



**Surrey Wildlife Trust**  
**Ecology Services**

# Ecology Report

**Eagle Brewery  
Wharf**

**Royal Borough of  
Kingston upon Thames**

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**Constructionline**  
Gold Member



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Validity of report (CIEEM, 2019)	<p>In most cases, this report will be valid for 12 months.</p> <p>Where habitat management has not been altered and new features have not formed, it is possible the report remains valid for between 12 and 18 months, however it is advised an updated site visit is undertaken to confirm this.</p> <p>Where more than 18 months have elapsed an ecologist should review the information to confirm whether the information in this report can be relied upon.</p> <p>Reports more than three years old are unlikely to remain valid.</p>		

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## Acronyms

Acronym	Definition
BCT	Bat Conservation Trust
BSI	British Standard Institute
CIEEM	Chartered Institute of Ecology and Environmental Management
CIRIA	Construction Industry Research and Information Association
DEFRA	Department for Environment, Food and Rural Affairs
EclA	Ecological Impact Assessment
eDNA	Environmental DNA
HPI	Habitats of Principal Importance
ILP	Institute for Lighting Professionals
LNR	Local Nature Reserve
NERC	Natural Environment and Rural Communities
NPPF	National Planning Policy Framework
SAC	Special Areas of Conservation
SINC	Site of Importance for Nature Conservation
SPA	Special Protection Areas
SPI	Species of Principal Importance
SSSI	Site of Special Scientific Interest
SuDS	Sustainable Drainage System
SWT	Surrey Wildlife Trust
TBC	To be confirmed

**Table 1: Ecological Impact Assessment (EcIA) Planning Checklist**

EcIA Criteria <sup>1</sup>		Addressed			Report section
		Y	N	N/A	
Pre-app/ Scope	Where pre-application has been received from the LPA and/or an NGO and/or statutory body (e.g. Natural England's Discretionary Advice Service), it has been fully accounted for in the EcIA.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
	The scope, structure and content of the EcIA is in accordance with published good practice.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5
Surveys, Sites, Species and Habitats	Adequate and up-to-date: Desk study has been undertaken. Phase 1 habitat survey (or equivalent) has been undertaken. Phase 2 ecology surveys have been undertaken (where necessary).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Table 4
	All statutory and non-statutory sites likely to be significantly affected are clearly and correctly identified.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Table 5
	All protected or priority species and priority habitats likely to be significantly affected are clearly and correctly identified, and adequate surveys have been undertaken to inform the baseline.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Table 6, 7 and 8
	Any invasive non-native plant species present are clearly and correctly identified.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Table 8
	Where a separate PEA Report states that Phase 2 ecology surveys are required, these have been undertaken in full and results submitted with the application (or lack of such surveys is justified).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	N/A
	The assessment is based on clearly defined development proposals along with relevant drawings/plans (and any plans used are the same version number as those submitted with the application) or The residual ecological effects are considered to be not significant at any geographical scale irrespective of the detailed development proposals, and the assessment is based on a worst-case scenario.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
Impacts and Effects	The report clearly describes and assesses all likely significant ecological effects (including cumulative effects) clearly stating the geographical scale of significance (where relevant).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Table 9-11
	The mitigation hierarchy has been clearly followed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Table 9-11 Section 7
Mitigation, Compensation and enhancement	The report: Clearly identifies the proposed mitigation and compensation measures, and explains how these will adequately address all likely significant adverse effects. Includes, where necessary, proposals for post-construction monitoring. Recommends how proposed measures may be secured through planning conditions/obligations and/or necessary licences.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Table 9-11
	A summary table of proposed mitigation and compensation measures has been provided.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
	The need for any mitigation licences required in relation to protected species is clearly identified.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1 Table 11
	Proposals to deliver ecological enhancement/Biodiversity Net Gain have been provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
	Limitations of the ecological work have been correctly identified and the implications explained.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Table 4
Competence/ Good Practice	All relevant key timing issues (e.g. site vegetation clearance or roof removal) that may constrain or adversely affect the proposed timing of development have been identified.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Table 9-11
	All ecological work and surveys accord with published good practice methods and guidelines OR deviation from such guidelines is made clear and fully justified, and the implications for subsequent conclusions and recommendations made explicit in the report.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Table 4
	All ecologists and surveyors hold appropriate species licences (where relevant) and/or have all necessary competencies to carry out the work undertaken.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5
Conclusions	The report clearly identifies where the proposed development complies with relevant legislation and policy, highlighting any possible non-compliance issues, and highlighting circumstances where a conclusion cannot be drawn as it requires an assessment of non-ecological issues (such as socio-economic ones).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7
	The report provides a clear summary of losses and gains for biodiversity, and a justified conclusion of an overall net gain for biodiversity.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
	Justifiable conclusions based on sound professional judgement have been drawn as to the significance of effects on any designated site, protected or priority habitat/species or other ecological feature, and a justified scale of significance has been stated.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Table 9-11

<sup>1</sup> To ensure decisions are based on adequate information in accordance with Clauses 6.2 and 8.1 of BS42020:2013



## 1 Summary

- 1.1.1 This Ecology Report has been prepared to inform a planning application. The key results and recommendations are detailed below.
- 1.1.2 Where further surveys are recommended, these will need to be completed prior to determination and this report updated to reflect the results and ensure the mitigation strategies adequately minimise the impact on the ecological receptors; in line with best practice (CIEEM, 2022).

## Project overview

<p><b>Aim of the report</b></p>	<p>Identify the ecological receptors present (i.e. baseline conditions).              Assess the impact of the proposals on the ecological receptors present              Characterise the impacts (e.g. extent, magnitude, duration, reversibility, timing and frequency).              Identify the cumulative impacts.              Recommend:</p> <ul style="list-style-type: none"> <li>• Measures to avoid impacts on the ecological receptors (e.g. alternative designs).</li> <li>• Mitigation measures to minimise the impact on the ecological receptors.</li> <li>• Opportunities for ecological compensation where residual impacts are unavoidable.</li> <li>• Enhancement opportunities to provide net benefits for biodiversity over and above the minimum requirements.</li> </ul> <p>Conclude on the residual impacts with the implementation of the mitigation measures.</p>
<p><b>Project description</b></p>	<p>The proposed development is in the process of being finalised, and the survey area is to be designed as a public garden/amenity space.              As a result, this report only includes an assessment of baseline conditions, alongside general recommendations with respect to ecology and biodiversity. Once a development plan has been finalised, this will require further assessment, including a BNG assessment and design-specific recommendations.              Relevant plans/reports reviewed:</p> <ul style="list-style-type: none"> <li>• Arboricultural Report dated 19/04/23 PJC/6289/23-01 – (PJC, 2023)</li> </ul>
<p><b>Planning status</b></p>	<p>Full planning consent</p>
<p><b>Local planning authority</b></p>	<p>Royal Borough of Kingston upon Thames</p>
<p><b>Survey information</b></p>	<p>Survey dates are detailed in Table 4.              No residual limitations were recorded during the assessment and as such all data can be relied upon for the EclA.</p>

## Baseline

### Sites

<b>Statutory designated sites scoped into the EclA</b>	<ul style="list-style-type: none"> <li>• Bushy Park and Home Park SSSI</li> </ul>
<b>Non-statutory designated sites scoped into the EclA</b>	<ul style="list-style-type: none"> <li>• River Thames and tidal tributaries SINC</li> <li>• Bushy Park and Home Park SINC</li> <li>• Hogsmill Valley Sewage Works and Hogsmill River SINC</li> <li>• Seething Wells Filter Beds SINC</li> <li>• Kingston Cemetery SINC</li> <li>• Hogsmill River in Central Kingston SINC</li> </ul>

### Habitats of ecological consideration identified in the desk study

<b>Watercourses within 250/500m of the survey area</b>	Three watercourses within 250m of the survey area, including the River Thames, the Hogsmill and an unnamed ditch.
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### Habitats

Habitat and code	Confirmed as HPI <sup>2</sup>			Habitat condition	Proposal impact			
	Yes	No	TBC		Retained	Enhanced	Lost	TBC
u1b – developed land; sealed surface	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not applicable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g4 – modified grassland 11 – scattered trees	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not applicable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h2b – other hedgerow	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not applicable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<sup>2</sup> DEFRA mapping models the location of HPI. Where this is confirmed as HPI



Habitat and code	Confirmed as HPI <sup>2</sup>			Habitat condition	Proposal impact			
	Yes	No	TBC		Retained	Enhanced	Lost	TBC
u1 – built up areas and garden 1150 – flower bed 1160 – introduced shrub	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Not applicable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Species

Species group	Species	Recorded in the desk study		Summary of survey results	Further ecological surveys required to complete EclA		Seasonal timing as per Appendix 4.
		Yes	No		Yes	No	
Invertebrate	Common pollinators Urban generalists	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Habitat present suitable for common generalist species (particularly those adaptable to urban situations) and common pollinators.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No further survey required.
Amphibian	Common species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Three watercourses are found within 250m of the survey area. These waterbodies are fast moving and unsuitable for amphibians. There is limited amphibian terrestrial habitat within the modified grassland.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No further survey required.
Reptiles	Slow-worm, and other common species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	There is limited habitat suitable for reptiles within the modified grassland. However, the grassland is limited in area and disconnected from wider areas of habitat with greater suitability for reptiles. Reptiles are likely absent from the survey area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No further survey required.

Species group	Species	Recorded in the desk study		Summary of survey results	Further ecological surveys required to complete EclA		Seasonal timing as per Appendix 4.
		Yes	No		Yes	No	
Birds	Common generalist species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Habitat present suitable for generalist breeding bird species such as house sparrow and woodpigeon within the trees and hedgerow.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Further survey not required. Aim to avoid vegetation clearance within breeding bird season (March-August inclusive). If unavoidable, clearance should be undertaken under ecological watching brief.
Mammals	Badger	<input checked="" type="checkbox"/>	<input type="checkbox"/>	There is some low-level habitat suitable for badger within the survey area, namely modified grassland (foraging), however no signs of any badger activity, including no signs of foraging activity, were recorded and this species is likely absent.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No further survey required.
	Bats	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Eight birch trees are present within the survey area which are all negligible suitability for roosting bats. There are no habitats suitable for foraging bats. The location of the survey area within the town centre will result in high levels of street lighting. This reduces the survey areas suitability for foraging and commuting bats.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No further survey required.
	Hazel dormouse	<input type="checkbox"/>	<input checked="" type="checkbox"/>	There is no habitat suitable for hazel dormouse within the survey area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No further survey required.
	Otter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	There are three watercourses within 250m of the survey area. The river Thames is within 5m of the survey area and has suitability for otter. However, the River Thames is separated from the survey area	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No further survey required.

Species group	Species	Recorded in the desk study		Summary of survey results	Further ecological surveys required to complete EclA		Seasonal timing as per Appendix 4.
		Yes	No		Yes	No	
				by a high wall. Therefore is it unlikely otter will be found within the survey area.			
	Water vole	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Water vole need grassland habitat beside a flowing river course. There is no suitable habitat for water vole within the survey area.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No further survey required.
	Western European hedgehog	<input checked="" type="checkbox"/>	<input type="checkbox"/>	There is some habitat suitable for Western European hedgehog within the survey area, namely modified grassland (foraging), and introduced shrub and other hedgerow (refuge). However the survey area is disconnected from wider expanses of suitable habitat within woodland or grasslands. Notwithstanding this, this species is known to adapt to urban situations.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No further survey required.
	Other mammals	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The survey area may be used by urban specialists such as fox.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No further survey required.
Higher and lower plants	Rare/notable species	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No rare species were recorded during the survey.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No further survey required.
All species	Invasive, non-native species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	No invasive non-native species were recorded during the survey.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No further survey required.

### Summary of Ecological Impact Assessment

1.1.3 Although final designs have not been provided at this stage, due to the limited ability of the survey area to support protected habitats and species, there is sufficient information to fully determine appropriate mitigation measures. The below should be updated following

completion of any biodiversity net gain assessments and/or urban greening factor assessments that may be required once designs are finalised.

#### **Summary of mitigation measures that need to be incorporated into the construction phase of the project**

- Undertake vegetation removal or building demolition between September and February, outside the breeding bird season. Where this cannot be avoided, vegetation or structures to be removed will need to be surveyed first by a suitably experienced ecologist and any active nests protected with a suitable buffer until the nests are no longer active. In addition works will need to be supervised by an ecologist, and identified nests adequately protected until chicks have fledged.
- Lighting plans should be developed in consultation with a suitably experienced ecologist.
- Covering any holes or trenches overnight, placing a ramp in larger holes so that fallen animals can escape in the eventuality they fall into the holes.
- Where possible, any works should avoid disturbing or blocking active mammal holes. If a mammal hole needs to be disturbed it will need to be done under the supervision of a suitably experienced ecologist to comply with the Wild Mammals (Protection) Act 1996.
- In the unlikely event a great crested newt or reptile is recorded during the works, the works must cease and an ecologist and Natural England contacted.
- A Construction Environmental Management Plan (CEMP) to be developed with appropriate measures in place to protect designated statutory and non-statutory sites from any construction activity impacts, such as dust, noise or surface run-off into the river system.

#### **Summary of mitigation measures that need to be incorporated into project design (operational phase)**

- Create a variety of habitat enhancements across site, including bee hotels, and habitat piles using material from the survey area wherever possible. Plant additional UK native flowering species known to benefit pollinators, including primrose, betony and ox-eye daisy.
- Incorporate bird and bat boxes into the design of the site.
- Avoid the use of artificial lawns, and aim to restrict non-permeable surfaces to only where necessary.
- Incorporate semi-natural habitat into the design including areas of taller grassland.
- Any new trees planted should be native of local provenance, however consideration should also be made to plant tree species with known resilience to drought and/or flooding.
- The inclusion of a waterbody in the proposals for the survey area would improve the suitability of the site for amphibians and birds, such as a pond or rain garden.

- Keep wildlife permeability in mind – include measures for mammals such as hedgehog to pass through the survey area e.g. through inclusion of mammal gates or gaps in boundary structures.

#### **Ecological receptors with residual positive impact**

1.1.4 If the recommendations in this report are followed, residual positive impacts for the following ecological receptors can be achieved:

- Breeding birds
- West European hedgehog
- Amphibians
- Other mammals

1.1.5 Additional ecological receptors may have residual positive impacts depending on the results of recommended species survey and finalised development design.

## 2 Introduction

### 2.1 Scope of work

2.1.1 The scope of work is detailed in Table 2.

**Table 2: Scope of work**

Scope type	Species group	Scope of work
Desk study		Purchase of data from the local record centre that includes statutory designated sites, non-statutory designated sites, records of protected species and species of conservation concern
		Review of local plan
		Review of biodiversity opportunity areas
		Review of mitigation licences
		Review of parcels of ancient woodland
		Review of parcels of habitats of principal importance
		Review of impact risk zones for statutory designated sites
Habitat survey		UK habitat classification
		Habitat condition assessment
Invertebrate		Habitat assessment
Amphibian		Check for mitigation licences within 2km
Reptiles		Habitat assessment
Mammals	Badger	Habitat assessment
	Bats	Check for mitigation licences within 2km
		Preliminary Ground Level Roost Assessment of up to 20 trees.
	Hazel dormouse	Check for mitigation licences within 2km
		Habitat assessment
	West European Hedgehog	Habitat assessment
Other mammals	Habitat assessment	
Higher and lower plants	Rare/notable species	Habitat assessment
All species	Invasive/non-native species	Presence/likely absence
		Habitat assessment
EclA		Provision of a technical report that details the ecological receptors likely to be impacted by the proposals and an assessment of the impacts.
		Recommendations for mitigation and enhancement measures.



## 2.2 Survey area

2.2.1 The survey area, presented in Figure 1, comprises the development boundary. It is approximately 0.1 ha located at Ram Passage, Kingston upon Thames KT1 1HH (central grid reference: TQ 17759 69042). The survey area is bounded by Kingston town centre to the north, east and south, and the river Thames to the west.

## 3 Project proposals

3.1.1 The project proposals are still in the process of being determined. Once a proposed development has been designed, this report will require updating, taking into account the specifics of the proposed development, including land use, landscaping designs, and timing of the development, where this is known.

## 4 Legislative and planning policy framework

4.1.1 All projects need to comply with relevant UK legislation, as detailed in Appendix 1.

4.1.2 Projects must also comply with relevant national and local planning policies, as detailed in Appendix 1. The relevance of these was reviewed to detail our recommendations in Section 7.

## 5 Methods

5.1.1 Table 4 presents a summary of the methods undertaken to identify the ecological receptors currently or potentially present in the survey area (baseline conditions), with details provided in the relevant appendix. All surveys have been undertaken by appropriately trained and competent ecologists.

5.1.2 Following the collation of baseline information, the EclA was undertaken to ascertain how the project proposals at the construction and operational phase could impact the ecological receptors and determine whether a measurable change from baseline conditions is predicted, resulting in a significant effect. The EclA was undertaken in line with best practice methodology (CIEEM, 2022) and reflected the scale of the project to ensure a proportionate approach was undertaken. Ecological features that would not be impacted by the proposals were scoped out of the assessment.

5.1.3 Throughout the process, the ecologist used the best available scientific knowledge in assessing impacts and applied a precautionary principle. Therefore, where insufficient information was available to justify a robust conclusion of no significant effect, a significant effect was assumed.

5.1.4 For the ecological receptors scoped into the assessment, the impact of the development proposals was assessed. Impacts were considered significant where a measurable change from baseline conditions are predicted. Factors that were considered included are presented in Table 3, as defined in (CIEEM, 2022b).

**Table 3: Impact characteristics**

Characteristic	Definition
Positive or negative impact	Positive impact results in an improvement in the quality of the environment, such as increasing connectivity or extending habitat; increasing conservation status of a species, habitat or designated site, in terms of distribution and/or population size.
	Negative impact results in a change which reduces the quality of the environment, such as destruction or fragmentation of habitat; decreasing conservation status in terms of distribution and/or population size.
Extent	Spatial or geographical area affected
Magnitude	Amount affected by the project, including size, amount, intensity and volume. Impacts are also defined as being direct, indirect, secondary or cumulative
Duration	Defined in relation to the ecological feature. Effects are described as short, medium or long-term and permanent or temporary.
Frequency or timing	The number of times an event occurs and timing relates to a particular season
Reversibility	Defined as reversible or irreversible.

**Table 4: Methods undertaken to inform the ecological baseline conditions**

Scope type	Species group	Method	Date	Residual limitations recorded		Further assessments required	
				Yes	No	Yes	No
Desk study	Purchase of data from the local records centre that includes statutory designated sites, non-statutory designated sites, records of protected species and species of conservation concern		04/09/2023	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Review of local plan						
	Review of biodiversity opportunity areas						
	Review of mitigation licences						
	Review of parcels of ancient woodland						
	Review of parcels of habitats of principal importance						
Review of impact risk zones for statutory designated sites							
Habitat survey	UK habitat classification		31/08/2023	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Invertebrate survey	Habitat assessment		31/08/2023	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Amphibian survey	Check for mitigation licences within 2km		04/09/2023	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Reptiles	Habitat assessment		31/08/2023	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Birds	Habitat assessment		31/08/2023	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mammals	Badger	Habitat survey	31/08/2023	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Bats	Check for mitigation licences within 2km	31/08/2023	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Hazel dormouse	Check for mitigation licences within 2km	31/08/2023	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Otter	Habitat assessment	31/08/2023	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Water vole	Habitat assessment	31/08/2023	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Western European hedgehog	Habitat assessment	31/08/2023	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Other mammals	Habitat assessment	31/08/2023	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Higher and lower plants	Rare/notable species	Habitat assessment	31/08/2023	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
All species	Invasive/non-native species	Habitat assessment	31/08/2023	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## 6 Results

6.1.1 A summary of the results is provided in the tables below, with detailed results provided in the relevant appendices (as indicated in the relevant tables).

**Table 5: Statutory and non-statutory designated sites desk study results**

Site designation type	Name	Relevant appendix	Situated within survey area		Situated within 15m of survey area		Situated within impact risk zone		Likely to be impacted by proposed development <sup>3</sup>	
			Yes	No	Yes	No	Yes	No	Yes	No
Statutory designated site	Bushy Park and Home Park SSSI	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	The Wood and Richard Jefferies Bird Sanctuary LNR	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Non-statutory designated site	River Thames and tidal tributaries SINC	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Bush Park and Home Park SINC	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Hogsmill Valley Sewage Works and Hogsmill River SINC	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Seething Wells Filter Beds SINC	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Oakhill, 'The Woods' and Richard Jefferies Bird Sanctuary SINC	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Kingston Cemetery SINC	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Hogsmill River in Central Kingston SINC	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The Copse at Hampton Wick and Normansfield Hospital SINC	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Table 6: Habitats of ecological consideration identified in the desk study**

Habitat type	Number (for waterbodies/watercourses only)	Closest distance to survey area	Relevant appendix	Situated within survey area		Situated within 15m of survey area		Situated within impact risk zone		Likely to be impacted by proposed development <sup>1</sup>	
				Yes	No	Yes	No	Yes	No	Yes	No
Ancient woodland	Not applicable	3250m	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Watercourses within 250m of the survey area	1 – River Thames	5m	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	2 – Hogsmill River	70m	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	3 – unnamed ditch	220m	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<sup>3</sup> Ecological Impact Assessment of ecological receptors likely to be impacted by the proposed development is discussed in Section 7. Those unlikely to be impacted are not discussed further.

**Table 7: UK habitat classification survey results**

Habitat and code	Recorded in desk study as HPI		Confirmed as HPI <sup>4</sup>			Proposal impact				Recommended to avoid		Further enhancement opportunity	
	Yes	No	Yes	No	TBC	Retained	Enhanced	Lost	TBC	Yes	No	Yes	No
<b>Habitat Code:</b> u1b - Developed land; sealed surface	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Habitat Code:</b> g4 - Modified grassland <b>Additional Codes:</b> 11 - Scattered trees	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Habitat Code:</b> h2b - Other hedgerows	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Habitat Code:</b> u1 - Built-up areas and gardens <b>Additional Codes:</b> 1150 - Flower bed, 1160 - Introduced shrub	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<sup>4</sup> DEFRA mapping models the location of HPI. Where this is confirmed as HPI

**Table 8: Summary of species survey results**

Species Group	Species	Relevant appendix	Recorded in the desk study		Mitigation licences recorded within 2km of the survey area			Recorded during the survey <sup>5</sup>		Summary of survey results	Relevant habitat	Important habitat features and use by species	Scope into EclA?		Further ecological surveys required	
			Yes	No	Yes	No	N/A	Yes	No				Yes	No	Yes	No
Invertebrate	Common pollinators Urban generalist species	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Habitat present suitable for common generalist species (particularly those adaptable to urban situations) and common pollinators.	1150 – Flower bed g4 – modified grassland h2b – other hedgerow	Flowering plants suitable for pollinators were found within the flower bed, species are recorded in Appendix 3.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Amphibian	Common amphibians	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Three watercourses are found within 250m of the survey area. These waterbodies are fast moving and unsuitable for amphibians. There is limited amphibian terrestrial habitat within the modified grassland. It is unlikely amphibians are present within survey area.	g4 – modified grassland	The grassland offers terrestrial habitat for amphibians, however this habitat is poorly connected to further terrestrial habitat or waterbodies suitable for amphibians.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Reptiles	Common reptiles (particularly slow-worm)	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	There is limited habitat suitable for reptiles within the modified grassland. However the grassland is small and disconnected from wider areas of habitat with greater suitability for reptiles. It is unlikely reptiles are present within the survey area.	g4 – modified grassland	There is grassland within the survey area however it is not connected to further grassland habitat.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Birds	Common urban generalist species	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Habitat present suitable for generalist breeding bird species such as house sparrow and wood pigeon within the trees and hedgerow.	11 – scattered trees h2b – other hedgerow	The birch trees within the survey area provide habitat suitable for smaller bird species. The hedgerow provides shelter for bird species.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mammals	Badger	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	There is some limited habitat suitable for use by badger, namely the modified grassland, which can be used for foraging, however no signs of badger (including any foraging signs) were recorded and the species is likely absent.	N/A	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Bats	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Eight birch trees are present within the survey area which are all negligible suitability for roosting bats. There are no habitats suitable for foraging bats. The location of the survey area within the town centre will result in high levels of street lighting. This reduces the survey areas suitability for foraging and commuting bats.	N/A	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<sup>5</sup> Likely absence from a survey area can only be confirmed following presence/likely absence surveys undertaken in line with best practice. An absence of a record or observation therefore does not mean a species can be discounted from further assessment. Professional judgement is used to determine whether a species is scoped into the EclA, reviewing the historical records, knowledge of the species' ecological needs throughout its life-cycle, habitats present and the wider ecological context.



Species Group	Species	Relevant appendix	Recorded in the desk study		Mitigation licences recorded within 2km of the survey area			Recorded during the survey <sup>5</sup>		Summary of survey results	Relevant habitat	Important habitat features and use by species	Scope into EcIA?		Further ecological surveys required	
			Yes	No	Yes	No	N/A	Yes	No				Yes	No	Yes	No
	Hazel dormouse	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	There is no habitat suitable for hazel dormouse within the survey area.	N/A	N/A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Otter	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	There are three watercourses within 250m of the survey area. The river Thames is within 5m of the survey area and has suitability for otter. However, the River Thames is separated from the survey area by a high wall. Therefore it is unlikely otter will be found within the survey area.	N/A	N/A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Water vole	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Water vole need grassland habitat beside a flowing river course. There is no suitable habitat for water vole within the survey area.	N/A	N/A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Western European hedgehog	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	There is some limited habitat suitable for use by Western European hedgehog, namely the modified grassland, which can be used for foraging. The introduced shrub and hedgerow can also provide some opportunity for refuge. No signs of this species were recorded during the survey however this is a species that does occur in urban situations and as signs of activity for small nocturnal species can easily missed.	g4 – modified grassland h2b – other hedgerow 1160 – introduced shrub	The grassland provides foraging opportunity. The introduced shrub and hedgerow provide refuge opportunity.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Other mammals	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The survey area may be used by urban specialists such as fox.	g4 – modified grassland h2b – other hedgerow	As for hedgehog above.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Higher and lower plants	Rare/notable species	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No rare species were recorded during the survey and the habitats present are typical of amenity and ornamental planting, and do not typically support rare or notable plant species.	N/A	N/A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
All species	Invasive, non-native species	3	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	No invasive species were recorded during the survey.	N/A	N/A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## **7 Ecological Impact Assessment**

- 7.1.1 The impact of the proposed development on each ecological receptor scoped into the assessment is presented in the tables below.
- 7.1.2 At this stage, as final development designs have not been created, it is not known what the specific impact on habitats within the survey area will be (i.e. the extent to which is lost/retained/enhanced etc.). A detailed EclA table has therefore not been included for habitats in this report. Instead, a general discussion of mitigation measures has been included, and sufficient information has been gathered to fully inform on this. Once final designs are known, this report should be updated to include a full assessment of the specific impacts of the habitats within the survey area with regards to extent of lost, retained and enhanced areas.

**Table 9: EclA for designated sites**

Site designation type	Name	Construction phase			Operational phase			Consultation with Natural England required	
		Initial impact	Mitigation measures	Residual impact	Initial impact	Mitigation measures	Residual impact	Yes	No
Statutory designated site	Bushy Park and Home Park SSSI	The SSSI is within 100m of the survey area, on the other side of the River Thames. Construction activity could impact on the SSSI through indirect activities such as spread of dust and pollutants across the river, and from additional noise and lighting. <b>Negative impact.</b>	Protect SSSI from indirect impacts by adhering to a CEMP which details protection measures for the spread of dust and pollutants. Undertake any construction during daylight hours to avoid noise and lighting disturbance to nocturnal species.	<b>Negligible impact</b>	The SSSI is across the river from the survey area, and the land use of the area (public amenity land) will not change. <b>Negligible impact.</b>	Final designs to include vegetated habitats including with native species and those with known benefit to nature. Species enhancements should be incorporated into designs e.g. bird and bat boxes.	If designs take biodiversity enhancements into account, the survey area would be able to increase its capacity to support species, and bird species that use the SSSI may be able to make use of the survey area as additional habitat. Bat enhancements could provide additional opportunities for bats using the SSSI for commuting and foraging. <b>Positive impact.</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	The Wood and Richard Jefferies Bird Sanctuary LNR	The LNR is just under 2km southeast of the survey area, with significant anthropological barriers in between. Construction highly unlikely to impact on the SSSI. <b>Negligible impact.</b>	N/A	<b>Negligible impact.</b>	As for the Construction Phase; additionally, the proposed development is not involving any land use change and therefore visitor pressure to the LNR will not increase. <b>Negligible impact.</b>	N/A	<b>Negligible impact.</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Non-statutory designated site	River Thames and tidal tributaries SINC	The SINC is within 5m of the survey area. Construction activity could directly impact on this SINC through spread of dust and pollutants. The River Thames could additionally spread this throughout the wider extent of the SINC and neighbouring SINC land and other habitats. Additionally, the SINC could be impacted indirectly through increased noise and lighting. <b>Negative impact.</b>	Protect SINC from impacts by adhering to a CEMP which details protection measures for the spread of dust and pollutants, in particular prevention methods for the spread of any material into the watercourse itself. Undertake any construction during daylight hours to avoid noise and lighting disturbance to nocturnal species.	<b>Negligible impact.</b>	The SINC is adjacent to the survey area, however the land use of the survey area and the adjacent towpath will not change. <b>Negligible impact – unless design results in an increase in lighting shining onto the River Thames, in which case this would be negative.</b>	Final designs to include vegetated habitats including with native species and those with known benefit to nature. Species enhancements should be incorporated into designs e.g. bird and bat boxes.	If designs take biodiversity enhancements into account, the survey area would be able to increase its capacity to support species, and animal species that use the River Thames as a commuting corridor may be able to make use of the survey area as additional habitat <b>Positive impact.</b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Bushy Park and Home Park SINC	As for Bushy Park and Home Park SSSI, above.						<input type="checkbox"/>	<input checked="" type="checkbox"/>

Site designation type	Name	Construction phase			Operational phase			Consultation with Natural England required	
		Initial impact	Mitigation measures	Residual impact	Initial impact	Mitigation measures	Residual impact	Yes	No
	Hogsmill Valley Sewage Works and Hogsmill River SINC Seething Wells Filter Beds SINC Kingston Cemetery SINC Hogsmill River in Central Kingston SINC	These SINC are connected to each other via the River Thames and its tributary, the Hogsmill. As discussed above for other sites, there is a risk of impact through pollution spread, carried along the watercourses. <b>Negative indirect impact.</b>	Ensure that sufficient measures are in place to protect the watercourses from becoming polluted during the construction phase, e.g. through dust suppression measures. This must be secured within a CEMP.	<b>Negligible impact.</b>	As for the sites above. <b>Negligible impact.</b>	N/A – these SINC sites are significantly far from the survey area.	N/A	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Oakhill, 'The Woods' and Richard Jefferies Bird Sanctuary SINC The Copse at Hampton Wick and Normansfield Hospital SINC	As for The Wood and Richard Jefferies Bird Sanctuary SSSI, above.						<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Table 10: General EcIA for habitats**

Habitat and code	General Impacts	General mitigation measures
<b>Habitat Code:</b> u1b - Developed land; sealed surface	The hard standing across the survey area has negligible ecological value and reduces the ability of the survey area to drain water in times of heavy rain.	There is opportunity to reduce the overall amount of sealed surface across the survey area post-development, prioritising permeable surfaces where feasible, in particular vegetated surfaces.
<b>Habitat Code:</b> g4 - Modified grassland <b>Additional Codes:</b> 11 - Scattered trees	The development could result in the loss or damage to this low distinctiveness habitat. This particular example of modified grassland is frequent within suburban and urban habitats (typical of managed lawn), and is a very small area within the context of both the survey area and the wider green area. Loss of this habitat would therefore result in only low impacts, however it would still be the loss of green habitat in an otherwise built-up area.	Where this habitat is lost, it will require offsetting with a habitat of low distinctiveness or higher. There is opportunity to offset this with a wide variety of habitats offering an increase in different niches for species to make use of.
<b>Habitat Code:</b> h2b - Other hedgerows	The development could result in the loss or damage to this low distinctiveness habitat. This particular type of hedgerow (native species-poor) is frequent within suburban and urban habitats (typical of urban amenity spaces). The hedgerow is not well-connected to the wider area. However, other hedgerow can be used by species, particularly birds which can use it for nesting and roosting, due to the dense foliage cover. Loss of this habitat would result in only low impacts, however it would still be the loss of green habitat in an otherwise built-up area.	Where this habitat is lost, it will require offsetting with a hedgerow and/or line of tree habitat of low distinctiveness or higher. There is opportunity to provide further enhancement by using hedgerow habitats to connect the survey area with neighbouring habitats, and introducing a higher number of native plant species to the survey area.
<b>Habitat Code:</b> u1 - Built-up areas and gardens <b>Additional Codes:</b> 1150 - Flower bed, 1160 - Introduced shrub	The introduced shrub and flower beds across the survey area have negligible ecological value in accordance of biodiversity net gain. However, the flowering plants do provide foraging opportunities to pollinators.	Additional planting of native flowering species would increase the benefit to native pollinators. Examples of flowering species known to benefit wildlife includes primrose, betony and ox-eye daisy.

**Table 11: EclA for species**

Species Group	Species	Construction phase			Operational phase	Mitigation licence required?		
		Initial impact	Mitigation measures	Residual impact	Mitigation measures	Yes	No	N/A
Invertebrate		Potential loss of green spaces with flowering plants suitable for pollinating invertebrates within the Kingston Town Centre area. <b>Potential negative impact at site level.</b>	Do not remove dead wood from site and do not chip. Relocate where required to retained vegetation, where it can be left in habitat piles.	<b>Negligible impact.</b>	Create a variety of habitat enhancements across site, including bee hotels, and habitat piles using material from the survey area wherever possible. Plant additional UK native flowering species known to benefit pollinators, including primrose, betony and ox-eye daisy.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Amphibian		There are no waterbodies within 250m of the survey area that is suitable for great crested newt and other amphibians. Amphibians are considered likely absent from the survey area. <b>Negligible impact on site level.</b>	In the unlikely event a great crested newt is recorded during the works, these must cease and an ecologist and Natural England contacted.	<b>Negligible impact.</b>	Create a variety of habitat enhancements across site, including refugia and hibernacula using material from the survey area wherever possible. Incorporate semi-natural habitat into the design including areas of taller grassland. The inclusion of a waterbody such as a pond or rain garden in the proposals for the survey area would improve the suitability of the site for amphibians.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Reptile		There is no habitat suitable for reptiles within the survey area. Reptiles are considered likely absent from the survey area. <b>Negligible impact on site level.</b>	In the unlikely event a reptile is recorded during the works, these must cease and an ecologist contacted.	<b>Negligible impact.</b>	Create a variety of habitat enhancements across site, including refugia and hibernacula using material from the survey area wherever possible. Incorporate semi-natural habitat into the design including areas of taller grassland	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Bird		There is habitat for common bird species and urban specialists within the hedgerow and birch trees. The habitat is limited and in a highly disturbed area. <b>Negative impact at site level.</b>	Undertake vegetation removal or building demolition between September and February, outside the breeding bird season. Where this cannot be avoided, a survey of the vegetation for nesting birds will be needed and works will need to be supervised by an ecologist, and identified nests adequately protected until chicks have fledged.	<b>Negligible impact.</b>	Create a variety of habitat enhancements across site, including both integrated nesting features and nest boxes in trees. Incorporate semi-natural habitat into the design including areas of taller grassland. Include a bird bath or water feature in the proposals to provide benefits to bird populations on site.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



Species Group	Species	Construction phase			Operational phase	Mitigation licence required?		
		Initial impact	Mitigation measures	Residual impact	Mitigation measures	Yes	No	N/A
Mammals	Badger	Badger have been assessed as likely absent from the survey area. <b>Negligible impact at site level.</b>	N/A	<b>Negligible impact.</b>	Planting dense vegetation near mammal holes with species, including gorse, blackthorn, holly and elder. Minimising lighting in areas of semi-natural vegetation. Encourage planting of modified grassland with high earthworm diversity.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Bats	There is no habitat suitable for roosting bats within the survey area. The survey area may be used by foraging or commuting bats, however the street lighting decreases the suitability of the site for bats. <b>Negligible impact at site level.</b>	Lighting for the proposed development should be designed as per best practice guidance (BCT and Institute of Lighting Professionals, 2023). Methods of achieving this would include: <ul style="list-style-type: none"> <li>• Recess lighting within the building.</li> <li>• Siting windows to avoid areas of particular interest for bats, identified during the further survey.</li> <li>• Incorporating dark zones within [insert habitat type] in line with foraging and commuting habitat, and maintaining these post-development.</li> <li>• For outside areas, using LED lighting that are in the warm spectrum (2700 K) to minimise impacts on bats. Timers, dimmers and off-times could be considered, where possible.</li> </ul> Lighting plans should be developed in consultation with a suitably experienced ecologist.	<b>Negligible impact.</b>	Create a variety of habitat enhancements across site, including both integrated roosting features and bat boxes in trees. Incorporate semi-natural habitat into the design including areas of taller grassland.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Water vole	There is no habitat suitable for water vole within the survey area. <b>Negligible impact at site level.</b>	N/A	<b>Negligible impact.</b>	N/A	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	West European hedgehog	There is limited habitat suitable for hedgehog within the survey area. The survey area is disconnected from wider areas of suitable habitat for hedgehog such as woodland or grassland. It is considered unlikely hedgehog are present within the survey area, however this is a species that is known to be well-adapted to urban habitats, and will readily cross roads and other areas of hard standing in order to find prey in the modified grassland, or shelter in the hedgerow/shrub. <b>Negative low-level impact at site level if hedgerow use the area for foraging/refuge.</b>	Covering any holes or trenches overnight, placing a ramp in larger holes so that fallen animals can escape in the eventuality they fall into the holes. Log piles in winter (November to February) will be checked by an appropriately qualified ecologist and dismantled by hand. In retained habitat, deploy shelters to encourage the species to use these. Aim to ensure retained habitat is connected to the wider area.	<b>Negligible impact.</b>	Leaving areas of unmanaged habitat with leaf litter, scrub and deadwood. Encourage patches of scrub (supporting bramble). Creation of species-rich hedgerows. Landscaping will allow for sloped access/escape routes for ground-dwelling animals.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



Species Group	Species	Construction phase			Operational phase	Mitigation licence required?		
		Initial impact	Mitigation measures	Residual impact	Mitigation measures	Yes	No	N/A
	Other mammals	The survey area may be used by urban specialists such as fox. However as most the site is hard-standing, there is minimal habitat suitable for these species. <b>Potential negative impact at site level.</b>	No mammal holes were recorded during the survey. However where any mammal holes may be found in the future, any works should avoid disturbing or blocking active mammal holes. Where active mammal holes, not including badger, require removal, this should be undertaken under the supervision of a suitably experienced ecologist following a precautionary method of working to ensure the works comply with the Wild Mammals (Protection) Act 1996.	<b>Negligible impact.</b>	As for West European hedgehog, above.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
All species	Invasive, non-native species	No invasive species were recorded within the survey area.	N/A	<b>Negligible impact.</b>	Monitoring and continued treatment in line with invasive species strategy. Landscape plan to incorporate native species in planting mix.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## 8 Biodiversity enhancements and design recommendations

8.1.1 Design recommendations to consider for the final designs include the following measures to enhance the survey area for habitats and species:

- Lighting plans should be developed in consultation with a suitably experienced ecologist, and should take into account the retention/creation of dark zones to allow bats and other nocturnal species commuting passage.
- Incorporate species enhancement features into the design including bat boxes, bird nest boxes, invertebrate hotels, stag beetle loggeries, and refugia made from rubble, brash and/or logs, using material from the survey area wherever possible.
- Planting schedule should incorporate UK native species, with a focus on nectar and pollen rich flowering species that flower at differing times across the year. Consideration should be made to species with resilience to climate change (particularly when planting tree species). Some examples include primrose, betony and oxeye daisy.
- Avoid the use of artificial lawns, and only include non-permeable surfaces where absolutely necessary.
- Incorporate semi-natural habitat into the design including areas of taller grassland. Amenity grassland areas should be planted with a native species-rich assemblage tolerant to trampling and regular mowing (mixes are often described as 'flowering lawn' mixes).
- Any new trees planted should be native of local provenance, however consideration should also be made to plant tree species with known resilience to drought and/or flooding.
- The inclusion of a waterbody in the proposals for the survey area would improve the suitability of the site for amphibians and birds, such as a pond or rain garden.
- Keep wildlife permeability in mind – include measures for mammals such as hedgehog to pass through the survey area e.g. through inclusion of mammal gates in boundary structures.

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## Appendix 1: Legislation and planning policy

### Legislation

#### Conservation of Habitats and Species Regulations 2017 (as amended)

Provides for the protection of Natura 2000 sites (SACs, SPAs and Ramsar sites), European Protected Species and habitats. Species listed under Schedule 2 are protected from:

- Deliberate capture, injury or killing.
- Deliberate disturbance [...], such that it impairs their ability to breed, reproduce or rear their young, hibernate or migrate or significantly affect their local distribution or abundance.
- Deliberate taking or destroy effect.
- Damage or destroying a breeding site or resting place.
- Keeping, transporting, selling or exchanging any live, dead or part.

Species listed under Schedule 2 include, but are not limited to:

- Great crested newt
- Natterjack toad
- Otter
- Smooth snake
- Sand lizard
- All bat species
- Hazel dormouse

The LPA will be aware of its legal duty under Regulation 9(3) of Conservation of Habitats and Species Regulations 2017, as amended, which states that “*a competent authority in exercising any of its functions, must have regard to the requirements of the Directives so far as they may be affected by the exercise of those function*”.

Also, under Regulation 55 (9b) of the above regulations, the LPA must apply the following three tests when deciding whether to grant planning permission where a Protected Species (bats) may be harmed, in line with of the Conservation of Habitats and Species Regulations 2017, as amended.

- The activity must be for imperative reasons of overriding public interest or for public health and safety;
- There must be no satisfactory alternative;
- Favourable conservation status of the species must be maintained.

Natural England has stated that they would expect these three tests to be adequately considered by the LPA before planning permission is granted. Natural England will require evidence from the applicant that the LPA has considered the three tests and how they were met, before a mitigation licence can be issued. Where a mitigation licence is required to avoid breach of legislation, development cannot proceed even where a valid planning permission is granted.

#### Wildlife and Countryside Act 1981 (as amended)

Key piece of legislation consolidating existing wildlife legislation to incorporate the requirements of the Bern Convention and Birds Directive. It includes additional protection measures for species listed under the Conservation of Habitats and Species Regulations 2017

(as amended) and includes a list of species protected under the Act. It also provides for the designation and protection of Sites of Special Scientific Interest (SSSI).

Development which would adversely affect a SSSI is not acceptable except only in special cases, where the importance of a development outweighs the impact on the SSSI when planning conditions or obligations would be used to mitigate the impact. Developments likely to impact on a SSSI will likely require an Environmental Impact Assessment (EIA).

The Impact Risk Zones dataset is a GIS tool which details zones around each SSSI according to the particular sensitivities of the features for which it is notified and specifies the types of development that have the potential to have adverse impacts. Natural England uses the Impact Risk Zones to make an initial assessment of the likely risk of impacts on SSSIs and to quickly determine which consultations are unlikely to pose risks and which require more detailed consideration. Local Planning Authorities (LPAs) have a duty to consult Natural England before granting planning permission on any development that is in or likely to affect a SSSI.

Further information on specific legislation relating to species protected under the Wildlife and Countryside Act 1981 (as amended) is detailed below, under Protection of Protected Species and Habitats.

### **Environment Act (2021)**

The Environment Act (2021) makes a provision for biodiversity net gain to be a condition of planning permission in England. Planning applications will need to demonstrate a 10% biodiversity net gain can be met. A biodiversity net gain plan must be submitted and must include:

- (a) information about the steps taken or to be taken to minimise the adverse effect of the development on the biodiversity of the onsite habitat and any other habitat
- (b) the pre-development biodiversity value of the onsite habitat,
- (c) the post-development biodiversity value of the onsite habitat,
- (d) any registered offsite biodiversity gain allocated to the development and the biodiversity value of that gain in relation to the development,
- (e) any biodiversity credits purchased for the development,

### **Countryside and Right of Way Act 2000**

Amends and strengthens the Wildlife and Countryside Act 1981 (as amended). It also details habitats and species for which conservation measures should be promoted.

### **Natural Environment and Rural Communities Act 2006**

Section 40 of the Act places a duty on local planning authorities to conserve and enhance biodiversity in England whilst carrying out their normal functions. Section 41 comprises a list of Habitats of Principal Importance (HPIs) and Species of Principal Importance (SPIs) which should be considered.

Section 41 details 56 HPIs, of which the following could be present in south-east England: Lowland calcareous grassland, Lowland dry acid grassland, Lowland meadows, Lowland Heathland, Open Mosaic Habitats on Previously Developed Land, Lowland fens, Lowland raised bog, Reedbeds, Lowland beech and yew woodland, Lowland mixed deciduous woodland and Wet woodland.

Impacts to HPI are of material planning consideration.



The LPA will need to have particular regard to any relevant local nature recovery strategies, and any relevant species conservation strategy or protected site strategy prepared by Natural England.

### **Hedgerows Regulations 1997**

Under the Hedgerows Regulations 1997 it is against the law to remove or destroy certain hedgerows without permission from the LPA, which are also the enforcement body for offences created by the Regulations. LPA permission is normally required before removing hedges that are at least 20 m in length, more than 30 years old and contain certain plant species. The authority will assess the importance of the hedgerow using criteria set out in the regulations. The regulations **do not** apply to hedgerows within the curtilage of, or marking a boundary of the curtilage of, a dwelling house.

Hedgerow is a HPI.

### **Wild Mammals (Protection) Act 1996**

Under this act wild mammals are protected from the intentional unnecessary suffering by crushing and asphyxiation.

### **ODPM Circular 06/05: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact within the Planning System (2005)**

The Government's Office of the Deputy Prime Minister (ODPM) Circular 06/05 (ODPM 2005) presents the legal requirement for planning authorities with regard to statutory designated sites. Planning approval should not be granted where impacts to statutory designated sites that are not connected to the site maintenance for nature conservation, or will have a significant effect on the site's conservation objectives and/or affect the site's integrity. Permission may be granted if the proposed development overrides public interest.

The presence of a protected species is a material planning consideration. The Circular clearly outlines that it is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before planning permission is granted. Otherwise, all relevant considerations may not have been addressed in making the decision.

### **Protection of protected species and habitats**

#### **Amphibians**

Natterjack toad, pool frog and great crested newt are protected under the Conservation of Habitats and Species Regulations 2017 (as amended). They are also afforded additional protection under the Wildlife and Countryside Act 1981 (as amended).

Natterjack toad, common toad, great crested newt and northern pool frog are also SPIs.

#### **Reptiles**

Smooth snake and sand lizard are protected under the Conservation of Habitats and Species Regulations 2017 (as amended). They are afforded additional protection under the Wildlife and Countryside Act 1981 (as amended).

Adder, grass snake, common lizard and slow-worm are all protected from killing and injury under the Wildlife and Countryside Act 1981 (as amended). All UK reptile species are SPIs.

## Birds

All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended). This includes damage and destruction of their nests whilst in use, or construction. Species listed under Schedule 1 of the Act, such as barn owl, are afforded protection from disturbance during the nesting season.

The following 50 bird species are SPIs: lesser redpoll, aquatic warbler, marsh warbler, skylark, white-fronted goose, tree pipit, scaup, bittern, dark-bellied brent goose, stone-curlew, nightjar, hen harrier, northern harrier, hawfinch, corncrake, cuckoo, Bewick's swan, lesser spotted woodpecker, corn bunting, ciril bunting, yellowhammer, reed bunting, red grouse, herring gull, black-tailed godwit, linnet, twite, Savi's warbler, grasshopper warbler, woodlark, common scoter, yellow wagtail, spotted flycatcher, curlew, house sparrow, tree sparrow, grey partridge, wood warbler, willow tit, marsh tit, dunnock, Balearic shearwater, bullfinch, roseate tern, turtle dove, starling, black grouse, song thrush, ring ouzel and lapwing.

## Badger

Badger is protected under the Protection of Badgers Act 1992. Under this legislation it is an offence to kill or injure a badger; to damage, destroy or block access to a badger sett; or to disturb badger in its sett. The Act also states the conditions for the Protection of Badgers licence requirements.

## Bats

All bat species are protected under the Conservation of Habitats and Species Regulations 2017 (as amended), as detailed above. Bats are further protected under the Wildlife and Countryside Act 1981 (as amended), making it an offence to:

- Deliberately or recklessly damage or destroy any structure or place which bat(s) use for shelter or protection.
- Disturb bat(s) while occupying a structure or place which it uses for shelter or protection.
- Obstruct access to any structure or place which they use for shelter or protection.

Furthermore, seven bat species are SPIs, covered under Section 41 of the NERC Act 2006. These include western barbastelle, Bechstein's, noctule, soprano pipistrelle, brown long-eared, lesser horseshoe and greater horseshoe.

## Beaver

Beaver is provided under Conservation of habitats and Species Regulations 20217 (as amended). Beaver is also afforded additional protection under the Wildlife and Countryside Act 1981, as amended.

## Hazel dormouse

Hazel dormouse is protected under the Conservation of Habitats and Species Regulations 2017 (as amended). It is afforded additional protection under the Wildlife and Countryside Act 1981 (as amended), including obstruction to a place of shelter or rest.

Hazel dormouse is also a SPI.

### **Otter**

Otter is protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and is afforded additional protection under the Wildlife and Countryside Act 1981 (as amended). Otter is also a SPI.

### **Water vole**

Water vole is fully protected from capture, killing or injury; damage, destruction or blocking access to a place of shelter; disturbance whilst in a place of shelter or possessing, selling any part of a water vole, dead or alive under the Wildlife and Countryside Act 1981 (as amended).

Water vole is also a SPI.

### **Other mammals**

West European hedgehog, brown hare, mountain hare, pine marten, harvest mouse, polecat and red squirrel are all SPIs.

The following mammals are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended): wildcat, brown hare (Schedule 5A), mountain hare (Schedule 5A), pine marten and red squirrel.

### **Invertebrates**

Fifty-six terrestrial and freshwater invertebrate species are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). These include Reddish buff, Norfolk hawk, Purple emperor, High brown fritillary, Northern brown argus, White-clawed crayfish, Pearl-bordered fritillary, DeFolin's lagoon snail, Chequered skipper, Fairy shrimp, Rainbow leaf beetle, New Forest cicada, Southern damselfly, Large heath, Small blue, Wartbiter, Fen raft spider, Ivell's sea anemone, Mountain ringlet, Ladybird spider, Marsh fritillary, Spangled diving beetle, Mole cricket, Field cricket, Duke of Burgundy, Silver-spotted skipper, Medicinal leech, Lesser silver water beetle, Moccas beetle, Wood white, Violet click beetle, Large copper, Freshwater pearl mussel, heath fritillary, Glanville fritillary, Glutinous snail, Starlet sea anemone, Large tortoiseshell, Brackish hydroid, Swallowtail, Bembridge beetle, Barberry carpet, Silver-studded blue, Adonis blue, Chalk hill blue, Fiery clearwing, Sandbowl snail, Black hairstreak, White-letter hairstreak, Black-veined moth, Sussex emerald, Brown hairstreak, Northern hatchet-shell, Lulworth skipper, Tadpole shrimp, New Forest burnet.

A total of 398 invertebrates are Species of Principal Importance. These include: beetles (including stag beetle), butterflies (high brown fritillary, large heath, small blue, white-letter hairstreak, brown hairstreak, damselflies (southern damselfly), moths (marsh moth), ants, bees etc. Impacts to SPI must be considered by the LPA when assessing planning applications.

### **Non-native invasive plant species**

Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) is a list of non-native plant species for which Section 14 of the Act applies. It is an offence to plant, or otherwise cause to grow in the wild species listed under Schedule 9 of the act. These include, but are not limited to:

- Himalayan balsam
- Cotoneaster sp.
- Japanese knotweed

- Giant hogweed

## Planning policy

### National Planning Policy Framework (2021)

Details the Government’s planning policies for England and how these should be applied, particularly to contribute to the Government’s commitment to halt the decline of biodiversity. When assessing planning applications, LPAs should have regard to conserving and enhancing biodiversity by applying a number of principals, including:

- Avoiding impacts to biodiversity through appropriate site selection.
- Mitigating residual impacts.
- Encouraging the preservation and enhancement of biodiversity.
- Preventing the development of protected sites, such as SSSIs.
- Refusing permission where habitats that cannot be recreated, such as ancient woodland, would be lost.
- Encouraging good design that limits light pollution.

Relevant paragraphs in the NPPF (2021) are detailed below.

Paragraph Number	Detail
174	<p>“Planning policies and decisions should contribute to and enhance the natural and local environment by...minimising impact on and providing net gains for biodiversity”</p> <p>Protection of sites of biological values</p> <p>Preventing new and existing development from adverse impacts to soil, air, water or noise</p> <p>Development should help improve local conditions</p>
175	<p>Maintenance and enhancement of networks of habitats and green infrastructure; plan for the enhancement of natural capital at a catchment or landscape scale</p>
179	<p>“To protect and enhance biodiversity and geodiversity, plans should:</p> <p>a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and</p> <p>b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for <b>securing measurable net gains for biodiversity.</b>”</p>
180	<p>“When determining planning applications, local planning authorities should apply the following principles:</p> <p>a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;</p> <p>b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;</p> <p>c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and</p>

Paragraph Number	Detail
	<p>d) development whose primary objective is to conserve or enhance biodiversity should be supported; while 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 where this is appropriate.”</p>
185	<p>“Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:</p> <p>...</p> <p>c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.”</p>

## Local planning policy

Policy Reference	Policy number/ Paragraph Number	Detail
(Royal Borough of Kingston upon Thames, 2008)	<b>K9</b>	All development within the town centre should create high quality landscaped spaces and connections to surrounding streets, and incorporate best environmental practice in design and layout.
	<b>K10</b>	Development should enhance the quality of public spaces, promote riverside improvements and link open spaces along the riverside.
	<b>K13</b>	Promote the River Thames and seek improvements to the quality of the riverside environment, including biodiversity. Proposals for riverside development must demonstrate no unacceptable impact to biodiversity.
	<b>K14</b>	The Council will seek to enhance the Hogsmill Walk and biodiversity along the Hogsmill River.
(Royal Borough of Kingston upon Thames, 2012)	<b>CS 3</b>	<p>Protect and improve natural and green environment by:</p> <ul style="list-style-type: none"> <li>• facilitating environmental improvement to the Hogsmill Environs.</li> <li>• Promoting the management of biodiversity to provide increased wildlife habitats, and link wider parts of Kingston, allowing easier movement and reducing isolation of habitats.</li> </ul>
	<b>DM 6</b>	<p>Ensure new developments protect and promote biodiversity as part of sustainable design, through the inclusion of sustainable drainage, tree planting, soft landscaping, habitat enhancement and/or improvement, green roofs and new or improved semi-natural habitats, where appropriate.</p> <p>Require an ecological assessment on major development proposals, or where a site contains or is next to significant areas of habitat or wildlife potential. This should be completed before design work or submission of the planning application.</p> <p>Ensure that new development does not result in a net loss of biodiversity and, where appropriate, should include new or improved habitats and provision for natural and semi-natural public green space.</p>
	<b>DM 7</b>	Proposals will need to demonstrate there will be no unacceptable impact on biodiversity.
	<b>CS 4</b>	Protect and enhance the Thames River Corridor and its tributaries as a valuable resource for biodiversity and wildlife (wildlife corridor).

## Appendix 2: Desk study

### Methods

The desk study comprised:

- Purchase of the following data from Greenspace Information for Greater London received on 18/08/2023 (GiGL, 2023):
  - Records of protected species and those of conservation concern within 1 km of the survey area
  - Statutory designated sites, non-statutory designated sites, parcels of Habitats of Principal Importance, parcels of ancient woodland and Biodiversity Opportunity Areas within 2 km of the survey area.
- A review of waterbodies and watercourses within 250/500m of the survey area using aerial imagery and publicly available information.
- DEFRA mapping (DEFRA, 2023) specifically looking at:
  - Mitigation licences that have been issued within 2km of the survey area
  - Parcels of ancient woodland
  - Parcels of Habitats of Principal Importance
  - Impact Risk Zones for statutory designated sites
  - Important Bird Areas
- Local plan, as detailed in Appendix 1.

### Results

The following tables present assessment results:

- Table 13 for the statutory and non-statutory designated sites
- Table 14 for habitats
- Table 15 for protected species and species of conservation concern.



**Table 12: Statutory and non-statutory designated sites desk study results**

Type of designation	Site name	Reasons for designation	Distance from survey area (m)	Within impact risk zone?		Scope in for further assessment?	
				Yes	No	Yes	No
Statutory	Bushy Park and Home Park SSSI	Bushy Park and Home Park SSSI is of special interest for its nationally important saproxylic (dead and decaying wood associated) invertebrate assemblage, population of veteran trees and acid grassland communities. These features occur within and are supported by the wider habitat mosaic. The saproxylic invertebrates include those associated with heartwood decay, bark and sapwood decay and with fungal fruiting-bodies found within the veteran trees which are located throughout the site, notably in the large areas currently managed as wood pasture. Lowland dry acid grassland communities present include National Vegetation Classification (NVC) types U1 sheep's fescue Festuca ovina-common bent Agrostis capillaris-sheep's sorrel Rumex acetosella grassland and U4 sheep's fescue Festuca ovina-common bent Agrostis capillaris-heath bedstraw Galium saxatile grassland community which are found within the grassland mosaic of the site.	250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	The Wood and Richard Jefferies Bird Sanctuary LNR	Comprises woodland and grassland, with two ponds. The western part is mainly secondary woodland with a mixed canopy including sycamore, horse chestnut and ash. The grassland areas are mainly perennial rye-grass, cock's-foot, couch and red fescue. On the eastern side is a more densely wooded area that is fenced off, forming the bird sanctuary. Long-tailed tit, green and greater spotted woodpeckers, nuthatch, treecreeper and goldcrest have been recorded.	1905	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Non-statutory	River Thames and tidal tributaries SINC	The Thames, London's most famous natural feature, is home to many fish and birds, creating a wildlife corridor running right across the capital.	5	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Bushy Park and Home Park SINC	This area provides an extensive and varied open space on the edge of London. The parks contain several nationally scarce plants, as well as a variety of wetlands and some fine old trees.	250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Hogsmill River in Central Kingston SINC	The final stretch of the River Hogsmill before it flows into the River Thames.	400	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	The Copse at Hampton Wick and Normansfield Hospital SINC	A wooded nature reserve and the landscaped grounds of a former hospital.	1350	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Hogsmill Valley Sewage Works and Hogsmill River SINC	The site includes part of an active sewage works and the adjacent length of the River Hogsmill comprising several open lagoons and various connecting habitats consisting of mown grassland, scrub and tall herb stands.	1400	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Kingston Cemetery SINC	A well-tended cemetery with one side bordering the Hogsmill River.	1400	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Seething Wells Filter Beds SINC	The remains of the old Surbiton Water Works, next to the Thames, frequented by wintering wildfowl and other birds seeking refuge from the comparatively exposed river. Plant species usually associated with the North Downs grow on the chalk grassland.	1500	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Oakhill, 'The Woods' and Richard Jefferies Bird Sanctuary SINC	A small suburban park including a fenced bird sanctuary, managed as a nature reserve. The accessible part is a pleasant place to relax amidst the planted trees and shrubs. The bird sanctuary is largely wooden and supports a range of common birds	2000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

**Table 13: Habitats of ecological consideration identified in the desk study**

Habitat type	Number (for waterbodies/watercourses only)	Closest distance to survey area	Situated within survey area		Situated within 15m of survey area		Situated within impact risk zone		Scope in for further assessment?	
			Yes	No	Yes	No	Yes	No	Yes	No
Ancient woodland	Not applicable	>2km	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Watercourses within 250m of the survey area	1 – River Thames	5m	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	2 – Hogsmill River	70m	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Habitat type	Number (for waterbodies/watercourses only)	Closest distance to survey area	Situated within survey area		Situated within 15m of survey area		Situated within impact risk zone		Scope in for further assessment?	
			Yes	No	Yes	No	Yes	No	Yes	No
	2 – Ditch	220m	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Table 14: Protected or notable species recorded in the desk study**

Species Group	Species	Recorded in the desk study		Mitigation licences recorded within 2km of the survey area		
		Yes	No	Yes	No	N/A
Invertebrate	138 invertebrate species were recorded in the desk study including 5 species that are Schedule 5 as per the W&CA, 1981; <ul style="list-style-type: none"> <li>• Ladybird spider</li> <li>• Roman snail</li> <li>• Stag beetle</li> <li>• White-letter hairstreak</li> <li>• Brown hairstreak</li> </ul>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Amphibian	Common toad Common frog Great crested newt	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Reptiles	Slow-worm Grass snake Adder	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Birds	40 bird species that are Schedule 1 as per the W&CA, 1981 were recorded in the desk study.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Mammals	Badger	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Bats	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Hazel dormouse	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Otter	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Water vole	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	West European Hedgehog	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Other mammals	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Higher and lower plants	19 Schedule 8 species as per the W&CA, 1981 were recorded in the desk study.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
All species	Invasive, non-native species	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



## Appendix 3: Habitat survey

### Methods

#### UK habitat classification survey

Habitats in the survey area were mapped using the UK habitat classification survey methodology (Butcher, P, R, Norton, & Treweek, 2020).

UK habitat classification survey is a comprehensive system for classifying and mapping habitats within the UK. The aim of the survey is to identify and map habitats using aerial imagery and ground-truthing the information in a consistent and unified way such that this can be used for ecological impact assessment and habitat metrics. The whole survey area was walked by an experienced ecologist and habitats identified, classified and mapped. Each habitat is coded in line with the survey methodology, using secondary codes to define specific features, such as management measures, land use and other specific features. Where these secondary codes are used in the report, the definitions are also provided.

Within each habitat type a record of the vascular plant species was made and an assessment of their abundance recorded. Abundances of each vascular plant species within each habitat type are based on the DAFOR scale, presented below.

- D – Dominant
- A – Abundant
- F – Frequent
- O – Occasional
- R – Rare

Nomenclature of vascular plants followed (Stace, 2019). Common names are presented in the text, with scientific names detailed in Appendix 1.

Fauna species mentioned in this report will be referred to by their common name. Scientific names for these species are detailed in Appendix 2.

The survey included an assessment of the habitats present to determine their suitability for protected species and species of conservation concern. A record was made of any signs of protected species, or species of conservation concern, such as runs, droppings and/or foraging remains.

A record was also made of any fauna that was incidentally recorded.

The presence of any non-native invasive species was noted, and their location and distribution mapped.

Notable observations were recorded during the survey as target notes.

The date and weather conditions are detailed in Table 15. The survey was undertaken by Sarah Monkhouse BSc (Hons) – Assistant Ecologist.

**Table 15: Survey dates and weather conditions**

Date of Survey	Survey time	Temp °C	Cloud (%)	Rain	Wind <sup>6</sup>
30.08.23	14:00	19	50%	No rain	3 - Gentle breeze

## Results

### UK habitat classification





9.1.1 The UK habitat classification survey results are detailed in Table 16.

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<sup>6</sup> Beaufort scale



**Table 16: UK habitat classification survey results**

Habitat and code	Description	HPI	Photograph
<p><b>Habitat Code:</b> u1b - Developed land; sealed surface</p>	<p>Large open hardstanding space with wooden benches across it. Leads into a driveway and parking.</p>	<p>No</p>	
<p><b>Habitat Code:</b> g4 - Modified grassland <b>Additional Codes:</b> 11 - Scattered trees</p>	<p>Small triangle of modified grassland with three birch trees.                      Species include:  <ul style="list-style-type: none"> <li>Birch sp. A, perennial rye grass A, wall barley D, dandelion agg. A, dove's-foot crane's-bill O, knotgrass O</li> </ul>                     Patch of modified grassland with five silver birch trees in it. Bound by a hedge to the south.                      Species include:  <ul style="list-style-type: none"> <li>Common nettle A, perennial rye grass D, wall barley A, dandelion agg. O, green alkanet F, groundsel R, cleavers, O, lemon-balm O, garlic mustard F, wild morning glory r, false brome R, ribwort plantain R, dove's-foot crane's-bill R, white clover F, silver birch F</li> </ul> </p>	<p>No</p>	
<p><b>Habitat Code:</b> h2b - Other hedgerows</p>	<p>Hedge 1.5m high x 2m wide hedge along the south of the survey area. Young sycamore in the west                      Species include:  <ul style="list-style-type: none"> <li>New Zealand broadleaf D, holly A, wild morning glory, sycamore R</li> </ul> </p>	<p>No</p>	
<p><b>Habitat Code:</b> u1 - Built-up areas and gardens <b>Additional Codes:</b> 1150 - Flower bed, 1160 - Introduced shrub</p>	<p>Small flower bed with introduced plants in the middle of hardstanding                      Species include:                      Falling stars A, Sawara cypress R, Japanese spindle A, house holy fern r, lemon balm O, Japanese spindle o, carnation r, spiked speedwell R, daisy R</p>	<p>No</p>	



### Appendix 4: Survey calendar

This survey calendar should be used as guidance only and is based on current industry best-practice.

Survey type	January	February	March	April	May	June	July	August	September	October	November	December
Habitat	UK habitat classification survey and National Vegetation Classification (habitat dependant for specific survey months)			UK habitat classification survey and National Vegetation Classification (habitat dependant for specific survey months)							UK habitat classification survey and National Vegetation Classification (habitat dependant for specific survey months)	
	Habitat condition assessment (habitat specific suitable month)			Habitat condition assessment (habitat specific suitable month)							Habitat condition assessment (habitat specific suitable month)	
Badger		Bait marking and sett search			Bait marking and sett search				Bait marking and sett search			
Bats	Preliminary Roost Assessment (all year); Preliminary Ground Level Tree Roost Assessment (optimal between November and March)											
	Winter roost presence/likely absence				Presence/likely absence summer survey and activity survey						Winter roost presence/likely absence	
Hazel Dormouse				Nest tube (nut search from September to December)								Nut search
Otter	Preferable survey season											
Water Vole												
Birds	Wintering birds		Migratory/b reeding birds	Breeding birds					Migratory birds		Wintering birds	
	Habitat suitability index											
Great Crested Newt				eDNA presence/absence								
			Presence/absence and population size class assessment									
Natterjack Toad												
Reptiles												
Invertebrate												
	Survey sub-optimal	Survey optimal		Survey outside acceptable season								