e.g. on pallets) and cover spoil or stored soil to prevent amphibians seeking shelter underneath.
- Ensure excavations are covered overnight or provide means of escape (e.g. escape boards) to prevent amphibians from becoming trapped.

7.6 Hazel Dormouse

7.6.1 Dormouse Survey

Since dormouse has previously been recorded in the local area and available habitat is considered suitable, appropriate survey work should be undertaken.

- A presence/likely absence survey should be carried out using nest tubes, boxes, or searches for nests in accordance with the most recent published survey guidelines.
- Surveys must be undertaken by a suitably licensed dormouse ecologist.
- If dormouse is subsequently found to occupy habitat within the proposed development site a European Protected Species Mitigation Licence from Natural England will be required before such habitat can be disturbed.

7.7 Badger

7.7.1 Further Surveys

There was no evidence of an active badger sett within the area proposed for development. If a badger sett is subsequently found within or close to the application area, further advice on the need for a badger survey and/or mitigation should be sought from a suitably experienced ecologist.

7.7.2 Precautionary Mitigation - Open Excavations

Any trenches left open overnight should include a means of escape for any badgers that may fall in. Any open excavation should be inspected before works commence in the morning. If a trapped badger is encountered further advice should be sought from a suitably experienced ecologist.

7.8 Hedgehogs

7.8.1 Precautionary Mitigation - Hedgehog Gates

If any installed fencing will be of a design similar to that of close board fencing which are typically solid from ground level, *hedgehog gates* should be installed in the fencing within the

proposed site. The gates consist of semi-circular holes (measuring 0.13 m x 0.13 m) cut into the bottom of the fence to allow the movement of hedgehogs into adjacent areas of land.

7.8.2 Precautionary Mitigation - Open Excavations

During months when hedgehogs are most likely to be active (March to October), excavations should not be left open for animals to fall into. If this is not possible, suitable planks of wood should be placed to allow trapped animals to escape. Any open excavation should be inspected before works commence in the morning and trapped animals relocated to a suitable place of safety along the site boundary.

7.8 Rare and Notable Invertebrates

7.8.1 Habitat Enhancement

Precautionary enhancement is recommended to retain or reinstate features associated with open mosaic habitat, particularly within any undeveloped margins or buffer areas. These may include:

- Selective clearance or management of bramble to increase habitat heterogeneity.
- Creation or retention of bare ground patches through light disturbance or scraping.
- Encouragement of early-successional vegetation through seeding with native wildflowers.
- Avoidance of soil enrichment or dense reseeding that would suppress colonisation by ruderal and nectar-rich species.

These enhancements are intended to improve site conditions for a broader range of invertebrate species and support local biodiversity objectives in line with Biodiversity Net Gain principles.

7.9 Ecological Enhancement and Biodiversity Net Gain

The National Planning Policy Framework (NPPF) encourages new developments to maximise the opportunities for biodiversity through incorporation of enhancement measures. The proposals present the opportunity to deliver ecological enhancements at the site for the benefit of local biodiversity, thereby making a positive contribution towards the broad objectives of national conservation priorities and the local Biodiversity Action Plan (BAP).

Details of habitat management and enhancement works that the applicant has confirmed will be undertaken should be included with the application and form part of the landscaping proposals. As well as protected species, such work should target more widespread species that are of biodiversity interest.

Proposed enhancement should be confirmed after all recommended species surveys have been completed to minimise risk of conflicting actions.

Features that can be considered for inclusion in the landscaping proposals include:

- Bird nesting boxes (where appropriate).
- Ecologically sympathetic soft landscaping that provides shelter and nectar for invertebrates such as bees.
- Hedge and/or scrub planting (if appropriate). If screening is needed or gaps exist, plant a stretch of native hedgerow (e.g. hawthorn, hazel, field maple, dogwood, spindle) using local provenance stock.
- Log piles. Position small piles of cut logs or brash in a shaded corner near hedgerows to support amphibians, small mammals, saproxylic invertebrates and fungi.

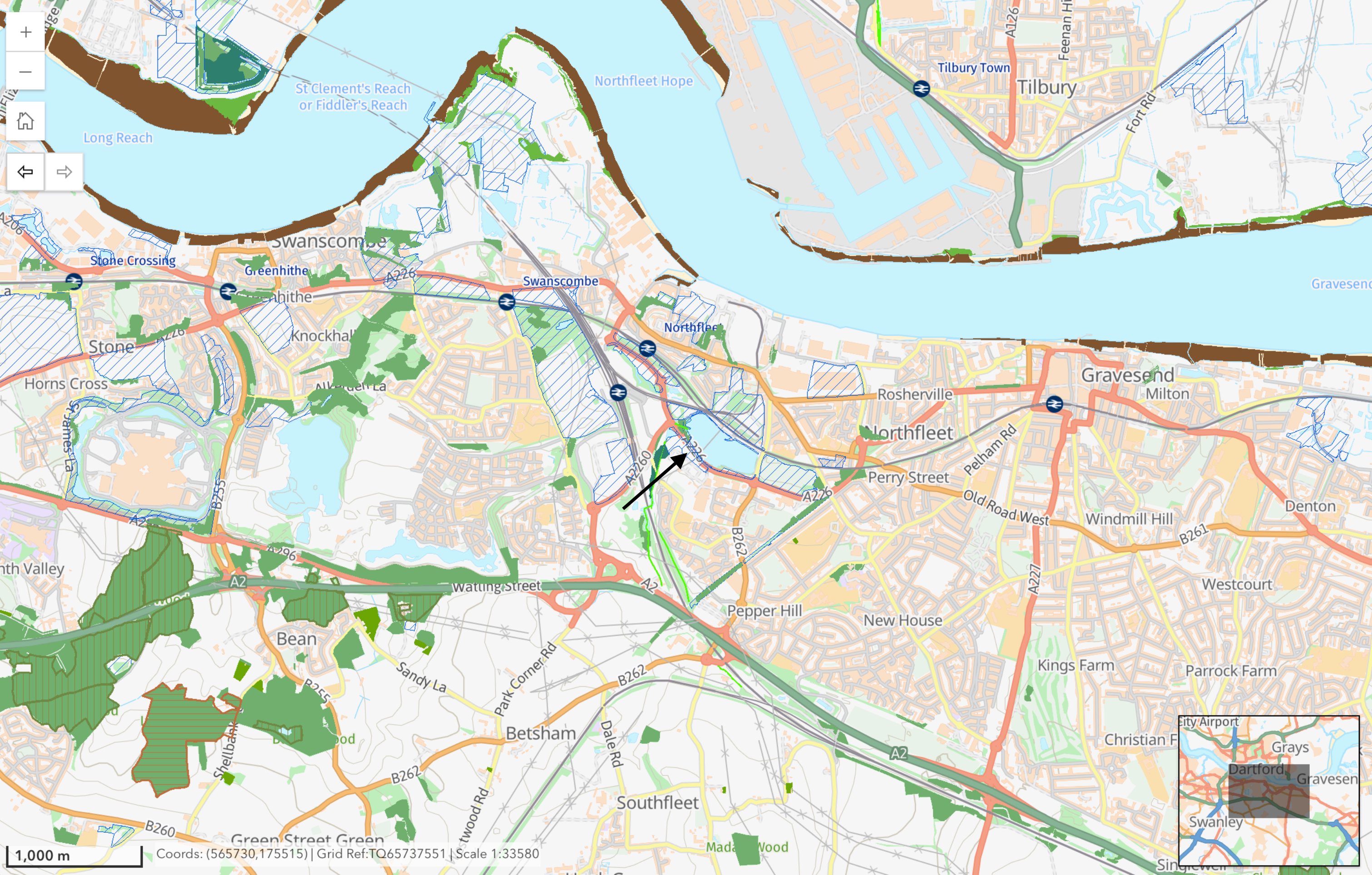
8. References and Further Reading

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- Bright, P., Morris, P. and Mitchell-Jones, T. (2006) The Dormouse Conservation Handbook. English Nature.
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- English Nature (2001) Great crested newt mitigation guidelines. English Nature, Peterborough.
- English Nature (2002). Bats in roofs: a guide for surveyors. English Nature, Peterborough, UK.
- English Nature (2005) Reptiles: guidelines for developers. English Nature, Peterborough.
- Froglife (1999) Reptile survey. An introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife, Halesworth.
- Gent, T. and Howarth, W. (1998) Amphibians and reptiles and the law. In: Herpetofauna Workers' Manual. Gent, A. H. & Gibson, S. D. (eds.), Joint Nature Conservation Committee, Peterborough, pp. 75 - 93.
- Griffiths, R. A. and Inns, H. (1998) Surveying. In: Herpetofauna Workers' Manual. Gent, A. H. & Gibson, S. D. (eds.), Joint Nature Conservation Committee, Peterborough, pp. 1 - 6.
- Herpetofauna Groups of Britain and Ireland (1998) Evaluating local mitigation/translocation programmes: Maintaining Best Practice and lawful standards. HGBI advisory notes for Amphibian and Reptile Groups (ARGs). HGBI, c/o Froglife, Halesworth.
- Mitchell-Jones, A. J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough, UK.
- UKHab (2023) The UK Habitat Classification. Version 2.0.

Appendix I: Habitat Designations

Source:

MAGIC (<http://www.magic.gov.uk>)

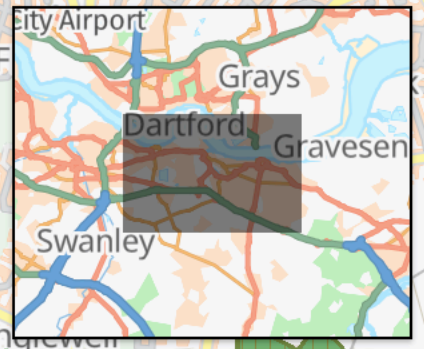


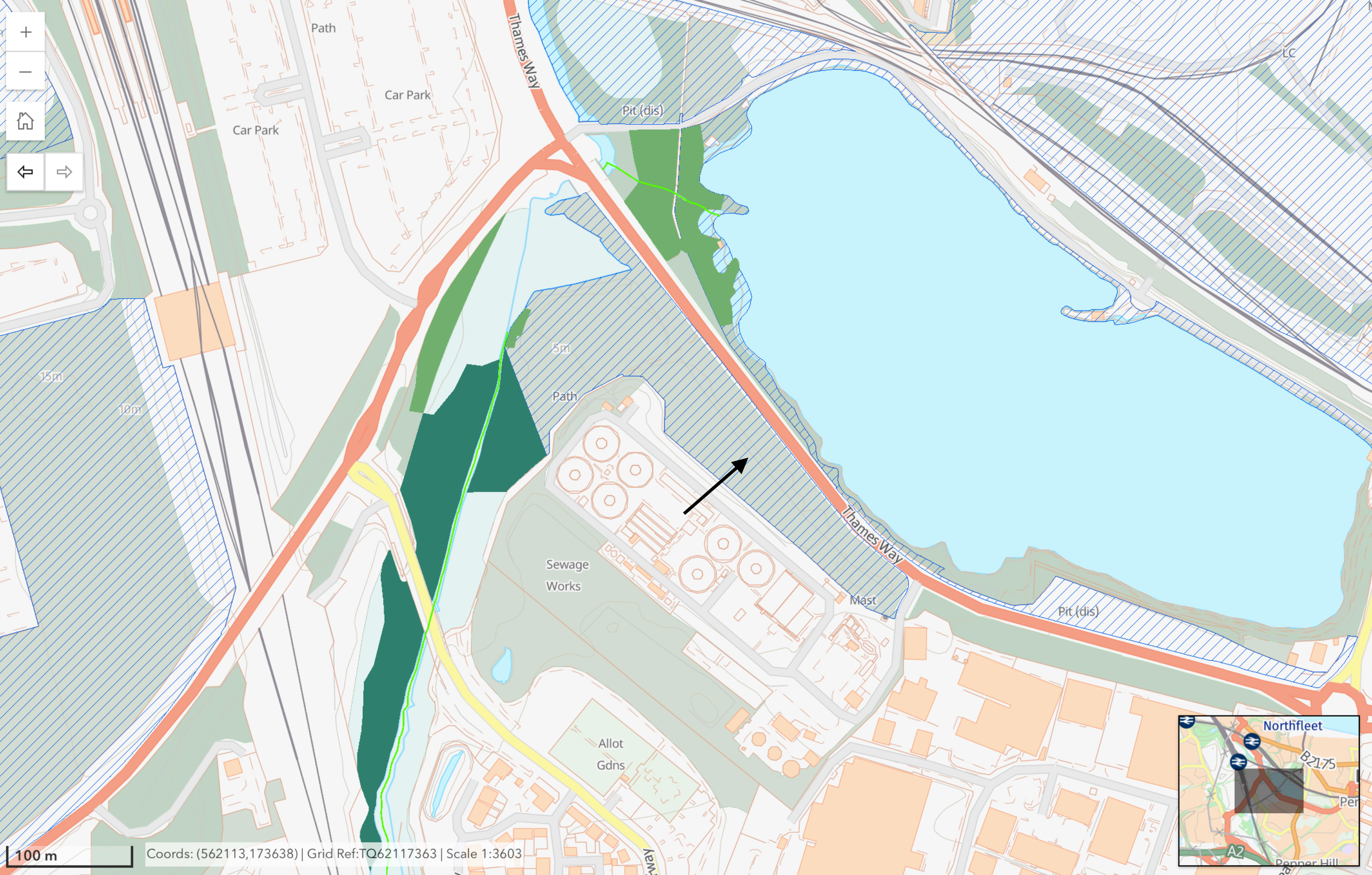
Map navigation controls:

- Zoom in (+)
- Zoom out (-)
- Home icon
- Full screen icon
- Map style selector (Topographic)

1,000 m

Coords: (565730,175515) | Grid Ref:TQ65737551 | Scale 1:33580





+

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Home icon

Left arrow icon

Right arrow icon

15m

10m

5m

Path

Sewage Works

Allot Gdns

Pit (dis)

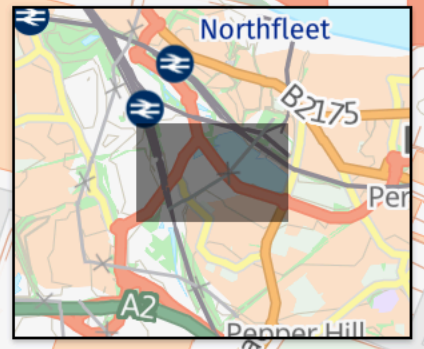
Mast

Pit (dis)

LC

100 m

Coords: (562113,173638) | Grid Ref:TQ62117363 | Scale 1:3603



Appendix II: Land Designations

Source:

MAGIC (<http://www.magic.gov.uk>)

Statutory Designated Site Descriptions

Ramsar

Ramsar sites are designated under the Convention on Wetlands of International Importance especially as waterfowl habitat. Wetlands are designated, protected and promoted in order to stem progressive encroachment on and loss of wetlands, which are broadly defined to include marsh, fen, peatland and water.

Special Area of Conservation

A Special Area of Conservation (SAC) is a designation under the European Union's Habitats Directive, which aims to protect and conserve Europe's most valuable and threatened habitats and species. In the UK, SACs are designated by the government to protect important habitats and species in order to meet its obligations under the directive. These areas are chosen for their unique or rare wildlife, and may include habitats such as woodlands, heathlands, bogs, and rivers, as well as species such as otters, bats, and birds of prey. Once an area is designated as an SAC, certain activities that could harm the protected habitats or species are either prohibited or require special permits or permissions.

Special Protected Area

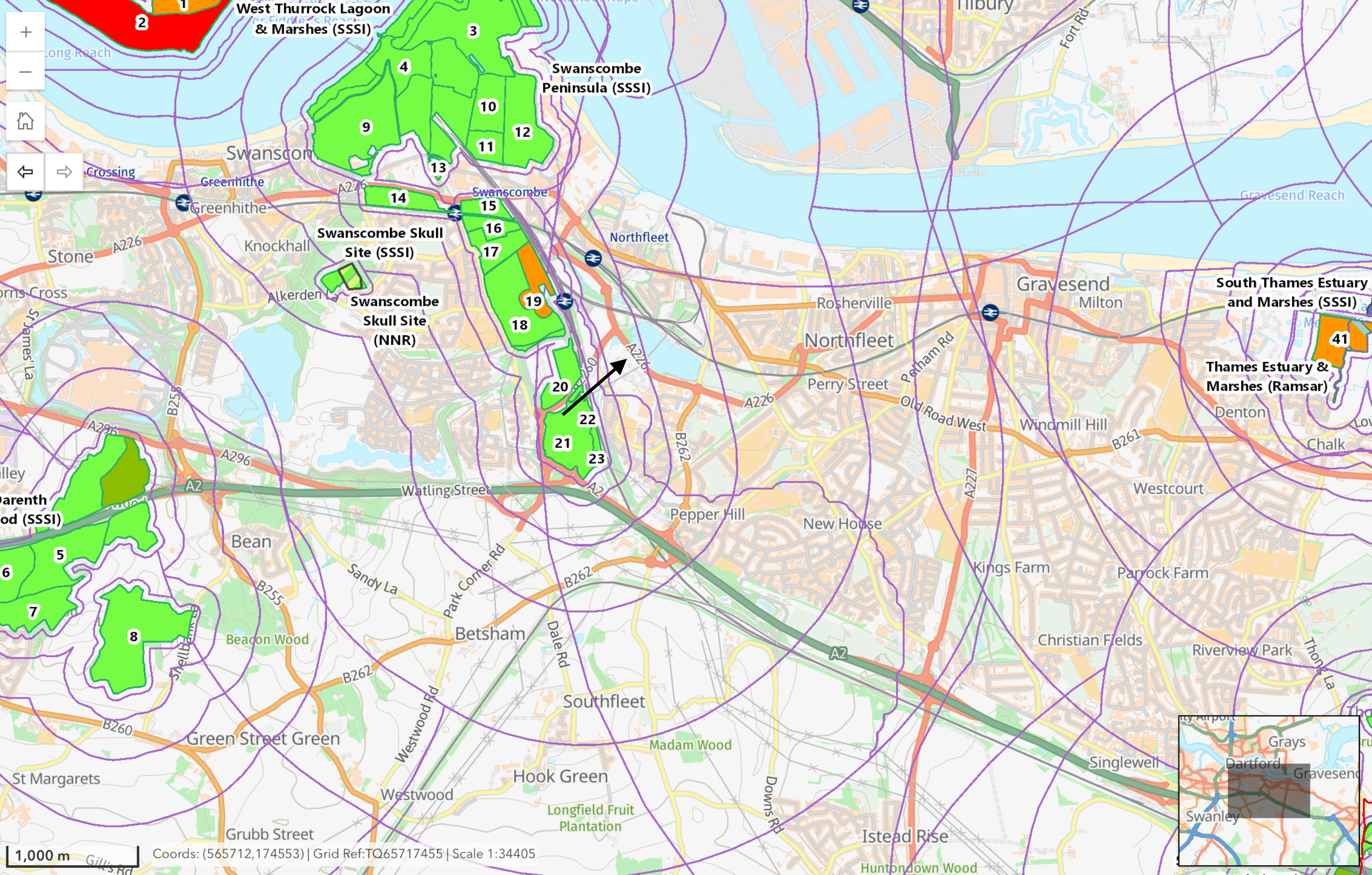
Special Protected Area (SPA) is a designation given to a specific site or area that has been identified as having significant conservation value for birds and their habitats. These areas are designated under the European Union's Birds Directive and are given special protection status to help safeguard the natural environment and promote biodiversity. SPAs can include a range of habitats such as wetlands, estuaries, forests, heaths, and moors, and are home to a variety of bird species. SPAs are managed by a range of organisations, including the government, non-governmental organisations, and landowners, who work together to ensure that the sites are protected and managed sustainably.

National Nature Reserves

A National Nature Reserve (NNR) is a protected area that has been designated by the UK government as a site of interest for its flora, fauna, and/or geological features. It is managed to ensure that the natural habitats and biodiversity are conserved and maintained. There are over 220 NNRs in the UK, covering over 94,000 hectares of land, and they provide important opportunities for scientific research, education, and recreation.

Site of Special Scientific Interest (SSSI)

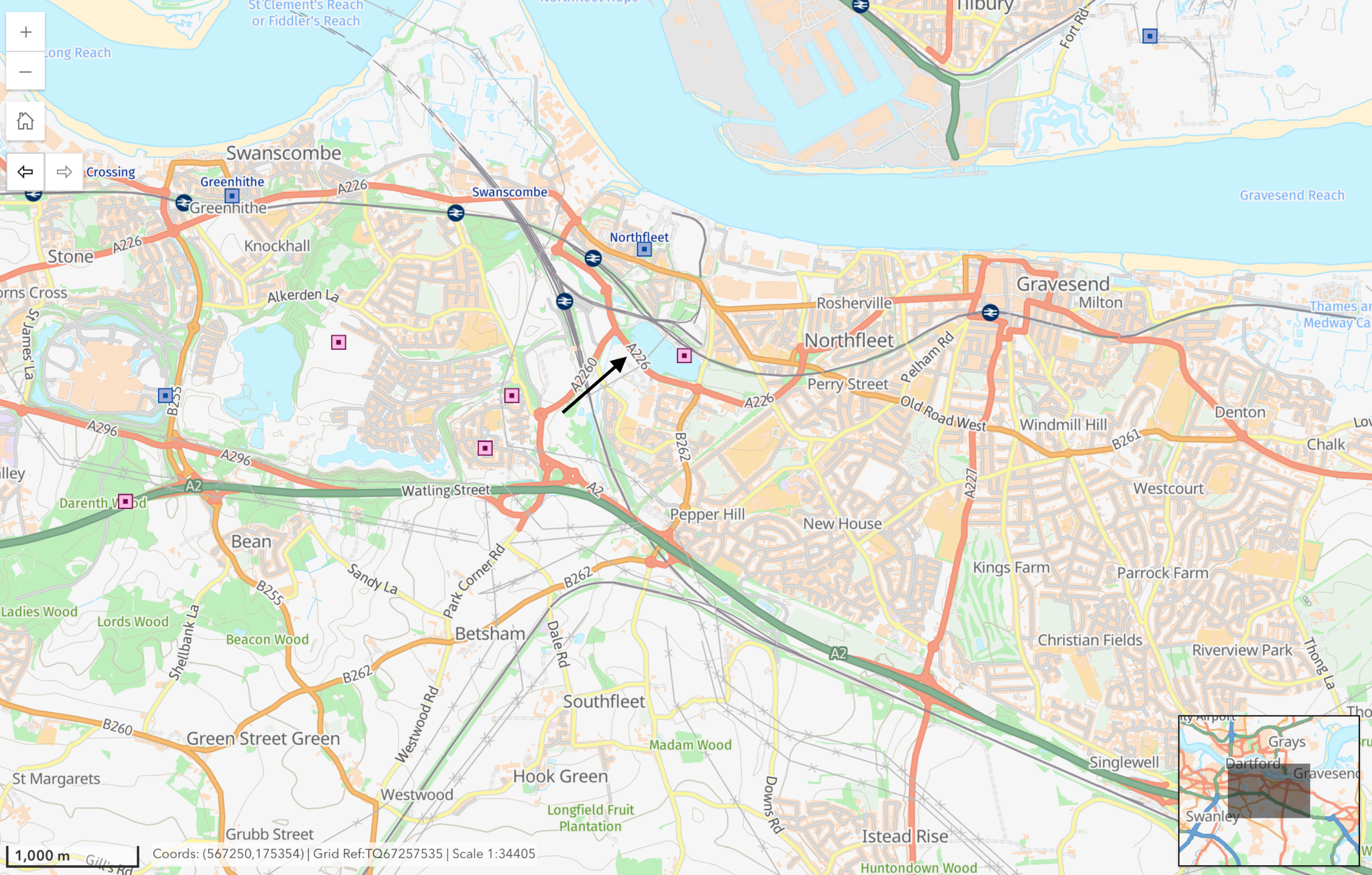
Sites of Special Scientific Interest identify areas that have been identified as being of special interest for their wildlife or geological features. These sites are protected under the Wildlife and Countryside Act (1981) and are managed by Natural England, Scottish Natural Heritage, or Natural Resources Wales. The aim is to ensure that these areas are conserved and managed appropriately to safeguard their unique qualities.



Appendix III: European Protected Species Mitigation Licences

Source:

MAGIC (<http://www.magic.gov.uk>)



Appendix IV: Great Crested Newt Records

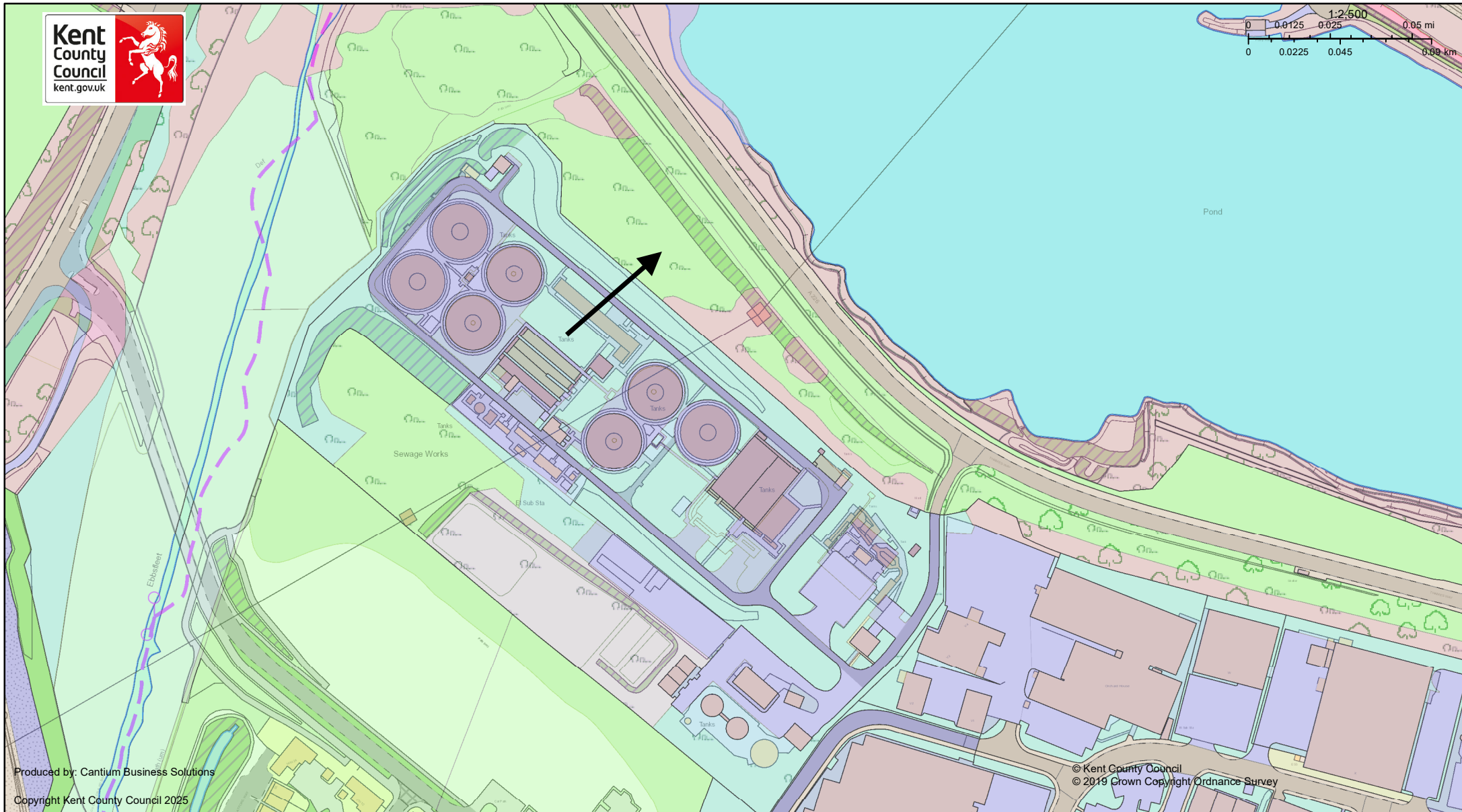
Source:

MAGIC (<http://www.magic.gov.uk>)

Appendix V: Kent Habitat Survey 2012

Source:

KLIS



Legend

Kent Habitat Survey 2012

Acid grassland	Broadleaved, mixed, and yew woodland	Coniferous woodland	Inland rock/Quarry	Neutral grassland	Supralittoral Sediment
Arable and horticulture	Built-up areas	European dry heaths	Littoral Rock	Rivers and streams	Traditional orchard
Boundary and linear features	Calcareous grassland	Fen, marsh and swamp	Littoral Sediment	Standing open water and canals	Unknown terrestrial vegetation
		Improved grassland	Maritime grassland	Supralittoral Rock	

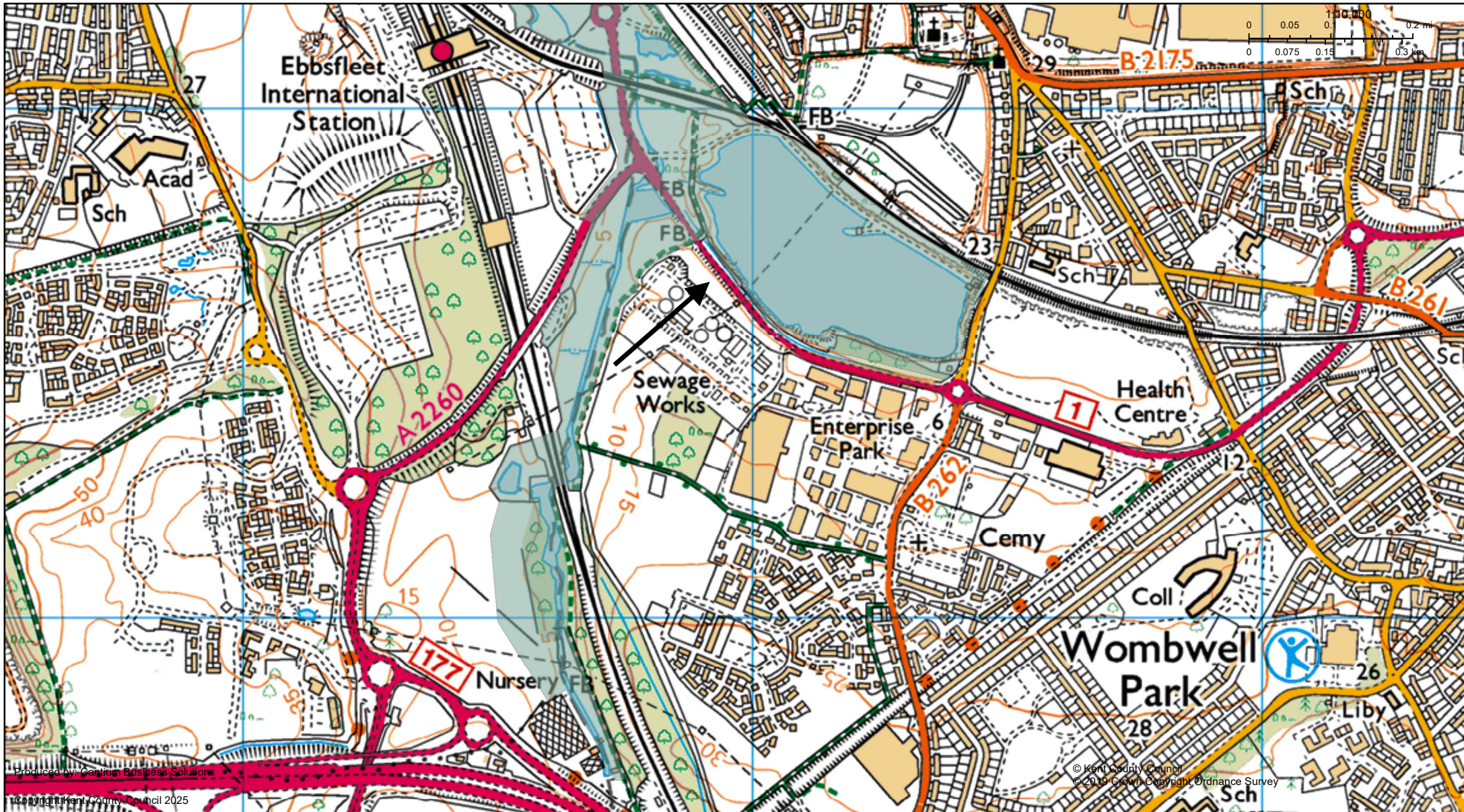
Appendix VI: Local Wildlife Sites and Reserves

Source:

KLIS

Local Wildlife Sites

June 30, 2025



Legend

- Woodland Trust Sites
- Local Wildlife Sites
- Wildlife Trust Reserves
- Roadside Nature Reserves

Appendix VII: Herpetofauna Records Search

Source:

Kent Reptile and Amphibian Group

Species Risk Assessment

Enquiry No: CES/25/164
On Behalf of: Calumma Ecological Services
Search Area: Northfleet
Grid Reference: TQ 619 736

Amphibians

	<u>Likelihood of Presence</u>	
	<u>Score</u>	<u>Dist (km)</u>
Common Frog:	Likely	1.06
Common Toad:	Possible	2.02
Natterjack:	n/a	72.72
Smooth Newt:	Likely	1.00
Palmate Newt:	Possible	2.69
Great Crested Newt:	Possible	1.00
Marsh Frog:	Possible	1.75
Alpine Newt:	n/a	9.00

Amphibian survey effort in local area is considered to be below average. Results should be interpreted with caution.

Reptiles

	<u>Likelihood of Presence</u>	
	<u>Score</u>	<u>Dist (km)</u>
Viviparous Lizard:	HIGH	0.22
Slow-worm:	Likely	0.92
Sand Lizard:	<i>unlikely</i>	74.11
Grass Snake:	HIGH	0.22
Adder:	<i>unlikely</i>	4.87
Smooth Snake:	n/a	n/a

Reptile survey effort in local area is considered to be above average.

ponds within 1 km: 3
distance to nearest pond (km): 0.19

This risk assessment is based on a nearest neighbour analysis of records available at the time of this search request. The assessment considers habitat characteristics for each species at the landscape level, but does not control for the suitability of available habitat at the specified grid reference. The risk assessment does not include historical records and may underestimate likely presence of a species in areas with limited survey effort. The risk assessment is provided for guidance only and should not be used in place of a full herpetofauna survey.

For sites with no waterbodies where the analysis suggests that amphibians are likely to be present, individual animals may use suitable terrestrial habitat for sheltering, foraging and/or dispersal.

Kent Reptile and Amphibian Group

Search Date: 30/6/2025

info@kentarg.org
www.kentarg.org

Appendix VIII: Great Crested Newt Licences and Surveys

Sources:

Natural England and Calumma Ecological Services

Licence Level	Licence Type	Notes
1	No Licence	No or negligible impacts on gcn.
2	Non-Licensed Method Statement	Negligible or low impacts on gcn that can be prevented using avoidance measures.
3	Low Impact Class Licence	Low impacts on gcn in relatively small areas over short periods of time. No impacts on ponds.
4	Full EPS Licence	Impacts on gcn in larger areas or over longer periods of time.
5	District Level License	Permits development without the need for survey and/or mitigation works.

Available licence categories for development projects affecting great crested newt (gcn). Note that DLL is not currently available for all counties.

Licence Level	Mitigation Licence	Disturbance Threshold (relative to gcn occupied pond)	Recommended Pond Survey
1	No licence	No disturbance to pond. No disturbance within 100 m and < 0.5 Ha within 250 m of pond	None required, but presence/likely absence survey of all ponds within 100 m beneficial.
2	Non-Licensed Method Statement	No disturbance to pond. No disturbance within 50 m and < 0.01 Ha within 100 m and < 0.5 Ha within 250 m of pond	Presence/likely absence survey all ponds within 100 m. Presence/likely absence survey of all ponds within 250 m beneficial.
3	Low Impact Class Licence	No disturbance to pond. < 0.01 Ha within 50 m and < 0.2 Ha within 100 m and < 0.5 Ha within 250 m of pond	Presence/likely absence survey all ponds within 250 m.
4	Full EPS Licence	Any	Relative population survey all accessible ponds within 500 m.
5	District Level Licence	Any	None required.

Recommended survey work required for great crested newt mitigation. Area values for disturbance thresholds refer to area of land within application site regardless of apparent suitability for newts.

Appendix IX: Bats and Lighting

Source:

Bat Conservation Trust and Institution of Lighting Engineers

Summary of Requirements

The two most important features of street and security lighting with respect to bats are:

1. The UV component. Low or zero UV installations are preferred to reduce attraction of insects to lighting and therefore to reduce the attraction of foraging bats to these areas.
2. Restriction of the area illuminated. Lighting must be shielded to maintain dark areas, particularly above lighting installations, and in many cases, land adjacent to the areas illuminated. The aim is to maintain dark commuting corridors for foraging and commuting bats. Bats avoid well lit areas, and these create barriers for flying bats between roosting and feeding areas.

UV characteristics:

Low

- Low pressure Sodium Lamps (SOX) emit a minimal UV component
- High pressure Sodium Lamps (SON) emit a small UV component
- White SON, though low in UV, emit more than regular SON

High

- Metal Halide lamps emit more UV than SON lamps, but less than Mercury lamps
- Mercury lamps (MBF) emit a high UV component.
- Tungsten Halogen, if unfiltered, emit a high UV component
- Compact Fluorescent (CFL), if unfiltered, emit a high UV component.

Variable

- Light Emitting Diodes (LEDs) have a range of UV outputs. Variants are available with low or minimal UV output.

Glass glazing and UV filtering lenses are recommended to reduce UV output.

Street lighting

Low-pressure sodium or high-pressure sodium must be used instead of mercury or metal halide lamps. LEDs must be specified as low UV. Tungsten halogen and CFL sources must have appropriate UV filtering to reduce UV to low levels.

Lighting must be directed to where it is needed and light spillage avoided. Hoods must be used on each lamp to direct light and contain spillage. Light leakage into hedgerows and trees must be avoided.

If possible, the times during which the lighting is on overnight must be limited to provide some dark periods. If the light is fitted with a timer this must be adjusted to reduce the amount of 'lit time' and provide dark periods.

Security and domestic external lighting

The above recommendations concerning UV output and direction apply. In addition:

- Lighting should illuminate only ground floor areas - light should not leak upwards to illuminate first floor and higher levels;
- Lamps of greater than 2000 lumens (150 W) must not be used;
- Movement or similar sensors must be used - they must be carefully installed and aimed, to reduce the amount of time a light is on each night;
- Light must illuminate only the immediate area required, by using as sharp a downward angle as possible;
- Light must not be directed at or close to bat roost access points or flight paths from the roost - a shield or hood can be used to control or restrict the area to be lit;
- Wide angle illumination must be avoided as this will be more disturbing to foraging and commuting bats as well as people and other wildlife;
- Lighting must not illuminate any bat bricks and boxes placed on buildings, trees or other nearby locations.



Calumma Ecological Services is an independent wildlife consultancy. *Calumma Ecological Services* offers a full range of specialist services to private companies, local authorities, government agencies, wildlife organisations and members of the public.

Calumma Ecological Services works to industry good practice

For more details please contact:
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