

# Ecological Assessment

55 Vastern Road, Reading

December 2019

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# 1 Summary

## 1.1 Purpose of report

1.1.1 This report provides an assessment of the likely ecological impacts of the proposed development and recommends mitigation and enhancements as appropriate.

## 1.2 Description of the development

1.2.1 The proposed development comprises: *'Demolition of existing structures and erection of a series of buildings ranging in height from 1 to 11 storeys, including residential dwellings (C3 use class) and leisure floorspace (A3 use class), together with a new north-south pedestrian link, connecting Christchurch Bridge to Vastern Road.'*

## 1.3 Methodology

1.3.1 This assessment has been written in accordance with guidelines set out in *Guidelines for Ecological Impact Assessment in the UK and Ireland (2018)*, Chartered Institute of Ecology and Environmental Management (2018) and *British Standard: Biodiversity - Code of practice for planning and development (BS 42020:2013)*.

## 1.4 Key impacts and mitigation measures

1.4.1 The proposed development is adjacent to the River Thames which is an important ecological corridor through Reading. The River Thames meets the criteria for a Habitat of Principal Importance (NERC Act, 2006) and provides foraging and commuting habitat for bats.

1.4.2 There is potential for impacts to bats and other wildlife from lighting and to nesting birds from site clearance, etc. These and other potential impacts can be mitigated through design and adherence to the Construction and Environmental Management Plan (CEMP).

## 1.5 Conclusions

1.5.1 With mitigation, there are no significant adverse ecological impacts. Habitat creation (particularly within 10m of the River Thames) will increase the ecological value of the site and the River Thames and result in a net biodiversity gain.

## 2 Introduction

2.1.1 The report considers the likely significant effects on ecology associated with vegetation clearance, demolition, construction and operation of the proposed development. The specific objectives of the report are to:

- describe the ecological baseline
- describe the assessment methodology and significance criteria used in completing the impact assessment
- describe the potential effects, including direct, indirect and cumulative effects
- describe the mitigation measures proposed to address likely significant effects and
- assess the residual effects remaining following the implementation of mitigation.

2.1.2 The assessment has been carried out by Iain Corbyn MA (Oxon) MSc MCIEEM CEnv, of Ecoconsult Ltd. Iain Corbyn is a Director at Ecoconsult. He has worked in nature conservation for over 30 years and has extensive experience of habitat management, creation and restoration; ecological survey and monitoring; protected species surveys, mitigation and licensing; ecological impact assessment; the provision of ecology support to local authority planning departments; and appearing as expert witness at public inquiries.

### 3 Planning context

#### 3.1 National Planning Policy Framework (NPPF)

3.1.1 The Government published a revised version of the National Planning Policy Framework (NPPF) in February 2019. Paragraph 170 of the NPPF states that *“Planning policies and decisions should contribute to and enhance the natural and local environment by:*

*a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*

*b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland.”*

3.1.2 Paragraph 170 of the revised NPPF also states that:

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

3.1.3 With regard to planning applications and biodiversity, Paragraph 175 of the NPPF states that:

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

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

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

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

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

3.1.4 In Paragraph 180, the revised NPPF advises that *“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: c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.”*

## **3.2 Local Planning Policy**

3.2.1 The Draft Reading Local Plan Policy EN12: BIODIVERSITY AND THE GREEN NETWORK states:

*“a) The identified Green Network, the key elements of which are shown on the Proposals Map, shall be maintained, protected, consolidated, extended and enhanced. Permission will not be granted for development that affects the sites with identified interest or fragments the overall network. The Green Network comprises:*

- Sites with identified biodiversity interest - Local Wildlife Sites, Local Nature Reserves, Biodiversity Opportunity Areas, protected and priority species and their habitats, Priority and Biodiversity Action Plan habitats, and the River Thames and its tributaries (including the River Kennet and the Kennet and Avon Canal); and*
- Areas with potential for biodiversity value and which stitch the Green Network together – designated Local Green Space and open spaces, and existing and potential Green Links.*

*New development shall demonstrate how the location and type of open space, landscaping and water features provided within a scheme have been arranged such that they maintain or link into the existing Green Network and contribute to its*

*consolidation. Such features should be designed to maximise the opportunities for enhancing this network. All new development should maximise opportunities to create new assets and links into areas where opportunities are as yet unidentified on the Proposals Map.*

*b) On all sites, development should not result in a net loss of biodiversity and geodiversity, and should provide a net gain for biodiversity wherever possible. Development should:*

- Protect and where possible enhance features of biodiversity interest on and adjacent to the application site, incorporating and integrating them into development proposals where practicable; and*
- Provide new tree planting, wildlife friendly landscaping and ecological enhancements (such as wildlife ponds, bird and bat boxes) where practicable. In exceptional circumstances where the need for development clearly outweighs the need to protect the value of the site, and it is demonstrated that the impacts cannot be: 1) avoided; 2) mitigated or; 3) compensated for on-site; then new development will provide off-site compensation to ensure that there is “no net loss” of biodiversity. Provision of off-site compensation shall be calculated in accordance with nationally or locally recognised guidance and metrics.”*

## 4 Legislation

4.1.1 Biodiversity which is relevant to the site receives protection under the following legislation:

- The Wildlife and Countryside Act 1981 (as amended)
- The Conservation of Habitats and Species Regulations 2017
- The Countryside and Rights of Way Act 2000
- The Natural Environment & Rural Communities Act 2006

4.1.2 Sites of Special Scientific Interest (SSSIs) receive protection under The Wildlife and Countryside Act 1981 (as amended).

4.1.3 European sites including Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) receive protection under The Conservation of Habitats and Species Regulations 2017.

4.1.4 Protected species with the greatest potential to be impacted by the development include:

- bats
- nesting birds

4.1.5 Bats and great crested newt are included in Annex IV of the Habitats Directive and are included in Schedule 2 of The Conservation of Habitats and Species Regulations 2017. They are also protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

4.1.6 Regulation 43(1) of The Conservation of Habitats and Species Regulations 2017 states:

*“43.—(1) A person who—*

*(a) deliberately captures, injures or kills any wild animal of a European protected species,*

*(b) deliberately disturbs wild animals of any such species,*

*(c) deliberately takes or destroys the eggs of such an animal, or*

*(d) damages or destroys a breeding site or resting place of such an animal, is guilty of an offence.*

*(2) For the purposes of paragraph (1)(b), disturbance of animals includes in particular any disturbance which is likely—*

*(a) to impair their ability—*

*(i) to survive, to breed or reproduce, or to rear or nurture their young; or*

*(ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or*

*(b) to affect significantly the local distribution or abundance of the species to which they belong.”*

4.1.7 Nesting birds are protected by the Wildlife and Countryside Act 1981 (as amended). It is an offence to intentionally remove, damage or destroy nests while they are in use or being built. Birds which are listed in Schedule 1 of the Act are protected by special penalties at all times.

4.1.8 Further enforcement has been provided by The Countryside and Rights of Way Act 2000.

4.1.9 The Natural Environment and Rural Communities (NERC) Act 2006, Section 41 (1) states:

*“The Secretary of State must, as respects England, publish a list of the living organisms and types of habitat which in the Secretary of State’s opinion are of principal importance for the purpose of conserving biodiversity.”*

## 5 Methodology

### 5.1 Scope of the assessment

#### *Zone of influence*

5.1.1 The zone of influence is considered to be the site and the River Thames corridor which lies to the north of the site.

#### *Ecological features*

5.1.2 Features considered include designated sites, habitats and species of principal importance for the conservation of biodiversity and protected species.

### 5.2 Desk study

5.2.1 A data search has been provided by The Thames Valley Environmental Records Centre (TVERC) in April 2018.

5.2.2 The data search included:

- designated wildlife sites
- legally protected and notable species

5.2.3 The study area for the TVERC data search included the site and 1km radius from the site boundary.

5.2.4 The MAGIC website was used to search for:

- information regarding international statutory nature conservation sites within 5km from the site boundary
- to assess the site in relation to Natural England's Sites of Special Scientific Interest (SSSI) Impact Risk Zones (IRZs).

5.2.5 Aerial photographs and 1:10,000 Ordnance Survey maps were used to search for ponds within 500m of the site.

### 5.3 Field surveys

5.3.1 The following surveys have been undertaken to inform the report.

- extended phase 1 habitat survey and daytime bat inspection
- bat activity surveys

5.3.2 Methodologies are provided in respective reports.

#### **5.4 Previous ecological reports for the site**

5.4.1 An Extended Phase 1 Habitat Survey Report, April 2018 (including the daytime bat inspection survey of buildings) has already been submitted to and approved by Reading Borough Council.

#### **5.5 Assessment**

5.5.1 This assessment has been written in accordance with guidelines set out in *Guidelines for Ecological Impact Assessment in the UK and Ireland (2018)*, Chartered Institute of Ecology and Environmental Management (2018) and *British Standard: Biodiversity - Code of practice for planning and development (BS 42020:2013)*.

5.5.2 The significance of ecological resources have been assessed using geographical contexts as follows:

- international
- national
- regional
- county
- borough
- neighbourhood
- site

## 6 Baseline ecological conditions

### 6.1 Statutory Nature Conservation Sites

6.1.1 The Natural England MAGIC website was viewed in April 2019. There are no international nature conservation sites located within 5km from the site boundary. There are no national nature conservation sites located within 2km from the site boundary. The site does not lie within a Site of Special Scientific Interest Impact Risk Zone.

### 6.2 Non-Statutory Nature Conservation Sites

6.2.1 An ecological data was provided by the Thames Valley Environmental Records Centre in April 2018 for the site and a 1km search area.

6.2.2 The following non-statutory nature conservation sites are located within 1km from the site boundary:

- Cow Lane Depot Local Wildlife Site (LWS) is located 855m southwest of the site.
- The Warren Woodlands Complex Local Wildlife Site (LWS) is located 910m northwest of the site.
- The Coal, Kennetmouth and Kings Meadow East Local Wildlife Site (LWS) is located 920m east of the site.

6.2.3 The site does not lie within a Biodiversity Opportunity Area.

### 6.3 Habitats of Principal Importance

6.3.1 'Rivers' is a Habitat of Principal Importance under the NERC Act 2006 (also known as UK Biodiversity Action Plan Priority Habitats). The River Thames to the north of the site qualifies as a Habitat of Principal Importance because it supports UKBAP species including Soprano pipistrelle bat *Pipistrellus pygmaeus* and Otter *Lutra lutra*. Soprano pipistrelle bats use this stretch of the River Thames for foraging and potentially roosting. As there is significant disturbance from people and dogs, any resting places for otters (holts) are likely to be from transient otters commuting between more suitable habitat in the countryside either side of Reading.

6.3.2 The section of the River Thames which lies immediately north of the site is highly modified with engineered concrete banks with boat moorings. The south side supports extensive residential and commercial development. The north side

supports amenity grassland and trees in Christchurch Meadows. A narrow strip of marginal vegetation (c.0.5m wide) has been established along the towpath as part of the mitigation for Christchurch Bridge. In addition, a narrow strip (c.2m) of ground between the bridge and the towpath has been sown with a wildflower mix. The River Thames at this point is a poor example of 'Rivers' habitat of principal importance.

6.3.3 The River Thames currently receives partial shade from office developments by Reading Bridge, Reading Bridge itself, apartment buildings adjacent to the site and to a lesser extent Christchurch Bridge.

6.3.4 The River Thames at this point is heavily disturbed by vehicle traffic on Reading Bridge, cycle and pedestrian traffic on Christchurch Bridge and towpath, and boat traffic and moorings.

6.3.5 There is existing lighting along this section of the River Thames from:

- adjacent residential and office development
- existing road and foot/cycle bridges
- LED lighting along the towpath

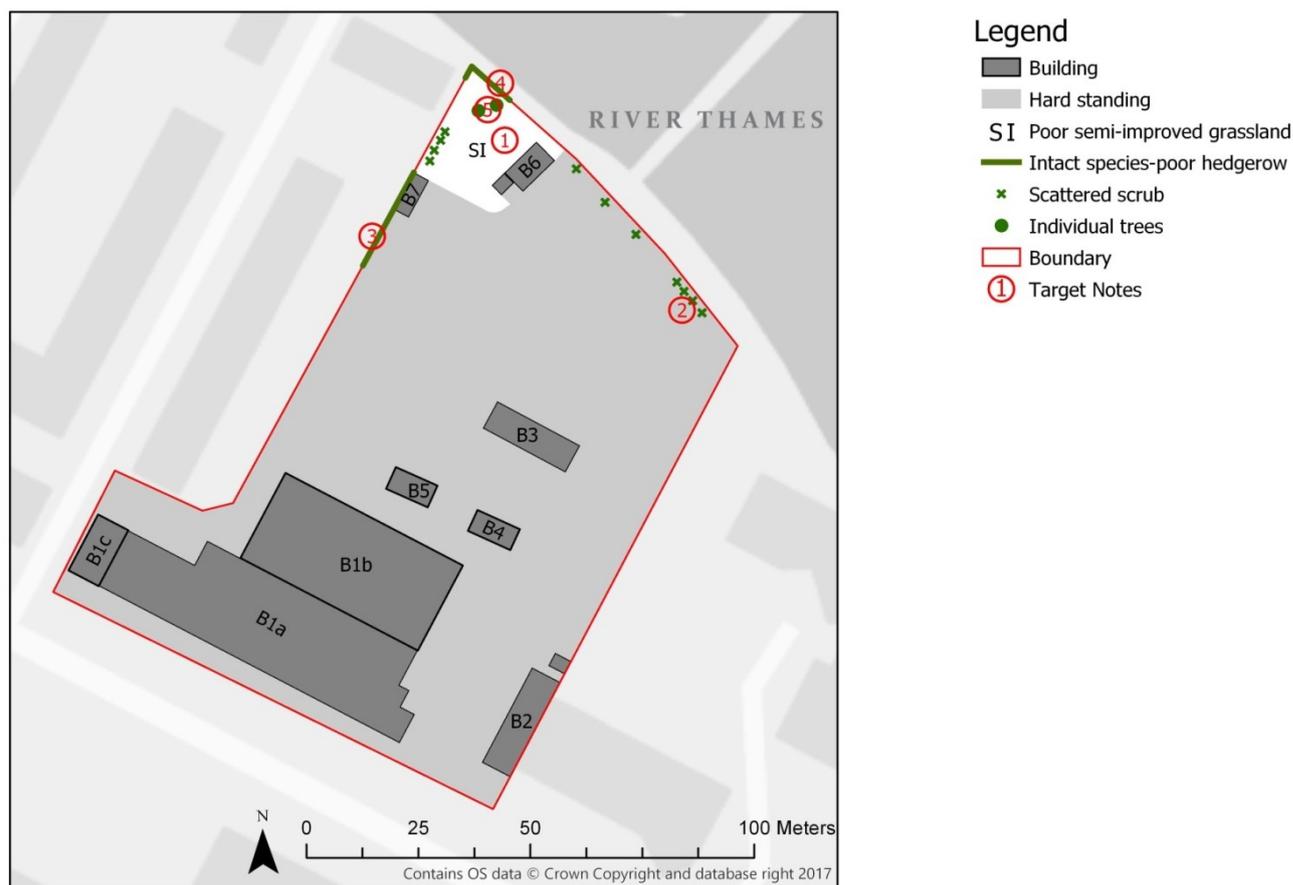
#### **6.4 Habitats within the site**

6.4.1 A Phase 1 Habitat Survey was carried out in April 2018 for the site and adjacent land within SSE ownership.

6.4.2 The site is dominated by buildings and hard-standing. Please see Figure 1 below. The following habitat types are present on the site.

- poor semi-improved grassland
- scattered scrub
- intact species poor hedgerow
- individual trees
- buildings
- hardstanding

6.4.3 The Phase 1 Habitat Map is shown in Figure 1 below. Habitats within the site are of no significant ecological value at any level and are not considered further in this assessment.



**Figure 1: Phase 1 Habitat Map for land within SSE ownership**

## 6.5 Species - bats

6.5.1 The Thames Valley Environmental Records Centre currently holds multiple records for five confirmed species of bats within 1km from the site. These include: Daubenton's bat *Myotis daubentonii*, Noctule *Nyctalus noctula*, Common pipistrelle *Pipistrellus pipistrellus*, Soprano pipistrelle *Pipistrellus pygmaeus* and Brown long-eared bat *Plecotus auritus*.

6.5.2 A daytime survey of the buildings was carried out on 11th April 2018. The daytime survey followed Bat Surveys for Professional Ecologists: Good Practice Guidelines (2016). No evidence of roosting bats was located in the buildings. Electricity substation buildings 2, 3, 4 and 5 were inaccessible (due to health and safety). It is highly unlikely that any of these buildings support bats and no further surveys were considered necessary.

6.5.3 Bats could use land beyond the boundaries of the site for foraging and commuting, including the gardens of houses along Lynmouth Road (although this is of low

foraging value), a tree-line to the east (which will not be affected) and the River Thames. The foraging value within the site is poor and restricted to the northwest corner. The two whitebeam *Sorbus aria* trees which are present do not support potential bat roosting features.

6.5.4 Habitats within the site are of negligible value for bats and of no significant ecological value at any level. Habitats for bats within the site are therefore not considered further in this assessment.

6.5.5 The River Thames provides suitable foraging and commuting habitat for bats. Bat activity surveys are currently being undertaken for the River Thames to the north of the site. Surveys from April to October 2019 recorded the following species: Daubenton's bat, Noctule, Common pipistrelle, Soprano pipistrelle and possibly Brown long-eared bat.

## **6.6 Species – nesting birds**

6.6.1 The habitats on the site have some potential to support nesting birds within hedgerows, trees and buildings. Only common species are likely to nest at the site. This potential impact is at Site level only.

## **6.7 Species - other**

6.7.1 No other species (such as otter or water vole) are likely to be affected by this development and are therefore not considered further in this assessment. As there is significant disturbance from people and dogs, resting places (holts) are likely to be from transient otters commuting between more suitable habitat in the countryside either side of Reading.

## 7 Assessment of effects and mitigation measures

### 7.1 Likely Significant Effects - *Construction Phase*

#### *Habitats*

- 7.1.1 Existing habitats within the site are of no significant ecological value and this section of the River Thames is highly disturbed.
- 7.1.2 The risk of pollution in particular to the River Thames will be avoided through the strict adherence to measures outlined in the CEMP.
- 7.1.3 The construction phase is unlikely to have any significant impacts at any level.

#### *Species*

- 7.1.4 There is potential to impacts on nesting birds within buildings and/or vegetation in the site. Nesting birds are legally protected.
- 7.1.5 Noise levels during construction have potential to impact on nesting birds near the to the site boundary. This will be avoided through the strict adherence to measures outlined in the CEMP.
- 7.1.6 There is potential for lighting to impact on bats particularly along the river corridor.

### 7.2 Likely Significant Effects - *Operational Phase*

#### *Lighting*

- 7.2.1 Light levels will change due to the development. There are potential impacts to bats and other wildlife along the River Thames corridor. The Lighting Assessment (Stantec, 2019) sets out anticipated potential impacts, mitigation measures and residual effects. It is anticipated that with mitigation, residual effects from construction and operational phases will be neutral to the ecology. A preliminary lighting design will be submitted for the approval of RBC which will be informed by an illuminance contour plan of external lighting for the proposed development to demonstrate that obtrusive light limitations for sensitive receptors can be achieved.

#### *Shading of the River Thames*

- 7.2.2 The proposed development will result in partial shading of the River Thames corridor.
- 7.2.3 Shading will be greatest in winter when the sun is lower in the sky. The proposed development will cast shade which will extend towards Fry's Island in the morning

and swing around to the east of Christchurch Bridge in the afternoon. Not all parts of the river will be shaded throughout the day. Most wildlife is dormant in winter including deciduous trees and other vegetation, with many animals being in hibernation including bats and many invertebrates. The extent of shading of the river corridor is less in summer compared to winter.

7.2.4 The River Thames in Reading has been greatly modified. It is largely open to the sun, has hard banks and lacks natural riparian habitat (such as woodland, marsh, swamp, individual trees and marginal vegetation). Existing tall apartment and office buildings immediately to the east along with Reading Bridge also cast shade to the river corridor.

7.2.5 Shade is part of a river's natural state, providing cooler conditions in more shaded parts of the river. This provides habitat diversity and is important to the river ecology. Naturally, shade is provided by trees and/or valley sides. In the past, trees and woodland would have provided shade for much of the southern bank of the River Thames. The 1879 to 1882 Ordnance Survey maps<sup>1</sup> show trees lining the southern bank of the Thames prior to the onset of major development of the area south of the river up to 1900. Shading of the river corridor from the proposed development is not considered to be significant at any level.

### 7.3 Mitigation Measures - *Construction Phase*

#### *Nesting birds*

7.3.1 Destruction and disturbance of nests will be avoided by carrying out building demolition and vegetation clearance outside the bird nesting season (generally March to August inclusive) or having been found not to support nesting birds by a suitable qualified ecologist immediately prior to demolition and vegetation removal. Protection of nesting birds is a legal requirement and will be included within the CEMP.

#### *Bats*

7.3.2 Lighting will be minimised through mitigation (see Lighting Assessment) to minimise impacts to bats and other wildlife.

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<sup>1</sup> [www.old-maps.co.uk](http://www.old-maps.co.uk), viewed on 17 June 2019

### *Pollution*

- 7.3.3 The risk of pollution in particular to the River Thames will be avoided through the strict implementation of the CEMP. Therefore pollution will not represent a significant impact to ecology this is not considered further in this chapter.

## **7.4 Mitigation Measures - Operational Phase**

### *Enhancement of the River Thames corridor*

- 7.4.1 A 10m buffer zone between the built development and the River Thames will include areas of species-rich grassland and native shrubs along with amenity grassland.

### *Bats*

- 7.4.2 There are potential impacts to bats and other wildlife along the River Thames corridor. It is anticipated that with mitigation, residual effects from construction and operational phases will be neutral to the ecology. A preliminary lighting design will be submitted for the approval of RBC which will be informed by an illuminance contour plan of external lighting for the proposed development to demonstrate that obtrusive light limitations for sensitive receptors can be achieved.

### *Residual Effects*

- 7.4.3 With mitigation, there are no significant residual impacts in either the construction or operational phases.

## **7.5 Cumulative Effects**

- 7.5.1 No significant cumulative impacts have been identified.

**Table 1: Table of Significance – Biodiversity**

<b>Proposed Activity</b>	<b>Characterisation of unmitigated impact on feature</b>	<b>Significance without mitigation and confidence level</b>	<b>Mitigation and enhancement</b>	<b>Residual significance and confidence level</b>
<b>Construction Impacts</b>				
Site clearance	Loss of habitats of low ecological value	Not significant at any level: certain.	Create wildflower meadow and native shrub within 10m of river.	Positive effect at site level: certain.
Demolition	Nesting birds - demolition during nesting season could destroy nests and/or disturb nesting birds in buildings on or on land adjacent to the site.	Temporary significant negative effect at site level: possible. N.B. nesting birds are legally protected.	Demolish buildings outside bird nesting season or checks carried out by suitably qualified ecologist. Disturbance from noise and vibration will be strictly controlled by CEMP.	Negative effect is avoided.
Site clearance	Nesting birds - site clearance during nesting season could destroy nests on site and potentially disturb nesting birds on site.	Temporary significant negative effect at site level: possible. N.B. nesting birds are legally protected.	Clear site outside bird nesting season or check carried out by suitably qualified ecologist. Disturbance from noise and vibration will be strictly controlled by CEMP.	Negative effect is avoided.
Construction	Nesting birds – disturbance (noise, vibration) could disturb nesting birds on adjacent land.	Temporary significant negative effect at site level: possible.	Disturbance from noise and vibration will be strictly controlled by CEMP.	No significant negative effect.
Construction	Pollution to River Thames	Permanent significant negative effect at local level: possible.	Pollution avoided by strict controls in CEMP.	Negative effect is avoided.
<b>Operational Impacts</b>				
Increased light levels to river corridor	Lighting can adversely affect some bat species, birds, invertebrates etc.	Permanent significant negative effect at borough level: likely	Lighting scheme will be designed to minimise impacts of lighting.	No significant negative effect.
Shading of river corridor	Shade to river corridor	Permanent significant negative effect at	Shade along rivers is natural. Existing buildings, Reading	No significant negative effect.

<b>Proposed Activity</b>	<b>Characterisation of unmitigated impact on feature</b>	<b>Significance without mitigation and confidence level</b>	<b>Mitigation and enhancement</b>	<b>Residual significance and confidence level</b>
		parish/neighbourhood level: unlikely	Bridge and Christchurch Bridge already cast shade to river corridor.	

## 8 Conclusions and recommendations

8.1.1 An extended Phase 1 Habitat Survey and daytime bat inspection survey have been carried out for the site and bat activity surveys have been carried out for the River Thames corridor north of the site.

### 8.2 Habitats

8.2.1 Existing habitats within the site are of negligible ecological value. New habitats of greater ecological value will be created within 10m of the River Thames. This will consist of native wildflower grassland along with locally native shrub planting. This will result in a net increase in biodiversity value.

8.2.2 The River Thames qualifies as the Habitat of Principal Importance *Rivers* because it supports UKBAP species including soprano pipistrelle bat and otter. The River Thames corridor will be enhanced by native planting within the site within 10m of the River Thames.

8.2.3 Impacts from shading and lighting to the river corridor are not considered significant.

### 8.3 Species

8.3.1 No bat roosts were recorded within the site.

8.3.2 The River Thames provides good bat foraging and commuting habitat. Potential impacts to bats and other wildlife from increased lighting will be mitigated through the design of a lighting scheme which minimises light levels to acceptable levels.

8.3.3 Impacts to nesting birds will be avoided by carrying out vegetation clearance and the demolition of buildings outside the bird nesting season (March to August inclusive).

8.3.4 Noise levels during construction will be strictly controlled through the CEMP. Opportunities for nesting birds are limited within the site and along the River Thames due to high disturbance levels from people.

### 8.4 Summary

8.4.1 With mitigation, there are no significant adverse ecological impacts. The proposed mitigation and enhancements will result in a net gain for biodiversity at the site.

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