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Quality Assurance

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Declaration of Compliance

This study has been undertaken in accordance with British Standard 42020:2013 “Biodiversity, Code of Practice for Planning and Development”. The information which we have prepared is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management’s Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide **opinions**.

Disclaimer

The contents of this report are the responsibility of Middlemarch Environmental Ltd. It should be noted that, whilst every effort is made to meet the client’s brief, no site investigation can ensure complete assessment or prediction of the natural environment. Middlemarch Environmental Ltd accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned **and prepared**.

Validity of Data

The findings of this study are valid for a period of 24 months from the date of survey. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified ecologist to assess any changes in the habitats present on site, and to inform a review of the conclusions and recommendations made.

Non-Technical Summary

Project Background

In November 2024 Gravesham Borough Council commissioned Middlemarch to undertake a Preliminary Ecological Appraisal of the site of a proposed development north of Rose Avenue, Gravesend. This assessment is required to inform a planning application associated with the redevelopment of the site to provide several new residential apartment buildings along with associated access roads and soft landscaping.

Scope of Appraisal

An ecological desk study and a walkover survey (in accordance with Phase 1 Habitat Survey methodology) were undertaken. The survey was carried out on 4th December 2024 by Richard Sainsbury (Senior Ecological Consultant) and Arthur Jones (Ecological Project Officer). An initial review of the ecological data was subsequently carried out to determine the features of ecological importance on site as well as a preliminary assessment of the potential impacts the proposed development could have on these features.

Preliminary Evaluation and Impact Assessment

Key ecological features in proximity to the site include Thames Estuary and Marshes Ramsar Site/SPA. Within the site, the most notable features comprise the scattered trees and tree line. The trees are at least semi-mature in age and therefore have intrinsic value and cannot be easily replaced in the short to medium term. The habitats on site have the potential to support a range of notable fauna, including amphibians, birds, bats, badgers, hedgehogs, invertebrates and reptiles. Potential impacts which could occur as a result of the proposals include damage to designated sites, the loss or fragmentation of notable habitats, and the killing, injury or disturbance of protected and notable species. Whilst the proposed development has the potential to adversely impact ecological features, it also presents opportunities for ecological enhancements (see Section 5.6).

Recommendations

A summary of recommendations is included below (see Chapter 6 for full recommendations)

Thames Estuary and Marshes Ramsar Site/SPA	Thames Estuary and Marshes Ramsar Site/SPA: The proposed development has the potential to negatively impact this Ramsar Site/SPA by leading to increased recreational disturbance. A tariff payment will be required to mitigate this potential impact. The Local Planning Authority ecologist should be contacted to confirm the required tariff payment and whether any further safeguards or assessments (such as a Report to Inform a Habitats Regulations Assessment) are required.
Scheme Design and Biodiversity Net Gain	In the first instance the proposals should be designed to avoid/minimise losses of notable habitats and incorporate these habitats in the landscaping layout of the scheme accordingly. Where losses or impacts are unavoidable, compensation should be provided. In accordance with the principles of the Environment Act 2021 the development will need to secure an overall net gain for biodiversity. The Statutory Biodiversity Metric Calculation Tool should be used to help guide and quantify the baseline and proposed value of the scheme. A Biodiversity Statement and Metric Assessment should be produced to inform any planning application.
Further Ecological Surveys	The recommendations included within the Preliminary Bat Roost Assessment (RT-MME-181336-02) for the site should be followed in order to ensure the development proposals do not negatively impact roosting, foraging or commuting bats.
Construction Ecological Management Plan (CEcMP)	A CEcMP should be produced for the site setting out the safeguards and appropriate working practices required to minimise adverse effects on biodiversity and ensure compliance with UK Wildlife Legislation.

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1. Introduction

1.1. Project Background

In November 2024 Gravesham Borough Council commissioned Middlemarch to undertake a Preliminary Ecological Appraisal of the site of a proposed development north of Rose Avenue, Gravesend. This assessment is required to inform a planning application associated with the redevelopment of the site to provide several new residential apartment buildings along with associated access roads and soft landscaping.

Middlemarch has also been commissioned to carry out the following surveys at the site:

- Preliminary Bat Roost Assessment of Buildings and Structures (RT-MME-181336-02);
- Biodiversity Statement and Metric Assessment (RT-MME-181336-03); and,
- Preliminary Arboricultural Assessment (RT-MME-181336-04).

1.2 Site Description and Context

Table 1.1 provides a brief summary of the site and its surroundings.

Attribute	Description
Location	Rose Avenue, Gravesend DA12 2LN
National Grid Reference	TQ 66414 73329
Site Area (ha)	0.43
Topography	Flat
Land Cover (on site)	<p>The site comprises an existing residential estate including several houses (17 properties in total), with associated parking and residential gardens. Residential outbuildings were present within two of the rear gardens.</p> <p>Along with the buildings, habitats on site comprise hardstanding, amenity grassland, tall ruderal vegetation, bare ground, scattered trees and a tree line.</p>
Land Cover (site surrounds)	<p>The site is bordered to the north by a multi-use development including facilities such as a nursery and recruitment centre, along with recreational space dominated by amenity grassland. The eastern and western site boundaries border residential properties and associated gardens, whilst the southern site boundary borders Rose Avenue, with residential development located beyond this.</p>

Table 1.1: Summary of Site and Surroundings

1.3 Documentation Provided

The conclusions and recommendations made in this report are based on information provided by the client regarding the scope of the project. Documentation made available by the client is listed in Table 1.2.

Document / Drawing Number	Author
Demolition Plan (Project no: 34495, Drawing no: 5200, Rev 0)	Baily Garner
Proposed Site Plan (Project no: 34495, Drawing no: 1000, Rev 0)	Baily Garner

Table 1.2: Documentation Provided by Client

2. Methods

2.1 Desk study

An ecological desk study was undertaken to determine the presence of any designated nature conservation sites and protected species in proximity to the site. This involved contacting appropriate statutory and non-statutory organisations which hold ecological data relating to the survey area. Middlemarch then assimilated and reviewed the desk study data provided by these organisations.

The consultees for the desk study were:

- Natural England - MAGIC website for statutory conservation sites; and,
- Kent and Medway Biological Records Centre.

The desk study included a search for:

- Relevant local planning policy/strategies with regard to biodiversity and nature conservation;
- European statutory nature conservation sites in the UK (collectively the 'National Site Network') within a 10 km radius of the site;
- UK statutory sites within a 2 km radius; and,
- Non-statutory sites and protected/notable habitats and species records within a 1 km radius.

The data collected from the consultees are discussed in Chapter 3. In compliance with the terms and conditions relating to its commercial use, the full desk study data are not provided within this report.

2.2 Phase 1 Habitat / UK Hab Survey

A field survey was conducted following the Phase 1 Habitat Survey methodology of the Joint Nature Conservation Committee¹ and the Institute of Environmental Assessment². Phase 1 Habitat Survey is a standard technique for classifying and mapping British habitats. The aim is to provide a record of habitats that are present on site.

During the survey, the presence or potential presence of protected species was noted where observed. This included a review of suitable habitat opportunities or field signs of notable species groups (amphibians, bats, birds, terrestrial and aquatic invertebrates, terrestrial and aquatic mammals, plants and reptiles). A full detailed assessment of any built structures and/or trees was not undertaken as part of the survey, however their potential to support roosting bats was considered.

¹ Joint Nature Conservation Committee (2010). *Handbook for Phase 1 Habitat Survey: A technique for environmental audit (reprint)*. Joint Nature Conservation Committee, Peterborough.

² Institute of Environmental Assessment. (1995). *Guidelines for Baseline Ecological Assessment*, Institute of Environmental Assessment. E&FN Spon, An Imprint of Chapman and Hall. London.

The survey was carried out on Wednesday 4th December 2024 by Richard Sainsbury (Senior Ecological Consultant) and Arthur Jones (Ecological Project Officer). Table 2.1 details the weather conditions at the time of the survey.

Parameter	Condition
Temperature (°C)	4
Cloud (%)	100
Wind (Beaufort)	F1
Precipitation	Dry

Table 2.1: Weather Conditions During Field Survey

Field Survey Constraints and Limitations

The recommended timeframe for completing a Phase 1 Habitat Survey is April – September. The survey was carried out in December and therefore it is possible that some plant species were in a period of winter dormancy and so may have been under-recorded, underestimated or missed entirely. However, this did not constrain the assignment of habitats on site to Phase 1 habitat types. Considering the habitat types present and information obtained overall, it is considered that a thorough appraisal of the habitats present and their value could still be undertaken.

2.3 Preliminary Evaluation and Impact Assessment

An initial review of the ecological data (desk study and Phase 1 Habitat Survey) has been undertaken to identify ecological features that by virtue of their legal status, their inclusion in any national policy or plan, or their rarity or contribution to local ecological networks, are worthy of further consideration in the planning system. This typically includes statutory or non-statutory nature conservation sites, species protected by law, Habitats and Species of Principal Importance in England as defined by the Natural Environment and Rural Communities (NERC) Act 2006 or other ecological corridors and Biodiversity Opportunity Areas outlined in local policy. A preliminary assessment of the potential impacts on these features that could occur as a result of the proposed development has been undertaken. This initial assessment of impacts is based on Middlemarch's current understanding of the project.

3. Desk Study

3.1 Local Planning Policies/Strategies

Local Planning Policies/Strategies of relevance to ecology in the context of the development are described in Table 3.1. Full details are provided in Appendix 1.

Policy Document/Strategy	Relevance to Ecology/Development
Gravesham Borough Council: Local Plan Core Strategy	Policy CS12 Green Infrastructure – Describes how a multifunctional linked network of green spaces, footpaths, cycle routes and wildlife stepping stones and corridors will be created, protected, enhanced and maintained. Also describes how designated nature conservation sites will be protected, and that there will be no net loss of biodiversity in the borough. Where impacts on protected or priority habitats/species cannot be avoided, compensation must be provided.
Gravesham Borough Council: Development Management Policies Development Plan Document	Proposed Policy DM24 Trees, Hedgerows and Woodland – Describes how trees, hedgerows and woodland should be protected within development proposals, whilst ancient woodland, aged and veteran trees receive particular protection. Development proposals that have the potential to result in the loss of or harm to trees, hedgerows or woodland should be supported by a tree survey and arboricultural report prepared by a suitably qualified professional.

Table 3.1: Summary of Relevant Local Planning Policies/Strategies

3.2 Nature Conservation Sites

Statutory and non-statutory nature conservation sites located in proximity to the survey area are summarised in Table 3.2.

Site Name	Designation	Proximity to the Survey Area	Description
European Statutory Sites			
Thames Estuary and Marshes	Ramsar/SPA	720 m northeast (Ramsar boundary) and 1.95 km northeast (SPA boundary)	The site comprises a complex of brackish, floodplain grazing marsh ditches, saline lagoons and intertidal saltmarsh and mudflat along the River Thames between Gravesend and Sheerness in Essex and Kent. The habitats support internationally important numbers of wintering waterfowl, and the saltmarsh and grazing marsh are of international importance for their diverse assemblages of wetland plants and invertebrates.

Table 3.2: Summary of Nature Conservation Sites (continues)

Site Name	Designation	Proximity to the Survey Area	Description
European Statutory Sites (continued)			
North Downs Woodlands	SAC	7.6 km south	This site consists of mature beech <i>Fagus sylvatica</i> forests and also yew Yew <i>Taxus baccata</i> woods on steep slopes. The stands lie within a mosaic of scrub and other woodland types. Where the shade is not too dense dog's mercury <i>Mercurialis perennis</i> predominates in the ground flora. The site also contains small areas of unimproved grassland on chalk soils. The site is also important for orchids.
UK Statutory Sites			
South Thames Estuary and Marshes	SSSI	640 m northwest	This SSSI from Gravesend to the eastern end of the Isle of Grain forms a major component of the Greater Thames Estuary. The site consists of an extensive mosaic of grazing marsh, saltmarsh, mudflats and shingle characteristic of the estuarine habitats of the north Kent marshes. Freshwater pools and some areas of woodland provide additional variety and complement the estuarine habitats. The site supports outstanding numbers of waterfowl. 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.
Non-statutory Sites			
Canal and Grazing Marsh, Higham	LWS	750 m north	This LWS includes The Thames and Medway Canal, recently established reedbeds, damp disturbed grassland and a dyke system.
Key: SPA: Special Protection Area Ramsar: Site listed on The Convention on Wetlands of International Importance (Ramsar Convention) SAC: Special Area of Conservation SSSI: Site of Special Scientific Interest LWS: Local Wildlife Site			

Table 3.2 (continued): Summary of Nature Conservation Sites

Reference to Magic indicates that the proposed development is located within an Impact Risk Zone (IRZ) for Thames Estuary and Marshes Ramsar/SPA, which is also designated as South Thames

Estuary and Marshes SSSI. This IRZ cites any residential development of 10 or more units located outside of existing settlements/urban areas, or any residential development of 50 units or more units, as being potential risk factors. According to the Gravesham Local Plan Core Strategy – Policies Map (Gravesham Borough Council), the proposed development is located within an Urban Area boundary. It is understood from the Proposed Site Plan (Project no: 34495, Drawing no: 1000, Rev 0) that the proposed development will comprise 29 residential units and therefore would not constitute a risk factor under the IRZ criteria. However, the Gravesham Borough Council Website³ describes that any new development resulting in a net increase in dwellings within 6 km of the Ramsar/SPA would risk impacting the designated site through increased recreational disturbance. Further information is included within Table 5.1 in Chapter 5, whilst associated recommendations are included in Chapter 6.

3.3 Habitats

Reference to Magic indicates that no Priority Habitats are located within or adjacent to the site, whilst the site is surrounded by urban development. Reference to OS mapping data through Magic identified no ponds within 250 m of the site, albeit several ponds and linear waterbodies (such as water-filled ditches) appear to be present further afield within 500 m of the site. All of these features are separated from the site beyond roads and residential development, whilst the closest of these features is an apparent wet ditch, located approximately 330 m northeast of the site at its closest point.

3.4 Protected / Notable Species

Table 3.3 and the following text provide a summary of protected and notable species records within a 1 km radius of the study area. It should be noted that the absence of records should not be taken as confirmation that a species is absent from the search area.

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Survey Area	Species of Principal Importance?	Legislation / Conservation Status
Mammals - Bats					
Unidentified bat <i>Vespertilionidae</i> sp.	1	1995	110 m north	#	ECH 2 #, ECH 4, WCA 5, WCA 6
Daubenton's bat <i>Myotis daubentonii</i>	1	2001	720 m northwest	-	ECH 4, WCA 5, WCA 6
Leisler's bat <i>Nyctalus leisleri</i>	2	2008	Potentially on site*	-	ECH 4, WCA 5, WCA 6
Unidentified Pipistrellus <i>Pipistrellus</i> sp.	9	2019	Potentially on site*	#	ECH 4, WCA 5, WCA 6

Table 3.3: Summary of Protected/Notable Species Records (continues)

³ Gravesham Borough Council. *Nature conservation and landscape; Thames Estuary and Marshes*. Available at: <https://www.gravesham.gov.uk/heritage-conservation/nature-conservation/2>

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Survey Area	Species of Principal Importance?	Legislation / Conservation Status
Mammals – Bats (continued)					
Common pipistrelle <i>Pipistrellus pipistrellus</i>	5	2018	Potentially on site*	-	ECH 4, WCA 5, WCA 6
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	1	2011	270 m southeast	✓	ECH 4, WCA 5, WCA 6
Serotine <i>Eptesicus serotinus</i>	1	2011	270 m southeast	-	ECH 4, WCA 5, WCA 6
Mammals – Terrestrial (excluding bats)					
Hedgehog <i>Erinaceus europaeus</i>	1	2017	270 m southeast	✓	WCA 6
Mammals - Marine					
Common porpoise <i>Phocoena phocoena</i>	1	2018	940 m north	✓	ECH 2, ECH 4, WCA 5, WCA 6
Grey seal <i>Halichoerus grypus</i>	1	2018	840 m northeast	-	ECH 2, ECH 5
White Whale <i>Delphinapterus leucas</i>	1	2018	610 m north	-	ECH 5, WCA 5
Amphibians					
Great crested newt <i>Triturus cristatus</i>	3	2005	430 m north	✓	ECH 2, ECH 4, WCA 5
Common frog <i>Rana temporaria</i>	14	2020	100 m south	-	WCA 5 S9(5)
Smooth newt <i>Lissotriton vulgaris</i>	3	2006	530 m east	-	WCA 5 S9(5)
Common toad <i>Bufo bufo</i>	1	2006	810 m southwest	✓	WCA 5 S9(5)
Reptiles					
Common lizard <i>Zootoca vivipara</i>	3	2022	610 m north	✓	WCA 5 S9(1), WCA 5 S9(5)
Grass snake <i>Natrix helvetica</i>	5	2004	370 m northeast	✓	WCA 5 S9(1), WCA 5 S9(5)
Slow worm <i>Anguis fragilis</i>	17	2021	320 m southeast	✓	WCA 5 S9(1), WCA 5 S9(5)

Table 3.3 (continued): Summary of Protected/Notable Species Records (continues)

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Survey Area	Species of Principal Importance?	Legislation / Conservation Status
Birds					
Avocet <i>Recurvirostra avosetta</i>	1	2022	720 m northwest	-	WCA 1i
Barn owl <i>Tyto alba</i>	7	2010	630 m southeast	-	WCA 1i
Bearded tit <i>Panurus biarmicus</i>	4	2019	430 m north	-	WCA 1i
Black tern <i>Chlidonias niger</i>	1	2022	430 m north	-	WCA 1i
Brambling <i>Fringilla montifringilla</i>	1	2018	630 m southeast	-	WCA 1i
Cetti's warbler <i>Cettia cetti</i>	57	2022	430 m north	-	WCA 1i
Common crossbill <i>Loxia curvirostra</i>	1	2011	430 m north	-	WCA 1i
Garganey <i>Anas querquedula</i>	2	2013	630 m southeast	-	WCA 1i
Green sandpiper <i>Tringa ochropus</i>	8	2018	490 m northeast	-	WCA 1i
Greenshank <i>Tringa nebularia</i>	1	2002	630 m southeast	-	WCA 1i
Hobby <i>Falco subbuteo</i>	8	2021	430 m north	-	WCA 1i
Kingfisher <i>Alcedo atthis</i>	5	2020	430 m north	-	WCA 1i
Little ringed plover <i>Charadrius dubius</i>	2	2014	490 m northeast	-	WCA 1i
Marsh harrier <i>Circus aeruginosus</i>	6	2021	430 m north	-	WCA 1i
Mediterranean gull <i>Larus melanocephalus</i>	16	2021	430 m north	-	WCA 1i
Pintail <i>Anas acuta</i>	4	2014	630 m southeast	-	WCA 1ii
Red kite <i>Milvus milvus</i>	3	2021	430 m north	-	WCA 1i
Redwing <i>Turdus iliacus</i>	35	2021	430 m north	-	WCA 1i
Whimbrel <i>Numenius phaeopus</i>	1	2020	430 m north	-	WCA 1i

Table 3.3 (continued): Summary of Protected/Notable Species Records (continues)

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Survey Area	Species of Principal Importance?	Legislation / Conservation Status
Invertebrates					
Stag beetle <i>Lucanus cervus</i>	29	2007	Potentially on site*	✓	ECH 2, WCA 5 S9(5)
Jersey tiger moth <i>Euplagia quadripunctaria</i>	1	2021	940 m southwest	-	ECH 2
Water vole <i>Arvicola amphibius</i>	4	2021	510 m north	✓	WCA 5
<p>Key: #: Dependent on species. *: Potentially on site – the recorded originated within a six figure (i.e. 100 m x 100 m) OS grid square overlapping the site.</p> <p>ECH 2: Annex II of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest whose conservation requires the designation of Special Areas of Conservation.</p> <p>ECH 4: Annex IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest in need of strict protection.</p> <p>ECH 5: Annex V of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest whose taking in the wild and exploitation may be subject to management measures.</p> <p>WCA 1i: Schedule 1 Part 1 of Wildlife and Countryside Act 1981 (as amended). Birds protected by special penalties at all times.</p> <p>WCA 1ii: Schedule 1 Part 2 of Wildlife and Countryside Act 1981 (as amended). Birds protected by special penalties during close season.</p> <p>WCA 5: Schedule 5 of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds).</p> <p>WCA 5 S9(1): Schedule 5 Section 9(1) of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds). Protection limited to intentional killing, injury or taking.</p> <p>WCA 5 S9(5): Schedule 5 Section 9(5) of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds). Protection limited to selling, offering for sale, processing or transporting for purpose of sale, or advertising for sale, any live or dead animal, or any part of, or anything derived from, such animal.</p> <p>WCA 6: Schedule 6 of Wildlife and Countryside Act 1981 (as amended). Animals which may not be killed or taken by certain methods.</p> <p>Species of Principal Importance: Species of Principal Importance for Nature Conservation in England.</p> <p>Note. These tables do not include reference to the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats), the Bonn Convention on the Conservation of Migratory Species of Wild Animals or the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).</p>					

Table 3.3 (continued): Summary of Protected/Notable Species Records

Birds

The desk study returned records of numerous bird species listed as Species of Principal Importance in England. These included skylark *Alauda Arvensis*, lesser redpoll *Acanthis cabaret*,

spotted flycatcher *Muscicapa striata*, reed bunting *Emberiza schoeniclus*, song thrush *Turdus philomelos*, bullfinch *Pyrrhula pyrrhula* house sparrow *Passer domesticus* and lapwing *Vanellus vanellus*.

The desk study also returned records of 14 bird species included on the Birds of Conservation Concern 5 Red List. These included pochard *Aythya ferina*, swift *Apus apus*, greenfinch *Chloris chloris*, skylark, herring gull *Larus argentatus*, yellow wagtail *Motacilla flava*, spotted flycatcher *Muscicapa striata*, house sparrow, starling *Sturnus vulgaris*, mistle thrush *Turdus viscivorus* and lapwing.

Invertebrates

The desk study returned records of numerous invertebrate species listed as Species of Principal Importance in England. These included stag beetle, small heath butterfly *Coenonympha pamphilus*, wall butterfly *Lasiommata megera*, brindled beauty moth *Lycia hirtaria* and cinnabar moth *Tyria jacobaeae*.

3.5 Invasive Species

Table 3.4 provides a summary of invasive species records within a 1 km radius of the study area. It should be noted that the absence of records should not be taken as confirmation that a species is absent from the search area.

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Survey Area	Legislation / Conservation Status
Water fern <i>Azolla filiculoides</i>	1	2005	880 m northeast	WCA 9
Japanese knotweed <i>Fallopia japonica</i>	2	2013	Potentially on site*	WCA 9
Virginia creeper <i>Parthenocissus quinquefolia</i>	1	2019	500 m southwest	WCA 9
Key: *: Potentially on site, but the OS grid reference provided was four figures (i.e. 1 km x 1 km) and therefore the precise location of the record in relation to the site is unknown. WCA 9: Schedule 9 of Wildlife and Countryside Act 1981 (as amended). Invasive, non-native, plants and animals.				

Table 3.4: Summary of Invasive Species Records

4. Survey Results

4.1 Habitats

The habitat types recorded on site during the field survey are described in Table 4.1. A Phase 1 Habitat Survey Drawing (Drawing 181336-01-01), illustrating the location and extent of all habitat types recorded on site, is provided in Chapter 7. Photographs taken during the field survey are presented in Chapter 8.

Polygon/ Line Ref.	Phase 1 Habitat Type	Habitat Description
Area Habitats		
TN1	Buildings and hardstanding	The hard landscaping on site comprised several residential houses, along with associated frontage, car parking, roads and public footpaths. These areas were devoid of vegetation and had no ecological value.
TN2	Amenity grassland	Several individual parcels of amenity grassland were present within the residential estate frontage. These parcels appeared to be subject to occasional management, with an average sward height of 5-10 cm, whilst early colonisation by scrub was noted. The grassland was dominated by perennial rye-grass <i>Lolium perenne</i> and also contained abundant common nettle <i>Urtica dioica</i> and bramble <i>Rubus fruticosus</i> agg, frequent daisy <i>Bellis perennis</i> , crane's-bill <i>Geranium</i> sp., rose <i>Rosa</i> sp. and dandelion <i>Taraxacum officinale</i> and occasional ground-ivy <i>Glechoma hederacea</i> , mallow <i>Malva</i> sp. and wall barley <i>Hordeum murinum</i> .
TN3	Amenity grassland	Amenity grassland lawns were present within the front and rear gardens of several of the residential properties. These were managed to a short sward height of < 5 cm and appeared to be worn in places due to their amenity use. Species included dominant perennial rye-grass, abundant white clover <i>Trifolium repens</i> and daisy, frequent crane's-bill and dandelion and occasional ground-ivy, mallow, common nettle and wall barley. A small brash pile was also present on one of the lawns.
TN4	Amenity grassland	One of the residential gardens contained a section of unmanaged amenity grassland with a longer sward height of 10-15 cm, along with tall herb/ruderal and scrub colonisation. Species included dominant common nettle, abundant perennial rye-grass, sow thistle <i>Sonchus</i> sp., white clover, daisy and bramble, frequent crane's-bill, dandelion and creeping cinquefoil <i>Potentilla reptans</i> , occasional ground-ivy, mallow, wall barley and cleavers <i>Galium aparine</i> and rare annual mercury <i>Mercurialis annua</i> and spurge <i>Euphorbia</i> sp.
TN5	Line of Trees	A line of early-mature beech trees (c. 10 m tall) was present within the north-western corner of the site. Despite their relatively mature age, ecological features (such as deadwood), which could provide microhabitats for fauna, were very limited.
TN6	Bare Ground	A small area of bare ground was present within the north-western corner of the site.
TN7	Tall Ruderal	An area of dense vegetation cover was present on site, which comprised ruderal and scrub species including common nettle, sow thistle, and bramble.

Table 4.1: Summary of Habitats on Site (continues)

Polygon/ Line Ref.	Phase 1 Habitat Type	Habitat Description
Area Habitats		
T1	Scattered Tree	Early mature cabbage palm <i>Cordyline australis</i> , approximately 3 m tall and in overall good condition with no evidence of a pruning regime. The tree was set within a small area of managed amenity grassland.
T2	Scattered Tree	Early mature silver birch <i>Betula pendula</i> , approximately 4 m tall and in overall good condition with no evidence of a pruning regime. The tree was set within a shallow grassland pit, surrounded by hardstanding.
T3	Scattered Tree	Early mature cherry <i>Prunus</i> sp., approximately 4 m tall and in overall good condition with no evidence of a pruning regime. The tree was set within a shallow grassland pit, surrounded by hardstanding.
T4	Scattered Tree	Early mature pear <i>Pyrus</i> sp., approximately 4 m tall and in overall good condition with no evidence of a pruning regime. The tree was set within a shallow grassland pit, surrounded by hardstanding.
T5	Scattered Tree	Early mature elder <i>Sambucus nigra</i> , approximately 6 m tall and in overall good condition, albeit showing evidence of previous management. The tree was set within the boundary of an unmanaged residential garden.
T6	Scattered Tree	Semi-mature elder, approximately 6 m tall and in overall good condition, albeit showing evidence of previous management. The tree also contained a bird box and was set along the boundary of an unmanaged residential garden.
T7	Scattered Tree	Semi-mature cherry, 8m tall and in overall good condition, albeit showing evidence of previous management. The tree was set along the boundary of an unmanaged residential garden.

Table 4.1 (continued): Summary of Habitats on Site

As well as the above habitats, the feature target notes listed below were also recorded. These are displayed (along with the habitats listed above) on Drawing C181336-01-01.

- F1 – Cut semi-mature cherry *Prunus* sp. stump, with logs laid at the tree base; and,
- F2 – Brash Pile.

4.2 Protected/Notable Species

Table 4.2 summarises the suitability of the site for protected/notable species and any species/evidence of species that were recorded during the survey. The time of year at which the survey is undertaken will affect species or field signs directly recorded during the survey.

Species/Group	Description
Amphibians	The site contained no ponds or other suitable breeding habitat for amphibians. Suitable terrestrial habitat for amphibians on site is limited to the unmanaged grassland pockets, tall ruderal vegetation and the brash pile (feature F2).
Bats	The buildings on site contained some features of potential suitability for roosting bats. The residential gardens offer generally limited opportunities for foraging and commuting bats, albeit the tree line in the northwestern corner of the site is likely to provide a more suitable foraging/commuting feature. The trees on site did not contain suitable roosting opportunities for bats. Further information about the suitability of the site for roosting, foraging and commuting bats is included within the Preliminary Bat Roost Assessment (report RT-MME-181336-02).
Birds	The residential houses, trees and areas of colonising scrub (within the grassland and tall ruderal habitats) on site offer suitable nesting habitat for birds. In addition, bird nests were recorded inside the loft voids of some of the residential buildings during internal Preliminary Bat Roost Assessment. The vegetated habitats on site also offer suitable foraging habitat for birds.
Badger	No evidence of badgers <i>Meles meles</i> was recorded on site during the survey, whilst the habitats within surrounding the site are predominantly residential in nature and are unlikely to provide favourable habitat for badgers or suitable opportunities for sett building. Nonetheless, there is a low chance that that badgers may occasionally forage within or commute through the site.
Hedgehog	The vegetated habitats on site are likely to provide suitable foraging habitat for hedgehogs. In addition, the brash pile, thicker areas of tall ruderal vegetation, and areas of overgrown amenity grassland (with tall ruderal and scrub colonisation) may provide suitable refugia for hedgehogs.
Terrestrial invertebrates	The residential gardens and trees are likely to provide suitable opportunities for a number of common invertebrate species. The site is unlikely to provide suitable opportunities for stag beetle given the lack of long-standing deadwood. Nonetheless, the tree stump (feature F1), which appeared to have been recently cut, may provide suitable habitat for stag beetle if left undisturbed and allowed to rot.
Reptiles	The site contains limited suitable habitat for reptiles in the form of unmanaged areas of amenity grassland and tall ruderal vegetation, whilst the brash pile may also provide suitable refugia. Similarly, based on aerial photography, the site surroundings appear to be residential in nature and may also provide limited patches of suitable habitat.

Table 4.2: Summary of Species/Species Evidence Recorded on Site

4.3 Invasive Species

No invasive plant species were recorded on site.

5. Preliminary Evaluation and Impact Assessment

5.1 Summary of Proposals

The proposed works involve the redevelopment of the site to provide several new residential apartment buildings along with associated access roads. The proposed works will involve clearance of the majority of the site, including all buildings except for a single terraced house in the southwestern corner. Whilst the proposed development may adversely impact ecological features, the development will also incorporate new soft landscaping and presents opportunities to deliver new or enhanced habitats and benefits to biodiversity.

Activities likely to be associated with the proposed development during the construction and operational phases are outlined below.

Construction Phase

- Site clearance and ground preparation;
- Use and movement of heavy goods vehicles and machinery;
- Storage of plant, materials and waste;
- Presence of and movement of site personnel; and,
- Creation of landscaping / delivery of new habitats.

Operational Phase

- Permanent siting of new buildings and roads;
- Frequent movement of vehicles and site personnel;
- Use of lighting associated with roads and buildings;
- Establishment of new habitats; and,
- Maintenance of landscaping.

5.2 Nature Conservation Sites

An initial review of the proposals (see Section 5.1) has been undertaken to determine whether the project has the potential to affect any nature conservation sites. The identified sites are listed in Table 5.1, and justification for scoping them in or out of further assessment is provided.

Nature Conservation Site	Evaluation of Importance and Potential Impacts	Further Action Required?
European Statutory Sites		
Thames Estuary and Marshes Ramsar Site/SPA	<p>The proposed development is located near Thames Estuary and Marshes Ramsar Site/SPA. The Ramsar Site boundary is located 720 m northeast of the site at its closest point, whilst the SPA boundary is located 1.95 km northeast of the site at its closest point. As described on the Gravesham Borough Council Website⁴, the number of birds using these sites has declined in recent years and studies show that this could be due to people using the Thames estuary and marshes for recreation. An increase in residential development is likely to lead to an increase in recreational use. In 2015, the Planning and Regeneration Committee agreed to adopt a tariff (paid to Bird Wise) for all planning applications which result in a net increase in dwellings within a 6km radius of the Ramsar Site/SPA. As the proposed development is located within this 6 km radius, a tariff payment will therefore be required in order to mitigate the potential impact of recreational disturbance on the designated site. As of December 2024, this tariff was £328.27 per dwelling (this fee is subject to inflation and will increase annually).</p> <p>The risk of other impacts on the Ramsar Site/SPA (such as pollution impacts or impacts on landscape connectivity) are considered to be low given the nature and scale of the proposals and the fact that the Ramsar Site/SPA is well separated from the development site beyond residential development. Nonetheless, the Local Planning Authority ecologist should be contacted to confirm the required tariff payment and whether any further safeguards or assessments (such as a Report to Inform a Habitats Regulations Assessment) are required.</p>	Tariff payment and consultation with the Local Planning Authority
North Downs Woodlands SAC	This SAC is located 7.6 km south of the site and is therefore well removed from the site and separated beyond extensive residential development. Considering this, and the nature and scale of the development proposals, the development is not considered to risk impacting this SAC.	No recommendations are made.
UK Statutory Sites		
South Thames Estuary and Marshes SSSI	This SSSI is located 640 m northwest of the site. The boundary of this SSSI is largely consistent with that of Thames Estuary and Marshes Ramsar/SPA. Therefore the risk factors described above in relation to Thames Estuary and Marshes Ramsar/SPA are also considered to apply to this SSSI, whilst the required Tariff contribution for the Ramsar/SPA would also benefit the SSSI. Therefore, no additional recommendations are made in relation to this SSSI.	No further recommendations are made.

Table 5.1: Summary of Potential Impacts on Nature Conservation Sites (continues)

⁴ Gravesham Borough Council. *Nature conservation and landscape; Thames Estuary and Marshes*. Available at: <https://www.gravesham.gov.uk/heritage-conservation/nature-conservation/2>

Nature Conservation Site	Evaluation of Importance and Potential Impacts	Further Action Required?
Non-statutory Sites		
Canal and Grazing Marsh, Higham LWS	This LWS is located approximately 750 m north of the development site. Given the LWS is well removed and separated from the proposed development and given the nature and small scale of the proposals, the proposed works are not considered to risk leading to any significantly detrimental impacts on this LWS.	No recommendations are made

Table 5.1 (continued): Summary of Potential Impacts on Nature Conservation Sites

5.3 Habitats

The ecological importance of the habitats present on site is determined by their presence on the list of Habitats of Principal Importance in England and on the Local BAP (if relevant). Also taken into account is the intrinsic value of the habitat, its rarity and contribution to local ecological networks.

Table 5.2 below summarises the potential adverse impacts on habitats that may occur as a result of the construction and operational activities of the proposed development (see Section 5.1), in the absence of mitigation. A separate discussion of the value of the habitats on site to protected or notable species is provided in Section 5.4.

Habitats	Evaluation of Importance and Potential Impacts	Further Action Required?
Non-Priority Notable Habitats		
Line of trees	To class as a Priority Habitat, hedgerows and tree lines must be dominated by native species ($\geq 80\%$ cover), be over 20 m long and less than 5 m wide, while any gaps must be below 20 m in length. The native line of trees (LOT1) located within the northwestern corner of the site is slightly below 20 m in length and therefore does not classify as a Priority Habitat. Nonetheless, the trees are early-mature and therefore have intrinsic ecological value and cannot be easily replaced in the short to medium term. The feature is also likely to provide habitat for a variety of fauna such as invertebrates, birds and foraging/commuting bats. The line of trees will be sought for retention under the proposals, albeit any activities (such as site storage or use of vehicles) located within the tree root protection areas would risk the damage or degradation of trees.	Appropriate Scheme Design (Recommendation R2) and Protection Measures to be incorporated into a CEcMP (Recommendation R4)
Scattered trees	A number of scattered trees were recorded on site. These were semi-mature to early-mature in age and therefore have intrinsic ecological value and cannot be easily replaced in the short to medium term. The trees are also likely to provide habitat for a variety of fauna such as invertebrates and birds. The development proposals are likely to require the removal of a number of the scattered trees on site, whilst any activities (such as site storage or use of vehicles) located within the root protection areas of scattered trees would risk the damage or degradation of trees.	Appropriate Scheme Design (Recommendation R2) and Protection Measures to be incorporated into a CEcMP (Recommendation R4)

Table 5.2: Summary of Potential Impacts on Habitats (continues)

Habitats	Evaluation of Importance and Potential Impacts	Further Action Required?
Other Habitats		
Amenity grassland, tall ruderal vegetation and bare ground	Although these habitats are not considered to be important and do not require further detailed consideration in the context of assessing impacts, they do hold some value and contribute to overall site biodiversity, which is recognised through the use of a biodiversity metric tool. The potential for these habitats to support protected and notable faunal species and the associated risks are described within Tables 4.2 and 5.3.	Appropriate Scheme Design (refer to Recommendation R2)
Buildings and hardstanding	These habitats are of negligible ecological value. The potential for the buildings to support protected and notable faunal species and the associated risks are described within Tables 4.2 and 5.3.	No further recommendations are made.

Table 5.2 (continued): Summary of Potential Impacts on Habitats

5.4 Protected / Notable Species

Table 5.3 below summarises the potential adverse impacts on species/species groups that may occur as a result of the construction and operational activities of the proposed development (see Section 5.1), in the absence of mitigation.

Species/species groups discussed are based on those species highlighted in the desk study exercise and other species for which potentially suitable habitat occurs within or adjacent to the survey area. This includes species protected by law under the Conservation of Habitats and Species Regulations 2017 and/or the Wildlife and Countryside Act 1981 (as amended), as well as those listed as Species of Principal Importance in England.

Species / Species Group	Evaluation of Importance and Potential Impacts	Further Action Required?
Amphibians	<p>The desk study returned three records of great crested newt within the 1 km search radius surrounding the site, the closest of which was recorded approximately 430 m north of the site in 2005. The desk study also returned records of common frog, common toad and smooth newt.</p> <p>The site contains no ponds or other suitable breeding habitat for amphibians, whilst reference to OS mapping data accessed through MAGIC identified no ponds within 250 m of the site, albeit several ponds and linear waterbodies (such as water-filled ditches) appear to be present further afield within 500 m of the site. All these features are separated from the site beyond roads and residential development. Great crested newt populations require an interconnected network of ponds and given the distance and separation of the site from surrounding waterbodies, the presence of great crested newts on site is highly unlikely.</p> <p>Nonetheless, common amphibian species such as common toad and smooth newt inhabit residential areas, whilst the long grassland, tall ruderal vegetation and the brash pile on site offer suitable terrestrial habitat. Therefore, without appropriate mitigation measures, the clearance of these habitats risks the killing or injury of common amphibian species.</p>	Reasonable avoidance method statement as part of CEcMP (Recommendation R4)

Table 5.3: Summary of Potential Impacts on Protected/Notable Species (continues)

Species / Species Group	Evaluation of Importance and Potential Impacts	Further Action Required?
Birds	<p>The desk study returned records of 19 bird species included on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). However, based on their specific breeding ranges and habitat requirements, these species are considered unlikely to nest within or adjacent to the site.</p> <p>Nonetheless, the desk study returned records of numerous other notable bird species, whilst the habitats on site provide opportunities for a number of notable and more common/generalist species. Any works affecting the buildings or woody vegetation on site would risk the killing or injury of nesting birds or the damage/destruction of a birds nest.</p>	Nesting bird safeguards included within CEcMP (Recommendation R4)
Bats	<p>The desk study returned records of at least five bat species within the 1 km search radius surrounding the site. The search results included two records of common pipistrelle (from 2008 and 2015), one record of Lesler's bat (from 2008), and one record of an unidentified pipistrelle species (from 2012) within 6-figure (100m x 100m) grid squares overlapping the site.</p> <p>The buildings on site have the potential to support roosting habitat for bats. Therefore, the proposals may lead to the killing or injury of bats or loss of suitable roosting habitat.</p> <p>The site offers limited value for foraging and commuting bats, albeit the tree line is likely to provide more suitable habitat. Any works affecting this tree line, or any increase in illumination of this feature (during both the construction and operational phases of the development) may therefore lead to loss/fragmentation of foraging/commuting habitat.</p> <p>Further information on the suitability of the habitats on site for roosting, foraging and commuting bats, potential impacts and associated recommendations, is included within the Preliminary Bat Roost Assessment for the site (RT-MME-181336-02).</p>	Follow the recommendations included within the Preliminary Bat Roost Assessment (RT-MME-181336-02).
Badger	<p>The desk study returned no records of badger within the 1 km search radius. The site does not contain suitable habitat cover for sett building, albeit it is possible that badger may forage within the site or pass through the site between suitable habitats located within the wider landscape. Should badger enter the site during the construction phase, they are at risk of entrapment within any open excavations or pipework.</p>	General construction safeguards included within CEcMP (Recommendation R4)
Hedgehog	<p>The desk study returned a single record of hedgehog within the 1 km search radius. The vegetated habitats on site offer suitable foraging habitat for hedgehogs, which are therefore at risk from entrapment within open excavations or pipework. In addition, the brash pile, thicker areas of tall ruderal vegetation, and areas of overgrown amenity grassland (with tall ruderal and scrub colonisation) offer potential refugia for hedgehog and therefore, without appropriate mitigation, any clearance of these habitats risks the killing or injury of hedgehog.</p>	General construction safeguards and sensitive working practices included within CEcMP (Recommendation R4)

Table 5.3 (continued): Summary of Potential Impacts on Protected/Notable Species (continues)

Species / Species Group	Evaluation of Importance and Potential Impacts	Further Action Required?
Invertebrates	The desk study returned numerous records of stag beetle within the 1 km search radius surrounding the site. The recently felled tree stump on site (feature F1) may provide suitable opportunities for stag beetle if allowed to decay over time, albeit the site is otherwise unlikely to provide suitable opportunities for stag beetle. The site is also likely to support a variety of common invertebrate species, albeit the habitats present are well represented in the surrounding area and the site is unlikely to be of conservation value for invertebrates beyond the site level.	Safeguards for stag beetle to be incorporated into a CEcMP (Recommendation R4)
Reptiles	The desk study returned records of common lizard, grass snake and slow worm within the 1 km search radius surrounding the site. The closest record was for slow worm, recorded approximately 320 m southeast of the site in 2020. The site is largely unsuitable for reptiles, but the unmanaged areas of amenity grassland and tall ruderal vegetation may provide suitable habitat, whilst the brash pile may also provide suitable refugia. The residential site surroundings also appear to be of limited suitability, but more overgrown areas may offer pockets of suitable habitat. Given the patchy nature of suitable habitat within and surrounding the site, the presence of reptiles on site is considered to be unlikely, albeit the presence of small numbers of reptiles is possible.	Reasonable avoidance method statement as part of CEcMP (Recommendation R4)
Other species	Other species, such as aquatic species, dormouse and notable plant species, have been scoped out of further assessment due to a lack of desk study records or evidence of these species on site and/or absence of suitable habitat within the site and surrounding areas.	No recommendations are made

Table 5.3 (continued): Summary of Potential Impacts on Protected/Notable Species

5.5 Invasive Plant Species

The desk study returned records of several species listed on Schedule 9 of the Wildlife and Countryside Act 1981. Of these, Japanese knotweed was recorded within a 1 km x 1 km OS grid square overlapping the site, albeit given the coarse resolution of this record, its precise location in relation to the site is unknown. No invasive plant species were recorded on site during the Phase 1 habitat survey and therefore the presence of invasive species on site is unlikely. As the survey was undertaken during December, some plants may have been within a period of winter dormancy. Whilst most invasive species are detectable even during this period, the possibility of invasive species being missed cannot be ruled out. Therefore, a precautionary recommendation (vigilance during the proposed works) will be included within the Construction Ecological Management Plan (CEcMP) for the site.

5.6 Biodiversity Opportunities

The development presents the following opportunities to enhance the site for biodiversity and work towards the target of 10% net gain:

- Planting of native trees to provide habitats for a number of faunal species such as invertebrates and nesting birds.
- Planting of native hedgerows at the site margins to provide foraging and nesting opportunities, shelter and connectivity for a range of faunal species.
- Creation of flower-rich grassland margins to benefit a range of invertebrate species.
- Installation of bird nest boxes on retained trees and on the proposed buildings. In particular, the incorporation of integrated swift bricks is recommended within the external fabric of the proposed buildings to support swift, a rapidly declining species included on the Birds of Conservation Concern 5 Red List. Swift bricks should be installed as high up as possible and in clusters of at least three in order to support the gregarious nature of swifts. Swift bricks also provide opportunities for other declining species such as the Red Listed house sparrow.
- Installation of bat boxes on existing trees and on the proposed buildings for species such as common pipistrelle and soprano pipistrelle.

6. Recommendations

All recommendations provided in this section are based on Middlemarch's current understanding of the site proposals, correct at the time the report was compiled. Should the proposals alter, the conclusions and recommendations made in the report should be reviewed to ensure that they remain appropriate.

R1 Thames Estuary and Marshes Ramsar Site/SPA: The proposed development has the potential to negatively impact this Ramsar Site/SPA by leading to increased recreational disturbance which may impact birds using the site. In 2015, the Planning and Regeneration Committee agreed to adopt a tariff (paid to Bird Wise) for all planning applications which result in a net increase in dwellings within a 6km radius of the Ramsar Site/SPA. As the proposed development is located within this 6 km radius, a tariff payment will therefore be required to mitigate the potential impact of recreational disturbance on the designated site. As of December 2024, this tariff was £328.27 per dwelling (this fee is subject to inflation and will increase annually). In addition, the Local Planning Authority ecologist should be contacted to confirm the required tariff payment and whether any further safeguards or assessments (such as a Report to Inform a Habitats Regulations Assessment) are required.

R2 Scheme Design and Biodiversity Net Gain: The proposed development should be designed in accordance with the ecological mitigation hierarchy as set out in the National Planning Policy Framework (NPPF), and Planning Practice Guidance (PPG). In the first instance the proposals should be designed to avoid/minimise losses of the scattered trees and tree line and incorporate these habitats in the landscaping layout of the scheme accordingly. This will help to further avoid and minimise impacts to protected and notable species.

Where losses or impacts are unavoidable, compensation should be provided. This could include the replacement of lost habitats and/or connectivity and the creation of new habitats of ecological value.

In accordance with the principles of the Environment Act 2021 the development will need to secure an overall net gain for biodiversity. The Statutory Biodiversity Metric Calculation Tool should be used to help guide and quantify the baseline and proposed value of the scheme. A Biodiversity Statement and Metric Assessment should be produced to inform any planning application.

Suitable opportunities for enhancement, both to contribute to biodiversity net gain on site, and to provide further opportunities for fauna (e.g. bird boxes) are included in Section 5.6.

R3 Further Ecological Surveys: The recommendations included within the Preliminary Bat Roost Assessment (RT-MME-181336-02) for the site should be followed in order to ensure the development proposals do not negatively impact roosting, foraging or commuting bats.

R4 Construction Ecological Management Plan (CEcMP): A Construction Ecological Management Plan should be produced for the site setting out the safeguards and appropriate working practices that will be employed to minimise adverse effects on biodiversity and ensure compliance with UK Wildlife Legislation. The details of the CEcMP will be informed by the final site design and ongoing ecological survey works but should include as a minimum:

- Development standoffs and safeguards for all retained habitats such as trees.
- Construction timetables to avoid sensitive periods such as nesting bird season.
- Nesting bird survey methodology for any clearance of suitable nesting habitat during the nesting bird season (March to September inclusive).
- Reasonable avoidance method statement to safeguard reptiles and amphibians during any clearance of suitable terrestrial habitat (unmanaged grassland pockets, tall ruderal vegetation and the brash pile).
- Sensitive working practices during any clearance of potential refugia for hedgehog (the brash pile, thicker areas of tall ruderal vegetation, and areas of overgrown amenity grassland with tall ruderal and scrub colonisation).
- Sensitive working practices to safeguard stag beetles if the tree stump or any other standing deadwood are removed.
- Covering open excavations and pipework to prevent accidental entrapment of terrestrial mammals.
- Precautionary safeguards to ensure that the proposed works do not result in the spread of invasive plant species if present. These should focus on vigilance and consultation with a suitably qualified ecologist or invasive species control organisation should any invasive species be identified.

The CEcMP should be submitted to the Local Planning Authority for Approval and implemented in full thereafter.

7. Drawings

Drawing C181336-01-01 – Phase 1 Habitat Map



C181336-01-01

Legend

Site boundary

Scattered broad-leaved tree

Scattered non-broad-leaved tree

Line of broad-leaved trees

Amenity grassland

Bare ground

Building

Hardstanding

Tall ruderal

Target note - habitat parcel

Target note - feature

F1 - Cut semi-mature cherry *Prunus* sp. stump, with logs laid at the tree base

F2 - Brash pile

Project

Rose Avenue, Gravesend, Kent

Drawing

Phase 1 Habitat Map

Client

Gravesham Borough Council

Drawing Number

C181336-01-01

Revision

00

Scale @ A3

1:400

Date

January 2025

Approved By

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8. Photographs



Plate 8.1: Example of residential house (TN1)



Plate 8.2: Hardstanding and amenity grassland parcel (TN2) at site frontage



Plate 8.3: Short-sward amenity grassland lawn (TN3)



Plate 8.4: Unmanaged amenity grassland (TN4)



Plate 8.5: Line of Trees (TN5)



Plate 8.6: Tall ruderal (TN7)



Plate 8.7: Tree T1



Plate 8.8: Tree T4



Plate 8.9: Cut tree stump with logs laid at the base (F1)



Plate 8.10: Brash pile (F2)

Appendix 1

General Biodiversity Legislation and Policy

The Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations 2017) and the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 (the Habitats Regulations 2019)

The Habitats Regulations 2017 (as amended) transposed the land and marine aspects of the Habitats Directive (Council Directive 92/43/EEC) and certain elements of the Wild Birds Directive (Directive 2009/147/EC) (known as the Nature Directives) into English and Welsh law. Changes have been made to parts of the Habitats Regulations 2017 so that they operate effectively from 1 January 2021. The changes are made by the Habitats Regulations 2019, which transfer functions from the European Commission to the appropriate authorities in England and Wales.

All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant.

The obligations of a competent authority in the 2017 Regulations for the protection of sites or species do not change. A competent authority is a public body, statutory undertaker, minister or department of government, or anyone holding public office.

The Habitats Regulations 2019 have created a 'National Site Network' on land and at sea, including both the inshore and offshore marine areas in the UK. The National Site Network includes:

- Existing Special Areas of Conservation (SACs), which are designated due to their importance to the habitats and species listed in Annexes I and II of the Habitats Directive;
- Existing Special Protection Areas (SPAs), which are designated due to their importance for wild birds in accordance with the Wild Birds Directive; and,
- New SACs and SPAs designated under these Regulations.

SACs and SPAs in the UK no longer form part of the European Union's Natura 2000 ecological network. Any references to Natura 2000 in the 2017 Regulations and in guidance now refers to the new National Site Network. However, guidance provided by Freeths (2020)⁵ recommends that SACs and SPAs can continue to be referred to as "European sites" / "European marine sites".

Designated Wetlands of International Importance (known as Ramsar sites) do not form part of the National Site Network. Many Ramsar sites overlap with SACs and SPAs and may be designated for the same or different species and habitats. All Ramsar sites remain protected in the same way as SACs and SPAs.

The 2019 Regulations establish management objectives for the National Site Network. The network objectives are to:

- Maintain or, where appropriate, restore habitats and species listed in Annexes I and II of the Habitats Directive to a favourable conservation status; and,

⁵ Freeths (2020). *The Habitats Regulations Assessment regime after 31 December 2020 – how will it look?*
Available: <https://www.freeths.co.uk/2020/10/22/the-habitats-regulations-assessment-regime-after-31-december-2020-how-will-it-look/?cmpredirect>

- Contribute to ensuring, in their area of distribution, the survival and reproduction of wild birds and securing compliance with the overarching aims of the Wild Birds Directive.

The appropriate authorities must also have regard to the:

- Importance of protected sites;
- Coherence of the National Site Network; and,
- Threats of degradation or destruction (including deterioration and disturbance of protected features) on SPAs and SACs.

The network objectives contribute to the conservation of UK habitats and species that are also of pan-European importance, and to the achievement of their favourable conservation status within the UK.

The Wildlife and Countryside Act (WCA) 1981 (as amended)

The WCA, as amended, consolidates and amends pre-existing national wildlife legislation in order to implement the Bern Convention and the Birds Directive. It complements the Habitat Regulations 2017 and the Habitats Regulations 2019, offering protection to a wider range of species. The Act also provides for the designation and protection of national conservation sites of value for their floral, faunal or geological features, termed Sites of Special Scientific Interest (SSSIs).

Schedules of the act provide lists of protected species, both flora and fauna, and detail the possible offences that apply to these species.

The Environment Act 2021

The Environment Bill completed its passage through parliament on 13th October 2021 and received Royal Assent on 9th November 2021. The Environment Act introduces a new framework for setting long-term, legally binding targets for environmental improvement, including nature and biodiversity (Part 6 & 7).

The Town and Country Planning Act 1990

Schedule 7A (Biodiversity Gain in England) and regulations made under Schedule 7A contain most of the statutory framework for mandatory biodiversity gain (referred to as 'biodiversity net gain'). With some exceptions every grant of planning permission is subject to the condition that development may not begin until a biodiversity gain plan has been approved by demonstrating how the objective of delivering at least a 10% gain in biodiversity will be achieved. This increase can be achieved through onsite biodiversity gains, registered offsite biodiversity gains or statutory biodiversity credits.

The Countryside and Rights of Way (CROW) Act 2000

The CROW Act, introduced in England and Wales in 2000, amends and strengthens existing wildlife legislation detailed in the WCA. It places a duty on government departments and the National Assembly for Wales to have regard for biodiversity, and provides increased powers for the protection and maintenance of SSSIs. The Act also contains lists of habitats and species (Section 74) for which conservation measures should be promoted, in accordance with the recommendations of the Convention on Biological Diversity (Rio Earth Summit) 1992.

The Natural Environment and Rural Communities (NERC) Act 2006

Section 40 of the NERC Act places a duty upon all local authorities and public bodies in England and Wales to promote and enhance biodiversity in all of their functions.

Section 40, as amended by the Environment Act 2021, places a 'biodiversity duty' on all public authorities who operate in England to consider how they can conserve and enhance biodiversity, agree policies and specific objectives based on that consideration and deliver policies to achieve their objectives. Local Authorities (excluding parish councils) and Local Planning Authorities have a duty under Section 40A to report on the performance of this duty.

Sections 41 (England) and 42 (Wales) list habitats and species of principal importance to the conservation of biodiversity. These habitats and species are a material consideration in the planning process.

The Hedgerow Regulations 1997

The Hedgerow Regulations make provision for the identification of important hedgerows which may not be removed without permission from the Local Planning Authority.

National Planning Policy Framework

In December 2023, the National Planning Policy Framework (NPPF) was updated, replacing the previous framework published in 2012 and revised in 2018, 2019 and 2021. A presumption towards sustainable development is at the heart of the NPPF. This presumption does not apply however where developments require appropriate assessment under the Birds or Habitats Directives.

Chapter 15, on conserving and enhancing the natural environment, sets out how the planning system should contribute to and enhance the natural and local environment by:

- protecting and enhancing existing sites of biodiversity value;
- minimising impacts on and providing net gains for biodiversity; and,
- establishing coherent ecological networks.

If a proposed development would result in significant harm to the natural environment which cannot be avoided (through the use of an alternative site with less harmful impacts), mitigated or compensated for (as a last resort) then planning permission should be refused. With respect to development on land within or outside of a Site of Special Scientific Interest (SSSI) which is likely to have an adverse effect (either alone or in-combination with other developments) would only be permitted where the benefits of the proposed development clearly outweigh the impacts on the SSSI itself, and the wider network of SSSIs. Development resulting in the loss of deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused unless there are wholly exceptional reasons for the development, and a suitable compensation strategy is provided.

Chapter 15 identifies that development whose primary objective is to conserve or enhance biodiversity should be supported and opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature.

Chapter 11, making effective use of the land, sets out how the planning system should promote use of land in meeting the need for homes and other uses, while safeguarding and improving the environment and ensuring safe and healthy living conditions. Substantial weight should be given to the value of using suitable brownfield land within settlements for homes and other identified needs. Opportunities for achieving net environmental gains, including new habitat creation, are encouraged.

Planning Practice Guidance

In March 2014 the Department for Communities and Local Government released guidance to support the National Planning Policy Framework (NPPF), known as the Planning Practice Guidance (PPG). This has been produced to provide guidance for planners and communities which will help deliver high quality development and sustainable growth in England.

The guidance includes a section entitled '*Natural Environment*', which was updated in February 2024. This document sets out information with respect to the following:

- the statutory basis for seeking to conserve and enhance biodiversity;
- the local planning authority's requirements for planning for biodiversity;
- what local ecological networks are and how to identify and map them;
- how plan-making bodies identify and safeguard Local Wildlife Sites, including Standard Criteria for Local Wildlife Sites;
- the sources of ecological evidence;
- the legal obligations on local planning authorities and developers regarding statutory designated sites and protected species;
- definition of green infrastructure;
- where biodiversity should be taken into account in preparing a planning application;
- how policy should be applied to avoid, mitigate or compensate for significant harm to biodiversity and how mitigation and compensation measures can be ensured;
- definitions of environmental net gain including information on how it can be achieved and assessed; and,
- the consideration of ancient woodlands and veteran trees in planning decisions and how potential impacts can be assessed.

Other relevant PPG sections include:

- '*Appropriate assessment: Guidance on the use of Habitats Regulations Assessment*' (updated July 2019) which provides information in relation to Habitats Regulations Assessment processes, contents and approaches in light of case law. This guidance will be relevant to those projects and plans which have the potential to impact on European Sites and European Offshore Marine Sites identified under the Conservation of Habitats and Species Regulations 2017 (as amended).
- '*Biodiversity Net Gain*' (updated May 2024) which provides information on the statutory framework referred to as 'biodiversity net gain' and how it is applied through the planning process, from submission of a planning application through to determination of the Biodiversity Gain Plan. Guidance is also provided on exemptions, the Biodiversity Gain Hierarchy and phased developments.

Local Planning Policy

Gravesham Borough Council: Local Plan Core Strategy

The Local Plan Core Strategy and Policies Map were adopted on the 30th September 2014. It is the main document in the local plan which sets out a long-term vision for the future of the borough and guides the amount, type, location and detailed design of future development. It provides a consistent basis against planning applications can be determined. The policy of relevance to ecology is:

Policy CS12: Green Infrastructure

A multifunctional linked network of green spaces, footpaths, cycle routes and wildlife stepping stones and corridors will be created, protected, enhanced and maintained. The network will improve access within the urban area, from the urban area to the rural area and along the River Thames. The key parts of the network are identified on Figure 19: Strategic Green Infrastructure Network.

Sites designated for their biodiversity value will be protected, with the highest level of protection given to internationally designated Special Protection Areas, Special Areas of Conservation and Ramsar sites, followed by nationally designated Sites of Special Scientific Interest, followed by Local Wildlife Sites and then by other areas of more local importance for biodiversity.

There will be no net loss of biodiversity in the Borough, and opportunities to enhance, restore, recreate and maintain habitats will be sought, in particular within the Biodiversity Opportunity Areas shown on the Strategic Green Infrastructure Network map and within new development.

Where a negative impact on protected or priority habitats/species cannot be avoided on development sites and where the importance of the development is considered to outweigh the biodiversity impact, compensatory provision will be required either elsewhere on the site or off-site, including measures for ongoing maintenance.

The overall landscape character and valued landscapes will be conserved, restored and enhanced. The greatest weight will be given to the conservation and enhancement of the landscape and natural beauty of the Kent Downs Area of Outstanding Natural Beauty and its setting. Proposals will take account of the Kent Downs Area of Outstanding Natural Beauty Management Plan, the Gravesham Landscape Character Assessment, and the Cluster Studies where relevant.

Gravesham Borough Council: Development Management Policies Development Plan Document (2018)

This document includes detailed policies for managing the impact of new development upon the built and natural environment, as well as utility, social and transport infrastructure.

Proposed Policy DM24: Trees, Hedgerows and Woodland

6.3.9. Development should be designed to retain trees, hedgerows and woodland that contribute positively to the amenity of the site and surrounding area and which are important in terms of landscape, townscape, biodiversity or heritage. Consideration should be given to the incorporation of trees and hedgerows within new development in the interests of sustainability, to integrate with and improve the quality of the local environment and to assist in place making. The use of locally sourced natural species in planting schemes will be expected unless otherwise justified as an exception.

6.3.10. Proposals which threaten the future retention of trees, hedgerows and woodland or other landscape features of importance to a site's character, the amenity of the surrounding area or to wildlife will not be permitted unless the need for, and benefits of, the development in that location clearly outweigh the loss and adequate mitigation and compensation measures can be secured.

6.3.11. In evaluating proposals, greatest weight will be accorded the retention and protection from harm of areas of ancient woodland and aged and veteran trees, the loss of which will only be allowed in exceptional circumstances

6.3.12. Development proposals that have the potential to result in the loss of or harm to trees, hedgerows or woodland should be supported by a tree survey and arboricultural report prepared by a suitably qualified professional setting out:

- a.** The location, species, size, health and characteristics of any affected trees, hedgerows or woodland including root spread on or adjoining the site likely to be affected by the development;
- b.** The extent of proposed works and development relative to the features identified together with a plan and schedule of any trees, hedgerow or areas of woodland including root spread that would need to be removed or otherwise modified to accommodate the development;
- c.** A plan and schedule of those trees, hedgerows or areas of woodland to be retained;
- d.** The measures to be taken during the course of construction to avoid damage to those trees, hedgerows or areas of woodland to be retained;
- e.** The measures to be taken to avoid any unacceptable adverse impact on any nature conservation interest as a result of works to trees, hedgerows or areas of woodland; and
- f.** Outline proposals for how any loss or damage to trees, hedgerows or areas of woodland will be mitigated.

6.3.13. Where planning permission is granted for proposals that result in the loss or damage to trees, hedgerows or areas of woodland, conditions will be imposed requiring the submission of a final landscaping scheme for the prior written approval of the Council and details of how that landscaping will be maintained and managed until such time as it becomes established.

Appendix 2

Relevant Species Legislation

Bats

Bats and the places they use for shelter or protection (i.e. roosts) receive legal protection under the Conservation of Habitats and Species Regulations 2017 (Habitats Regulations 2017) and the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 (Habitats Regulations 2019). They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. This protection means that bats, and the places they use for shelter or protection, are capable of being a material consideration in the planning process.

Regulation 41 of the Habitats Regulations 2017, states that a person commits an offence if they:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats; or
- damage or destroy a bat roost (breeding site or resting place).

Disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong.

It is an offence under the Habitats Regulations 2017 for any person to have in his possession or control, to transport, to sell or exchange or to offer for sale, any live or dead bats, part of a bat or anything derived from bats, which has been unlawfully taken from the wild.

Changes have been made to parts of the Habitats Regulations 2017 so that they operate effectively from 1st January 2021. The changes are made by the Habitats Regulations 2019, which transfer functions from the European Commission to the appropriate authorities in England and Wales.

All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant.

The obligations of a competent authority in the 2017 Regulations for the protection of species do not change. A competent authority is a public body, statutory undertaker, minister or department of government, or anyone holding public office.

Whilst broadly similar to the above legislation, the WCA 1981 (as amended) differs in the following ways:

- Section 9(1) of the WCA makes it an offence to *intentionally* kill, injure or take any protected species.
- Section 9(4)(a) of the WCA makes it an offence to *intentionally or recklessly** damage or destroy, *or obstruct access to*, any structure or place which a protected species uses for shelter or protection.
- Section 9(4)(b) of the WCA makes it an offence to *intentionally or recklessly** disturb any protected species *while it is occupying a structure or place which it uses for shelter or protection*.

*Reckless offences were added by the Countryside and Rights of Way (CROW) Act 2000.

As bats re-use the same roosts (breeding site or resting place) after periods of vacancy, legal opinion is that roosts are protected whether or not bats are present.

The reader should refer to the original legislation for the definitive interpretation.

The following bat species are Species of Principal Importance for Nature Conservation in England: barbastelle bat *Barbastella barbastellus*, Bechstein's bat *Myotis bechsteinii*, noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus*, greater horseshoe bat *Rhinolophus ferrumequinum* and lesser horseshoe bat *Rhinolophus hipposideros*. Species of Principal Importance for Nature Conservation in England are material considerations in the planning process. The list of species is derived from Section 41 list of the Natural Environmental and Rural Communities (NERC) Act 2006.

Badger

Badgers and their setts are protected under the Protection of Badgers Act 1992. The Protection of Badgers Act 1992 is based primarily on the need to protect badgers from baiting and deliberate harm or injury, badgers are not protected for conservation reasons. The following are criminal offences:

- To intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it.
- To wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so.

A badger sett is defined in the legislation as:

- 'Any structure or place that displays signs indicating current use by a badger'.

'Current use' is not synonymous with current occupation and a sett is defined as such (and thus protected) as long as signs of current usage are present. Therefore, a sett is protected until such a time as the field signs deteriorate to such an extent that they no longer indicate 'current usage'.

Badger sett interference can result from a multitude of operations including excavation and coring, even if there is no direct damage to the sett, such as through the disturbance of badgers whilst occupying the sett. Any intentional or reckless work that results in the interference of badger setts is illegal without a licence from Natural England. In England a licence must be obtained from Natural England before any interference with a badger sett occurs.

The reader should refer to the original legislation for the definitive interpretation.

Common amphibians

Common frogs, common toad, smooth newt and palmate newt are protected in Britain under Schedule 5 of the Wildlife and Countryside Act (1981, as amended) with respect to sale only. They are also listed under Annex III of the Bern Convention 1979. Any exploitation of wild fauna specified in Appendix III shall be regulated in order to keep the populations out of danger. The convention seeks to prohibit the use of all indiscriminate means of capture and killing and the use of all means capable of causing local disappearance of, or serious disturbance to, populations of a species.

Common toad is listed as a Species of Principal Importance for Nature Conservation in England.

Hedgehog

Hedgehogs receive some protection under Schedule 6 of the Wildlife and Countryside Act 1981 (as amended); this section of the Act lists animals which may not be killed or taken by certain methods, namely traps and nets, poisons, automatic weapons, electrical devices, smokes/gases and various others. Humane trapping for research purposes requires a licence.

Hedgehogs are a Species of Principal Importance for Nature Conservation in England and are thus capable of being material considerations in the planning process.

Nesting Birds

The Conservation of Habitats and Species Regulations 2017, (Habitats Regulations 2017) and the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 (Habitats Regulations 2019) places a duty on public bodies to take measures to preserve, maintain and re-establish habitat for wild birds.

Nesting and nest building birds are protected under the Wildlife and Countryside Act WCA 1981 (as amended).

Subject to the provisions of the act, if any person intentionally:

- kills, injures or takes any wild bird;
- takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or
- takes or destroys an egg of any wild bird, he shall be guilty of an offence.

Some species (listed in Schedule 1 of the WCA) are protected by special penalties. Subject to the provisions of the act, if any person intentionally or recklessly:

- disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or
- disturbs dependent young of such a bird, he shall be guilty of an offence.

Several bird species are Species of Principal Importance for Nature Conservation in England, making them capable of being material considerations in the planning process.

Reptiles

All of the UK's native reptiles are protected by law. The two rarest species – sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca* – benefit from the greatest protection.

Common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, adder *Vipera berus* and grass snake *Natrix helvetica* are protected under the Wildlife and Countryside Act 1981 (as amended) from intentional killing or injuring.

Sand lizard and smooth snake are protected under the Conservation of Habitats and Species Regulations 2017 (Habitats Regulations 2017) and the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 (Habitats Regulations 2019). They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. This protection means that it is illegal to kill, injure, capture, handle or disturb these animals. Places they use for breeding, resting, shelter and protection are also protected from being damaged or destroyed. In addition, it is illegal to obstruct these animals from using such areas.

All native reptile species are listed as Species of Principal Importance for Nature Conservation in England and as such are material considerations in the planning process.

This is a simplified description of the legislation. In particular, the offences mentioned here may be absolute, intentional, deliberate or reckless. Note that where it is predictable that reptiles are likely to be killed or injured by activities such as site clearance, this could legally constitute intentional killing or injuring.

The reader should refer to the original legislation for the definitive interpretation.

Stag beetle

The stag beetle is in decline globally. It is listed on Annex II of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (a list of animal and plant species of community interest whose conservation requires the designation of Special Areas of Conservation). Stag beetle also receives protection under Schedule 5 of the Wildlife and Countryside Act 1981, as amended, making the following activities illegal: selling, offering for sale, processing or transporting for purpose of sale, or advertising for sale, any live or dead animal, or any part of, or anything derived from, such animal. Stag beetle is also listed as a Species of Principal Importance for Nature Conservation in England.