

## 13. Ecology

### Introduction

- 13.1. This Chapter prepared by Waterman Infrastructure & Environment Limited (Waterman) updates and replaces Chapter 13 of the March 2022 Environmental Statement. Following consultation responses received from the London Borough of Richmond upon Thames (LBRuT) at the end of May 2022, further supplementary ecological surveys were undertaken in 2022 to add to the findings reported in the March 2022 ES. Weekly email updates on the findings of the ecology surveys were provided to LBRuT's case officer and ecological officer during the survey period. Following the completion of the supplementary surveys this Chapter presents an assessment of the likely significant impacts and resultant effects of the proposed Development on important ecological and nature conservation features (these sensitive receptors are collectively termed Important Ecological Features (IEFs)).
- 13.2. This Chapter sets out the methods used to identify an accurate ecological baseline and the IEFs, together with a description of the evaluation and impact assessment methods adopted.
- 13.3. This is followed by a description of the relevant baseline conditions at the Site and surrounding area, with reference to any significant limitations or other gaps in data that would constrain the thoroughness of the impact assessment. This Chapter then describes the baseline against which the assessment of impacts with embedded mitigation (that is inherent to the scheme design) to identify if there is the potential for any significant effects arising from the demolition and construction and/or completed development phases of the proposed Development.
- 13.4. Additional mitigation measures are identified where appropriate, to avoid, reduce or offset any significant adverse effects identified and enhancement measures identified, which would result in likely beneficial effects. Taking account of the additional mitigation measures, the nature and significance of the likely residual effects are provided.
- 13.5. This Chapter is supported by the following appendices:
- **Appendix 13.1:** Preliminary Ecological Appraisal (PEA);
  - **Appendix 13.2:** Protected Species Report (PSR);
  - **Appendix 13.3:** Supplementary Protected Species Report (SPSR)
  - **Appendix 13.4:** Water Framework Directive screening request and response; and
  - **Appendix 13.5:** Biodiversity Net Gain (BNG) Assessment.
- 13.6. It should be noted that consultation was undertaken with the Environment Agency (EA) regarding the 2018 Planning Applications, who stated that no Water Framework Directive (WFD) Assessment was deemed necessary in support of the Development. Further details are set out in **Appendix 13.4**. Given the Applications do not involve any significant changes in the approach of the River Thames flood defence walls or outfalls than described in the 2018 Planning Applications, no further consultation was deemed necessary. Furthermore, as stated in **Appendix 13.4**, the Development would not include any significant changes to the foreshore or towpath (which are outside of the Applicant's ownership), nor would it result in a substantial change to the

surface water drainage regime at the Site, therefore, no deterioration of the adjacent waterbody is anticipated.

## Assessment Methodology and Significance Criteria

### Assessment Methodology

#### Consultation

13.7. As part of the formal EIA Scoping Opinion, received on the 30<sup>th</sup> June 2017 as part of the previous 2018 Planning Applications, comments were received from both the London Borough of Richmond upon Thames (LBRuT) and Natural England (NE). LBRuT detailed the following key ecological issues:

- It does not appear, from the information provided that the proposed Development would affect any nationally designated geological or ecological sites (Ramsar, SPA, SAC, SSSI, NNR).
- Although the Applicant has carried out bat surveys and discounted bats roosting on Site, the ES should consider that bats may pass along the river on the northern site boundary/Ship Lane and therefore light/noise/vibrations and disturbance may affect their movement. These effects may be permanent depending upon the duration of the effect and the resulting environment. Therefore, the scope of the surveys should be increased to cover commuting bats using the whole site.
- The ES should consider the impacts on the Chalkers Corner element of the Site (now the area subject to the S278 highways works). The section of the Thames path along the boundary of the site is in a poor state of repair and has the potential to benefit both people and wildlife. Given the size of the Site, scale of the development, there is a high probability of disturbance to riverside areas.
- The sensitive receptors will include (but not be limited to), trees, other soft landscaping (plants / grasses), birds, river, bats, reptiles, hedgehogs, invertebrates.

13.8. The EIA Scoping Opinion received on the 30<sup>th</sup> June 2017, as part of the previous 2018 Planning Applications, included a response from Natural England (NE). NE detailed that the Scoping Opinion is for a proposal that does not appear, from the information provided, to affect any nationally designated geological or ecological sites (Ramsar, SPA, SAC, SSSI, NNR) and as such it is not a priority for NE to advise on the detail of this EIA. This did, however, state that:

*'Natural England undertakes an initial assessment of all development consultations, by determining whether the location to which they relate falls within geographical 'buffer' areas within which development is likely to affect designated sites. The proposal is located outside these buffer areas and therefore appears unlikely to affect an Internationally or Nationally designated site. However, it should be recognised that the specific nature of a proposal may have the potential to lead to significant impacts arising at a greater distance than is encompassed by Natural England's buffers for designated sites. The ES should therefore thoroughly assess the potential for the proposal to affect designated sites, including Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites and Sites of Special Scientific Interest (SSSI). Should the proposal result in an emission to air or discharge to the ground or surface water catchment of a*

*designated site then the potential effects and impact of this would need to be considered in the Environmental Statement'*

- 13.9. At the end of May 2022, a consultation response was received from LBRuT on the PEA (**Appendix 13.1**) and PSR (**Appendix 13.2**) that accompanied the March 2022 ES. The comments received of relevance to this Chapter for both Application A and B where the same, these are detailed in **Table 13.1** along with the resultant actions undertaken to address the comments following a meeting with LBRuT on the 7<sup>th</sup> July 2022.

Table 13.1 LBRuT Consultation 2022

LBRuT Comments - Application A and B	Resultant Action - Application A and B
<p>Surveys have all been carried out in October 2021 – therefore not following their own (or the BCT 2016 guidance) recommendations (para 5.18 of the PEA dated March 2022) for surveys to be carried out either 2 with a two week break or monthly for 3 months (between May to August). The Protected Species report (para 2.15) states that the reason for this is due to the previous planning application programme hearing in July 2021, it then goes on to say that this is not a constraint due to the historical surveys carried out “providing a robust baseline data” and “further surveys will be carried to determine if amendments are necessary to the mitigation measure currently being proposed and to inform a licence application for NE”. However, each survey is respectfully 3 years, 1 month and 2 years, 1 month apart, which is out of date and not as per the guidance.</p> <p>Internal surveys are still not supplied despite the availability of drones and other technology that could assist.</p> <p>The Dec 2019 EIA has the Maltings wrongly numbered as B9 not B8</p> <p>The LPA expect a fully compliant suite of bat surveys over the summer period for a site of this complexity and size adjacent to the River Thames in the north and connecting to the railway and beyond in the south. The survey report needs to contain raw data and a plan to show the movement of bats seen on site</p> <p>The Peregrine falcon is a real asset for the site and there is concern that carrying out phase 1 works adjacent to the potential nesting location</p>	<p>It was agreed with LBRuT that supplementary surveys as detailed in full consultation (provided in <b>Appendix 13.3</b>) to build on those undertaken in October 2021 would be sufficient to address LBRuT comments on the Applications submitted in March 2022 (to provide LBRuT with an ‘in date’ ecological evidence base to determine the application with regards to ecology).</p> <p>As part of the supplementary surveys update internal surveys of the buildings on Site will be undertaken where safe access can be provided, but given the structural issues at building B9 the Maltings no internal surveys will be undertaken at this building. Instead, an automated bat detector (SM2) will be deployed inside the ground level doorway of the Maltings and set to record for a 5-night period to determine if ‘a peak’ in calls are recorded just before or at peak emergence times (will also look at re-entry timing data for bat species). This idea was proposed specifically for brown long-eared bats (but will cover other bat species) given previous LBRuT comments and the roosting behaviour of the species that will normally ‘warm up’ within an internal void before emerging from the roost site).</p> <p>Given the health and safety issues at the buildings it was concluded that the use of an automated detector survey at building B9 the Maltings would be acceptable, and that drone surveys would not be required.</p> <p>As part of the evening emergence and pre-dawn re-entry surveys it was agreed as part of the consultation that those undertaken at Building B9 the Maltings will be supplemented with Infra-Red night vision aids given the size of the building, as it was recorded in 2019 to be a pipistrelle day roost. As such the use of thermal imaging surveys would not be required. It was agreed as part of the consultation that the use of drone, IR and Thermal imaging surveys would not be required at other buildings/trees on Site.</p> <p>Whilst it was agreed that no other additional surveys for notable or protected species would be required, the results</p>

LBRuT Comments - Application A and B	Resultant Action - Application A and B
<p>will scare it away – this will need to be considered by an falcon expert</p> <p>Demonstrate the new windows/internal light spill will not spill onto the river corridor or tree canopies, especially as brown long-eared bats have been recorded.</p> <p>Uplighting of trees and buildings in the squares is not acceptable.</p>	<p>of the peregrine and breeding bird surveys undertaken for the Temporary Filming Application would be included within the Supplementary Protected Species Report (<b>Appendix 13.3</b>). In addition, these reports would also detail any changes to the ecological mitigation, compensation and enhancement measures already provided.</p> <p>Confusion has occurred over the building numbering as a separate system was used for the ecology surveys compared to that detailed in <b>Figure 3.1</b> of the Applications submitted in March 2022. It should however be noted that the building numbering referred to in this Chapter and the Supplementary Protected Species Report (<b>Appendix 13.3</b>) has now been amended to align with system used for the planning submission. This system therefore supersedes the numbering system used in <b>Appendix 13.1, Appendix 13.2, Appendix 13.4 and Appendix 13.5.</b></p> <p>As detailed in the indicative lighting strategy prepared by Michael Grub Studio (submitted as a standalone document in support of the planning applications), the proposed river terrace would be subject to low level lighting. High level lighting has been avoided in this part of the Site so that light spill upon the River Thames and Tidal Tributaries SMI is avoided. A small amount of lighting would be installed to illuminate the steps that lead down to the towpath for safety reasons. The internal lighting for the buildings fronting the river has not been designed at this stage. The uses on ground floor are flexible with residential uses on upper floors. The final lighting design will be mindful of light spill to the river and tree canopies with lighting designed in compliance with the guidance published by the Institute of Lighting Professionals (ILP). Up lighting will be avoided. Furthermore, the floodlighting for the proposed sports pitch would be suitably controlled and be located sufficiently far from any designated sites to have a significant effect.</p>

## Survey and Assessment Methodology

### *Ecological Data Search*

- 13.10. An ecological data search undertaken as part of the PEA (**Appendix 13.1**) was requested from eCountability / Greenspace Information for Greater London (GIGL) in September 2021, where existing records were obtained for protected species and / or other notable fauna and flora, together with records of important statutory and non-statutory designated sites located within 2km of the Site. Statutory sites of an International / European level were also searched for on the

Multi-Agency Geographic Information for the Countryside maps (MAGIC map)<sup>1</sup> within 10km and aerial photography for the area was also reviewed.

- 13.11. The aim of an ecological data search is to collate existing ecological records for the Site and denoted Zone of Influence (Zol) for the anticipated likely significant effects from a development.
- 13.12. In addition to the above, Habitats of Principal Importance (HoPI) and Species of Principal Importance (SoPI), listed under Section 41 of the NERC Act<sup>2</sup>, as well as Habitat Action Plans (HAPs) and Species Action Plans (SAPs), listed under the London Environmental Strategy (LES)<sup>3</sup> and the LBRuT Biodiversity Action Plan (RBAP)<sup>4</sup>, were reviewed to assign an ecological context to the Site.

#### *Field Survey*

- 13.13. As part of the PEA (**Appendix 13.1**), a UK Habitat Classification (UK Hab) field survey of the Site was undertaken on 31<sup>st</sup> August 2021 by Lee Mantle MCIEEM. UK Hab supersedes previous systems such as Phase 1 Habitat Survey, allowing for direct interpretation of baseline habitat survey data into Priority Habitat Types (HoPI) and Annex I Habitat types.
- 13.14. The PEA details an assessment of the recorded habitats potential to support legally protected and notable species and building on this, the requirement for undertaking the additional survey work detailed below.
- 13.15. Further details of the UK Hab field survey are provided in **Appendix 13.1**.

#### *Preliminary Roost Assessment*

- 13.16. As part of the PEA (**Appendix 13.1**) a preliminary roost assessment (PRA), comprising an external ground-based building, wall (both northern boundary wall and southern boundary wall, refer to **Figure 13.1** and **Appendix 13.1**) and tree assessments for roosting bat potential, was undertaken at the Site during the UK Hab field survey. The survey was also undertaken by Lee Mantle MCIEEM who holds a Natural England Class 2 Licence (2015-14934-CLS-CLS) for all bat species and counties of England. The survey was based on current best practice guidelines<sup>5</sup>.
- 13.17. In response to the LBRuT consultation response in May 2022 a review of the buildings on Site was undertaken in August 2022, as part of the Supplementary Protected Species Report (**Appendix 13.3**), to determine which ones would warrant or could be subject to an internal PRA following the PRA undertaken as part of the PEA (**Appendix 13.1**).
- 13.18. Building B1, B2, B3, B4, B5, B6, B7, B8, B12, B13, B14, B15, B16 and B17 (refer to **Appendix 13.3** for building locations) were either all flat roofed or had no roof void. All of these buildings were all assigned a negligible potential to support roosting bats (excluding B12, B14, B17 and B18 the, off Site, Jolly Gardeners pub) as part of the PRA and as such an internal PRA was not assessed to be necessary.
- 13.19. Whilst building 10/11 did have a pitched roof no physical access was possible due to the removal of an external metal staircase to the eastern extent of the building. In addition, no access was possible to the roof voids at the western extent of the building as on review of the asbestos reports, no inspection for asbestos containing materials (ACMs) was previously undertaken within the void by the asbestos surveyors.

- 13.20. Whilst B18 the Jolly Gardeners pub did have a pitched roof it is located off Site, and is not in the ownership of the Applicant, as such no access was possible.
- 13.21. Finally, and on review of the asbestos reports and historical issues raised regarding the structural integrity of the building B9 the Maltings, in consultation with the Applicant, we were again advised that access internally within the Maltings could not be safely facilitated. Permission was however provided to deploy the automated bat detector (SM2 detector) just inside the entrance of the Maltings as a supplementally surveys technique as agreed with LBRuT.

#### Northern boundary wall Inspection

- 13.22. The PEA (**Appendix 13.1**) assessed the northern boundary wall to have moderate potential to support roosting bats (refer to **Figure 13.2**).
- 13.23. As such an endoscope inspection of the potential roosting features (PRFs) present was undertaken in 2021, and then in 2022 in response to the LBRuT consultation in May 2022. Each PRF (**Appendix 13.3**) was systematically inspected for evidence of bat usage (e.g. droppings, scratch marks, staining and sightings as well as bats themselves) using a digital video endoscope, inspection mirrors, binoculars and a high powered torch with a ladder as required. The inspections were led by Will O'Connor Cecol MCIEEM, a Natural England Class Level 2 Bat Licence holder (2015-11736-CLS-CLS) in 2021 and Lee Mantle MCIEEM a Natural England Class Level 2 Bat Licence holder (2015-14934-CLS-CLS) in 2022. Full details can be found in **Appendix 13.3**.

#### Evening Emergence and Pre-Dawn Re-Entry Surveys

- 13.24. Evening emergence and/or pre-dawn re-entry surveys were undertaken in 2021, with further surveys in 2022 in response to the LBRuT consultation. The surveys were undertaken on buildings, trees and walls;
- Buildings assessed to have low potential to support roosting bats (building B14, B12 and B17);
  - Buildings assessed to have moderate potential to support roosting bats (building B13, B9 the Maltings (previously recorded as a confirmed roost site in 2019) and B10/11 and B18 (the, off Site, Jolly Gardeners Pub));
  - Trees assessed to have moderate potential to support roosting bats (T43, T44, T67, T68, T71, T75, T78, T83, T157 and T321); and
  - At the northern boundary wall in 2021 at PRFs 10a and 10b and 13 where a full endoscope inspection could not be undertaken.
- 13.25. The evening emergence and/or pre-dawn re-entry surveys were undertaken based on current best practice guidelines<sup>6</sup>. In addition, a sufficient number of surveyors were used during each survey to ensure all of the PRFs were suitably covered. The surveys were led by Will O'Connor Cecol MCIEEM, a Natural England Class Level 2 Bat Licence holder (2015-11736-CLS-CLS) in 2021 and Lee Mantle MCIEEM a Natural England Class Level 2 Bat Licence holder (2015-14934-CLS-CLS) in 2022. The positions of the surveyors during each evening emergence survey are presented on **Figure 13.3**.



- 13.26. The surveys were undertaken using full spectrum Elekon Batlogger M, EchoMeter Touch 2 Pro, anabat scout and Pettersson D240x bat detectors with integrated or separate (Edirol) digital recording. This survey equipment is considered suitable for detecting all resident species of UK bats. In addition, and at building B9 the Maltings and due to its height and conformation as a roost site in 2019 Nightfox Infrared monocular' s with IR torches were used by the surveyors during the surveys at this building in October 2021 as a supplementary survey technique.
- 13.27. In response to consultation received from LBRuT at the end of May 2022 during the surveys at building B9 the Maltings in 2022 due to its height and conformation as a roost site in 2019 a variety of night vision aids (NVAs) were used by the surveyors during the surveys as a supplementary survey technique. The footage was then watched back after the survey to further determine the presence/absence of roosting bats. The NVAs with IR torches used during the surveys at the Maltings during the surveys in 2022 included:
- A Guide IR19 Pro thermal imaging scope;
  - Canon XA10/XA40 cameras; and
  - Nightfox Red.
- 13.28. The surveys were undertaken in appropriate weather conditions and within the recognised bat active season for these types of surveys. The evening emergence surveys commenced approximately 15 minutes prior to sunset and continued for at least an hour and a half thereafter. The pre-dawn re-entry surveys commenced at least an hour and a half before sunrise and extended 15 minutes thereafter.
- 13.29. In addition, and at B9 the Maltings (previously recorded as a confirmed roost site in 2019) in August 2022 an automated bat detector (SM2 detector) was set to for five consecutive nights in response to LBRuT's consultation. The automated detector was deployed just inside the entrance of the Maltings as a supplementary survey technique, in an effort to determine if 'a peak' in calls are recorded just before or at peak emergence and re-entry times. The deployment of the automated detector was proposed specifically for brown long-eared bats given the roosting behaviour of the species that will normally 'warm up' within an internal void before emerging from a roost site<sup>7</sup>.

#### *Bat Activity Surveys*

- 13.30. To determine the use of the habitats along the Site but specifically along the northern Site boundary adjacent to the River Thames, a bat activity survey was undertaken in 2021 and then in 2022 in response to the LBRuT consultation.
- 13.31. The evening activity survey commenced from sunset to two hours thereafter. A pair of surveyors followed a pre-determined transect route (**Figure 13.4**). During the survey in 2022 the transect was extended to travel down to adapted to Mortlake Train Station. The survey was undertaken using Elekon Batlogger detectors. Full details of the survey methodology are provided in **Appendix 13.3**.
- 13.32. The surveys were led by Will O'Connor Cecol MCIEEM, a Natural England Class Level 2 Bat Licence holder (2015-11736-CLS-CLS) in 2021 and Lee Mantle MCIEEM a Natural England Class Level 2 Bat Licence holder (2015-14934-CLS-CLS) in 2022.

13.33. The survey was undertaken in optimal weather conditions, i.e. wind levels below 4 on the Beaufort wind force scale, the absence of prolonged rain and above 10°C in temperature.

#### *Automated Detector Bat Surveys*

13.34. To supplement the bat activity survey, three automated bat detectors were deployed at the Site) and set to record for a five-night period in 2021 and then in 2022 in response to the LBRuT consultation. The automated detectors were set to record all night. Two of the automated detectors were located along the northern boundary wall (under the Budweiser sign and on the wall to the eastern corner) to the north of the Site as adjacent to the River Thames and one automated detector on a tree to the north west of the Site in 2021 and to the north of Watney's Sports Ground in 2022 (**Figure 13.4**). Full details can be found in **Appendix 13.3**.

13.35. The surveys were led by Will O'Connor MCIEEM, a Natural England Class Level 2 Bat Licence holder (2015-11736-CLS-CLS) in 2021 and Lee Mantle MCIEEM a Natural England Class Level 2 Bat Licence holder (2015-14934-CLS-CLS) in 2022.

#### *Bat Data Analysis*

13.36. The sound recordings for the evening emergence and or pre-dawn re-entry surveys and bat activity surveys were analysed using BatExplorer and Kaleidoscope software respectively. Identification of bat calls was undertaken using the parameters set out by Russ<sup>8</sup>.

13.37. The sound recordings for the automated survey were analysed using BatExplorer and AnaLook software and bat call parameters from Russ<sup>9</sup>. For the purposes of analysis, a bat pass correlates to a single 15 second recording. Due to the extensive data set recorded by the automated detectors during July and August 2022, auto species identification filters were used to identify common pipistrelle and soprano pipistrelle bats using parameters such as their peak frequency, call shape, recording quality and plausibility.

#### *Birds*

13.38. A series of five black redstart surveys, occurring approximately every fortnight, were carried out between 13<sup>th</sup> May and 29<sup>th</sup> June 2016 to ascertain the status of this species at the Site and adjacent habitats (a c.25 m buffer around the Site was surveyed). The methodology broadly followed the industry standard for this species as outlined in 'Bird Monitoring Methods'<sup>10</sup>. Each survey commenced between dawn and sunrise as this is the period when black redstarts are the most vocal and therefore most likely to locate.

13.39. Due to the recorded presence of a peregrine falcon on Site on the 4th October 2022, a series of three peregrine falcon and breeding bird surveys were undertaken over the Site between June and July 2022. The surveys were undertaken by Bill Haines MCIEEM and predominantly undertaken at the buildings on Site to determine if peregrine falcon are utilising the Site. The surveys were however also undertaken to record all breeding bird species on and adjacent to the Site. Due to the size of the Site three survey visits were considered to be suitable to give an overall picture of the use of the Site by breeding birds.

13.40. Full details can be found in **Appendix 13.3**.



## Impact Assessment Methodology

- 13.41. This assessment was undertaken with reference to the Chartered Institute of Ecology and Environmental Management ('CIEEM') guidelines for ecological impact assessments (the 'Guidelines')<sup>11</sup>. Although the Guidelines are recognised as current industry guidance, they are also recognised as not being a prescriptive tool for carrying out ecological impact assessments; they provide guidance to practitioners for refining their own methodologies.

### Zone of Influence

- 13.42. The Zone of Influence (Zoi) is the spatial extent over which IEFs would be affected by biophysical changes caused by the development. The Zoi was determined through a review of baseline conditions, consideration of the wider local environment, and consideration of the type of development proposed.
- 13.43. The conceivable Zoi of the development is assessed to be;
- 2km for statutory designated sites (extended to 10km for sites of International/European importance) of importance for nature conservation.
  - 500m for non-statutory designated sites of importance for nature conservation
  - The Site and immediate adjacent areas for habitats and legally protected and notable species.
- 13.44. Given the urban nature of the Site that would be subject to regular disturbance events and physical barriers (for example to legally protected and notable species migration) the Zoi is unlikely to extend any further.

### Assessment of Ecological Features

- 13.45. The ecological features are evaluated based on criteria in the Guidelines. This is based on an understanding of how the potentially affected population or habitat contributes to the conservation status or distribution of the species or habitat at a particular geographical scale.
- 13.46. Determination of value of ecological features within the survey area is assessed according to the geographical framework given below;
- **International and European** - Very high importance and rarity, international and European scale and very limited potential for substitution
  - **National** (England)- High importance and rarity, national scale, and limited potential for substitution
  - **Regional** (London) - High or medium importance and rarity, regional scale, limited potential for substitution
  - **District** (London Borough of Richmond Upon Thames) - Medium importance and rarity, district scale, potential for substitution
  - **Local** (Site and neighbouring receptors) - Low or medium importance and rarity, local scale
  - **Site** - Very low importance and rarity, local scale
  - **Negligible**

- 13.47. Baseline data has been used to identify relevant ecological features (including designated sites, habitats and species) of value (or potential value).
- 13.48. Based on baseline data collection, ecological features (habitats, species, ecosystems and their functions / processes) that are ‘important’ and have the potential to be significantly affected by the Development, have been identified as Important Ecological Features (IEFs) for assessment.
- 13.49. To identify IEFs for the purposes of this assessment, professional judgement and experience was used, informed by the results of the baseline data collection for the Site, derived from desk, consultation and field survey. Consideration was given to habitats and species for nature conservation, such as designated sites, Biodiversity Action Plan lists and legally protected species. When an ecological feature is not listed / designated, consideration was given to population, diversity and key functional role and connectivity within the wider environment. Species that are not considered ‘important’ or are unlikely to be significantly affected include (but are not limited to) species that are sufficiently widespread, unthreatened and / or resilient habitats or species of insufficient size or diversity.
- 13.50. Details of the ecological features that are not considered ‘important’ or unlikely to be significantly affected by the proposed Development have not been assessed within this Chapter. In accordance with the Guidelines these are assessed to be features valued at below a **Local** level, in accordance with the geographical scales provided above. However, any ecological features which are not considered ‘important’ but could be affected by the development impacts (identified separately) are discussed further in **Appendix 13.1**.

### Methodology for Defining Effects

- 13.51. Under the Guidelines impacts on biodiversity are assessed not only by magnitude but are also characterised and described as beneficial / adverse, together with their extent, duration, timing and frequency. **Table 13.2** provides impact criteria used in line with the Guidelines.

Table 13.2. Criteria for determining the impact on ecological features under the Guidelines

Characteristic	Criteria
Beneficial or Adverse	Beneficial impact: a change that improves the quality of the environment. Beneficial impacts may also include halting or slowing an existing decline in the quality of the environment. Adverse impact: a change that reduces the quality of the environment.
Extent	The spatial or geographic area over which the impact/effect may occur.
Magnitude	Refers to the size, amount, intensity and volume. It will be quantified if possible and expressed in absolute or relative terms.
Duration	Duration will be defined in relation to ecological characteristics (such as a species’ lifecycle), as well as human timeframes. The duration of an activity may differ from the duration of the resulting effect caused by the activity. Effects may be described as short, medium or long-term and permanent or temporary. Short, medium, long-term and temporary will need to be defined in months/years.
Frequency	The number of times an activity that will impact biodiversity will occur.
Timing	The timing of an activity or change caused by the project may result in an impact if this coincides with critical life-stages or seasons.

13.52. Impacts can also be defined as being direct or indirect. A direct impact is defined as an impact resulting in the direct interaction of an activity with an environmental or ecological component. An indirect impact is defined as an impact on the environment which is not a direct result of a project or activity, often produced away from or as a result of a complex impact pathway.

### Significance Criteria

- 13.53. This Chapter does not use the same methodology for reporting the likely significant effects as set out in **Chapter 2** of this ES, instead it follows CIEEM guidance. CIEEM defines a significant impact as 'an impact (negative or positive) on the integrity of a defined site or ecosystem and/or the conservation status of habitats and species within a given geographical area' (CIEEM, 2018). Therefore, an impact can be significant at the Site, Local, District, Regional, National or International level (as detailed in paragraph **13.35** above).
- 13.54. Integrity is defined as 'the coherence of the ecological structure and function, across the whole area (of a site), that enables it to sustain the habitat, complex of habitats and/or population of species for which it was classified.' (European Commission Managing Natura 2000, 2000).

### Baseline Conditions

13.55. A summary of the existing baseline conditions is provided below with full detail provided within **Appendix 13.1, 13.2 and 13.3**.

### Data Search

- 13.56. The ecological data search returned records of statutory and non-statutory designated sites for nature conservation and protected species records as detailed in **Appendix 13.1**.
- 13.57. No statutory and non-statutory designated sites for nature conservation were provided for the Site, however, the following sites were recorded within the conceived Zol:
- Richmond Park Special Area of Conservation (SAC), National Nature Reserve (NNR) and Site of Special Scientific Interest (SSSI);
  - Wimbledon Common SAC;
  - River Thames and Tidal Tributaries Site of Metropolitan Importance (SMI);
  - North Sheen and Mortlake Cemeteries Site of Local Importance (SLI);
  - Old Mortlake Burial Ground SLI; and
  - Kew Meadow Path Site of Borough Importance (SBI grade 2).
- 13.58. Records of amphibian, reptile, mammals (bat, hedgehog and badger), birds and invertebrate species were returned within 2km of the centre of the Site. In total eight different defined species of bat were presented (Serotine *Eptesicus serotinus*, Daubenton's *Myotis daubentonii*, Leisler's *Nyctalus leisleri*, Noctule *Nyctalus noctule*, Nathusius's Pipistrelle *Pipistrellus nathusii*, Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *Pipistrellus pygmaeus* and Brown Long-eared *Plecotus auratus*) and bird species including black redstart *Phoenicurus ochruros* and peregrine falcon *Falco peregrinus*. Records returned of species directly adjacent to the Site

(determined to be within 250m from the centre of the Site) includes swift *Apus apus*, starling *Sturnus vulgaris*.

## Statutory Designated Sites Field Survey

### Richmond Park SAC, NNR and SSSI

- 13.59. At its closest point Richmond Park SAC, NNR and SSSI are located within 1.3km south of the proposed development.
- 13.60. Richmond Park has been managed as a royal deer park since the seventeenth century, producing a range of habitats of value to wildlife. In particular, Richmond Park is of importance for its diverse deadwood beetle fauna associated with the ancient trees found throughout the parkland. Many of these beetles are indicative of ancient forest areas where there has been a long continuous presence of over-mature timber. The site is at the heart of the south London centre of distribution for stag beetle *Lucanus cervus*. This area has been designated as an SAC as Stag Beetle, an Annex II species, are a primary reason for designation. No other reasons for designation apply.
- 13.61. Richmond Park is London's largest NNR covering approximately 850 hectares. Significant habitats and species include dry acid and neutral grassland, species-poor wet grassland, mire, plantation woodlands, streams, ponds, veteran trees, scrub and bracken. The NNR is nationally important site due to the outstanding number of veteran oak trees and the significance of the insects they support. Over 1,000 species of beetle have been recorded in the park, many of which are linked to dead and decaying wood while others are associated with wetland habitats and deer droppings.
- 13.62. Richmond Park SSSI is of importance for its diverse deadwood beetle fauna associated with the ancient trees found throughout the parkland. In addition, the Park supports the most extensive area of dry acid grassland in Greater London.
- 13.63. It is assessed that Richmond Park SAC is of **European** value and the NNR and SSSI are of **National** value.

### Wimbledon Common SAC

- 13.64. At its closest point Wimbledon Common SAC is located within 3.5km south west of the Development.
- 13.65. Wimbledon Common SAC is one of the largest areas of uncultivated land in the conurbation of London and sits in the Thames Valley Natural Character Area. It supports a mosaic of habitats including broadleaved woodland, acid grassland, dry and wet heath, scrub and mire. The underlying soils are mostly sands, gravels and silty clays which give rise to poorly-drained, nutrient poor and acid conditions. The range of habitats supports a wide diversity of plants and animals, including many which are scarce in the London area.
- 13.66. The SAC is a particular stronghold for the stag beetle *Lucanus cervus* in the south east of England and is at the heart of the local centre of distribution of the species. The site provides ideal habitat conditions for the stag beetle, such as extensive areas of undisturbed woodland and large

quantities of decaying wood. The site is also important in supporting small but important areas of heathland, a very scarce habitat in the London area.

- 13.67. The SAC has been designated due to the Annex 1 habitats it supports (European dry heaths and Northern Atlantic wet heaths with *Erica tetralix*) and fauna being Stag Beetle, an Annex II species. No other reasons for designation apply.
- 13.68. It is assessed that Wimbledon Common SAC is of **European** value.

## Non-statutory Designated Sites

### River Thames and Tidal Tributaries SMI

- 13.69. The River Thames and Tidal Tributary SMI is located directly adjacent to the northern boundary of the Site, and comprises a number of valuable habitats not found elsewhere in London. The mudflats, single beach, inter-tidal vegetation, islands and river channel itself support many species of fish and birds and plants, creating a wildlife corridor running right across the capital.
- 13.70. It is assessed that this non-statutory site is of **Regional** value.

### Kew Meadow Path SBI

- 13.71. The Kew Meadow Path SBI is a public footpath, totally unremarkable in appearance and is one of only a handful of British sites for the two-lipped door snail *Alinda biplicata*.
- 13.72. It is assessed that this non-statutory site is of **District** value.

### North Sheen and Mortlake Cemeteries SLI

- 13.73. The North Sheen and Mortlake Cemeteries SLI is located adjacent to the west of the Site. These extensive cemeteries, which are bisected by Mortlake Road, are among the largest in the LBRuT. They are both in active use and managed relatively intensively, with most of the grasslands being mown frequently. They have considerable wildlife interest due to their large size and the diversity of plants and animals that they support.
- 13.74. It is assessed that this non-statutory site is of **Local** value.

### Old Mortlake Burial Ground SLI

- 13.75. The Old Mortlake Burial Ground SLI is a small and quite intensively managed cemetery, but its grasslands contain a reasonable diversity of wildflowers.
- 13.76. It is assessed that this non-statutory site is of **Local** value.

## Field Survey

### Buildings

- 13.77. Eighteen buildings are present within or directly adjacent to the Site (refer to **Figure 13.1**). These buildings comprise industrial warehouses and storage buildings associated with redundant brewing processes, offices, security offices and a club house. These buildings were being used

for temporary filming purposes at the time of the survey. An office building and a pub located immediately adjacent to the Site boundary were also included in the survey.

13.78. It is assessed that this habitat is of **Negligible** value.

#### Hardstanding

13.79. A large area of the Site comprises hardstanding around the buildings. Small areas of ephemeral / tall ruderal vegetation have colonised cracked and disturbed areas of hardstanding. The species recorded within these areas include bristly ox-tongue *Helminthotheca echioides*, smooth sow-thistle *Sonchus oleraceus*, cleavers, wall barley, broad-leaved willow herb *Epilobium montanum*, Michaelmas daisy *Aster amellus*, spear thistle *Cirsium vulgare*, prickly lettuce *Lactuca serriola*, cocksfoot *Dactylis glomerata*, mugwort *Artemisia vulgaris*, knotgrass *Polygonum sp*, greater plantain, wood avens, red fescue, common ragwort *Jacobaea vulgaris*, broad leaved dock, common dandelion, common hogweed *Heracleum sphondylium*, common nettle, perennial ryegrass, herb Robert and Canadian fleabane *Erigeron canadensis*.

13.80. This habitat is assessed to be of **Negligible** value.

#### Bare ground

13.81. Bare ground, predominantly gravel, is present along the footpath (towpath) at the northern boundary of the Site adjacent to the River Thames.

13.82. This habitat is assessed to be of **Negligible** value.

#### Wall

13.83. Several free-standing walls are present within, and forming boundaries, of the Site including the northern boundary wall and the boundary wall (refer to **Figure 13.1** and **Appendix 13.1**). All walls are constructed from brick. Several climbing species were also recorded on Site at the wall habitat, largely associated with the northern Site boundary. Species recorded include honeysuckle *Lonicera periclymenum*, ivy *Hedera helix*, and Virginia creeper *Parthenocissus quinquefolia*. The climbing plants are beginning to spread across features such as fencing due to lack of management.

13.84. This habitat is assessed to be of **Site** value.

#### Fence

13.85. A metal fence is present around Watney's Sports Ground playing fields.

13.86. This habitat is assessed to be of **Negligible** value.

#### Ornamental planting

13.87. Several areas of ornamental planting are present across the Site within both raised and ground level planting beds. Formally managed ornamental planting is present at the base of the buildings, with less formal areas which appear unmanaged present towards the north of the Site. Ornamental planting is also present at the boundary of Mortlake Green and within the Chalker's Corner. Species recorded include *Pyracantha sp.*, spindle *Euonymus japonicas*, barberry *Berberis*



*darwinii*, senecio sunshine *Brachyglottis sp.*, holly *Ilex aquifolium*, Euonymus fortune, Mexican orange blossom *Choisya x dewitteana* 'Aztec Pearl', Cordyline *Cordyline sp.*, spotted laurel *Aucus japonica*, red robin *Photinia x fraseri*, broom *Cytisus scioparius.*, cotoneaster tree *Cotoneaster cornubia*, lilac *Syringa sp.*, clematis *Clematis sp.*, false castor oil *Fatsia japonica*, sweet bay *Laurus nobilis*, daffodil *Narcissus sp.* and laurel *Laurus sp.*

13.88. This habitat is assessed to be of **Site** value.

#### Trees

13.89. Trees are present across the Site. At the former brewery part of the Site the trees are growing out of hardstanding. These trees vary in age and comprise false acacia *Robinia pseudoacacia*, sycamore *Acer pseudoplatanus* London plane *Platanus x hispanica*, hornbeam, small-leaved lime *Tilia cordata*, wild cherry *Prunus avium*, whitebeam *Sorbus aria*, Himalayan birch *Betula utilis*, ash *Fraxinus excelsior*, elder *Sambucus nigra*, holly, Swedish whitebeam *Sorbus intermedia* and tree-of-heaven *Ailanthus altissima*. Some recent management in the form of pruning works is present at the trees.

13.90. Trees are also present within the Watney's Sports Ground playing fields, Chalker's Corner and lining the River Thames. These trees vary in age. Along the River Thames the tree species include ash *Fraxinus excelsior*, sycamore *Acer pseudoplatanus*, elder *Sambucus nigra*, goat willow *Salix caprea*, cherry *Prunus sp.*, elm *Ulmus sp.* and hawthorn *Crataegus monogyna*. Within Watney's sports Ground playing fields the tree species include wingnut *Pterocarya sp.*, London Plane *Platanus x hispanica*, Indian Bean Tree *Catalpa bignonioides*, Manna Ash *Fraxinus ornus*, red horse chestnut *Aesculus x carnea*, pink hawthorn *Crataegus laevigatus* 'Rosea Flore Pleno', cockspur hawthorn *Crataegus crus-galli* and Ornamental Hawthorn *Crataegus sp.* At Chalkers Corner the tree species include red norway Maple *Acer platanoides* 'Crimson King', cherry *Prunus sp.*, cider gum *Eucalyptus gunnii*, horse chestnut *Aesculus hippocastanum* and false acacia *Robina pseudoacacia*. Some recent management in the form of pruning works is present at the trees.

13.91. This habitat is assessed to be of **Site** value.

#### Amenity grassland

13.92. Amenity grassland is present at the Site within Watney's Sports Ground playing fields, Mortlake Green and the footpath / roadside verges at Chalker's Corner and along the boundary with the River Thames. The short length of sward (approximately 5cm) and limited species diversity recorded indicate that the amenity grassland is subject to an intensive mowing regime. The dominant species recorded was perennial rye grass *Lolium perenne* with species including common bent *Agrostis capillaris*, common daisy *Bellis perennis*, ribwort plantain *Plantago lanceolata*, red fescue *Festuca rubra*, white clover *Trifolium repens*, common catsear *Hypochaeris radicata*, yarrow *Achillea millefolium*, dove's-foot cranesbill *Geranium molle* and *Taraxacum sp* also present.

13.93. Where the edges of the amenity grassland have avoided the mowing regime, this has a longer sward and is more species rich with wall barley *Hordeum murinum* (dominant in areas), yarrow *Achillea millefolium*, red clover *Trifolium pratense*, meadow cranesbill *Geranium pratense*,

common dandelion *Taraxacum officinale*, cleavers *Galium aparine*, false oat-grass *Arrhenatherum elatius*, Yorkshire fog *Holcus lanatus*, herb Robert *Geranium robertianum*, common mallow *Malva sylvestris*, wood avens *Geum urbanum*, broad-leaved dock *Rumex obtusifolius*, greater plantain *Plantago major* and common nettle *Urtica dioica* present.

13.94. This habitat is assessed to be of **Site** value.

#### Hedgerows

13.95. A length (of approximately 90m) of privet *Ligustrum sp* hedge is present along the southern edge of Watney's Sports Ground playing fields. This hedge is approximately 1.5 m in height and 0.75 m wide and appears to be subject to a regular management regime.

13.96. This habitat is assessed to be of **Site** value.

#### River Thames

13.97. The River Thames (a notable habitat under LES, RBAP and S41 of the Natural Environment & Rural Communities (NERC) Act 2006)<sup>12</sup> is located adjacent to the north of the Site. The section of river that flows adjacent to the Site is tidal and the banks adjacent to the footpath are heavily modified being reinforced by stone and concrete, with parts of the footpath and Thames Bank becoming flooded at high tide. A small boat landing stage also fronts on to the River Thames at the top of Ship Lane adjacent to the northern Site boundary.

13.98. This habitat is assessed to be of **Regional** value.

#### Roosting bats

13.99. As a result of the PEA (**Appendix 13.1**), in total eight different defined species of bat were presented (Serotine *Eptesicus serotinus*, Daubenton's *Myotis daubentonii*, Leisler's *Nyctalus leisleri*, Noctule *Nyctalus noctule*, Nathusius's Pipistrelle *Pipistrellus nathusii*, Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *Pipistrellus pygmaeus* and Brown Long-eared *Plecotus auratus*) as records in the ecological data search.

13.100. The northern boundary wall inspection was undertaken on 4<sup>th</sup> October 2021 and 10<sup>th</sup> August 2022. In summary (full results **Appendix 13.3**) no roosting bats were recorded in the PRFs inspected on both the interior and exterior of the wall (Site and river side).

13.101. The evening emergence and/or pre-dawn re-entry surveys at the buildings, walls (both the northern boundary wall where the PRFs could not be fully inspected in 2021 as part of the northern boundary wall inspection and at the southern boundary wall) and trees were undertaken as detailed in **Table 13.3** and **13.4** below.

Table 13.3: Summary of Evening Emergence Bat Surveys 2021

Survey	Date	Sunset / Sunrise Time	Time Start / End (GMT+1)	Wind (Beaufort)	Cloud Cover (Oktas)	Temp Start / End (°C)
Evening emergence (B9, T75, T43, T44)	04/10/2021	18:33	18:18 / 20:03	0	7/8	13 / 13
Evening emergence (B12, B10/11, B13, B14)	05/10/2021	18:31	18:16 / 20:01	3	8/8	13 / 12
Evening emergence (T71, T68, T67, B18 the off Site Jolly Gardeners pub)	07/10/2021	18:24	18:09 / 19:54	1	8/8	20 / 18
Evening emergence (B17, T78, T83, T157)	11/10/2021	18:15	18:00 / 19:45	1	2/8	15 / 10
Evening emergence (southern boundary wall)	14/10/2021	18:10	17:55 / 19:40	1	5/8	15 / 13
Evening emergence (northern boundary wall at PRA 10a, 10b, 13 and T321)	19/10/2021	18:00	17:45 / 19:30	1	8/8	19 / 18

**Table 13.4: Summary of Evening Emergence Bat Surveys 2022**

Survey	Date	Sunset / Sunrise Time	Time Start / End (GMT+1)	Wind (Beaufort)	Cloud Cover (Oktas)	Temp Start / End (°C)
Evening emergence (B14)	20/06/2022	21.21	20:51 / 23:21	1	1/8	21 / 16
Pre-dawn re-entry (B18 the off Site Jolly Gardeners pub)	26/07/2022	05:15	03:45 / 05:30	1	7/8	19 / 17
Pre-dawn re-entry (B12)	21/06/2022	04:43	03:15 / 05:00	2	2/8	14 / 12
Evening emergence (B10/11,17)	02/08/2022	20:49	20:30 / 23:00	2	1/8	22/ 20
Evening emergence (B10/11)	27/06/2022	21.23	21:00 / 23:00	2	8/8	19 / 17
Evening emergence (B10/11)	11/07/2022	21.15	20:45 / 23:15	1-2	3/8	28 / 25
Evening emergence (B13)	25/07/2022	21.00	20:30/ 22:30	3	8/8	22 / 21
Evening emergence (B9)	24/08/2022	20:05	19:50/ 21:36	0	4/8	30 / 23
Dawn re-entry (B9)	05/08/2022	05:28	04:00/ 05:30	1	6/8	17 / 16
Pre-dawn re-entry (Southern boundary wall)	03/08/2022	05.29	02:30/ 05:30	3	3/8	18 / 18
Evening emergence (Southern boundary wall)	30/08/2022	19:52	19:40/ 21:32	2	6/8	23 / 22
Evening emergence (T43, T44)	10/08/2022	20:30	20:03/ 22:30	2	3/8	24 / 22
Evening emergence (T67, T68, T71)	16/08/2022	20.22	20:07/ 21:52	0	6/8	22 / 20
Pre-dawn re-entry (T75, T78, T83)	17/08/2022	05.50	04:20/ 06:05	1	7/8	17 / 16
Pre-dawn re-entry (T75)	31/08/2022	06.10	04:40/06:15	2	6/8	23 / 22
Pre-dawn re-entry (T157, T321)	11/08/2022	05:02	03:30/ 05:02	0	3/8	18 / 18

13.102. In addition, the automated detector was deployed just inside the entrance of the Maltings on the 1<sup>st</sup> August 2022 and set to record for 5 nights as detailed in **Table 13.5**.

Table 13.5: Summary of Building B9 The Maltings Automated Detector Survey

Survey Month	Date	Sunset Time	Max Wind speed (mph)	Rain (inches)	Average Day Temp °C
August 2022	01/08/2022	20:48	10	0	26
	02/08/2022	20:46	8	0	25
	03/08/2022	20:45	10	0	26
	04/08/2022	20:43	9	0	23
	05/08/2022	20:41	9	0	21

13.103. In summary, (full results **Appendix 13.3**) during the 2021 surveys, no bats were observed emerging from or entering buildings B14, B13, B9 the Maltings, B12, B10/11, B17, B18 the off Site Jolly Gardeners pub, the southern boundary wall, the northern boundary wall (at PRF 10a, 10b and 13) or trees T3, T10, T43, T67, T71, T83, T157 and T321. However, foraging and commuting activity by common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctula*, *Nyctalus sp*, *Myotis sp* and brown long eared bats *Plecotus auratus* were recorded during the surveys.

13.104. In summary, (full results are presented in **Appendix 13.3**) during the 2022 surveys, 2 common pipistrelle bats were observed re-entering the Southern Boundary Wall on the 3<sup>rd</sup> August. At tree T75 a single common pipistrelle was recorded re-entering the tree on 17<sup>th</sup> August and a soprano pipistrelle was recorded re-entering the tree on 31<sup>st</sup> August. In addition, and during the surveys, foraging and commuting activity by common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctula* and serotine *Eptesicus serotinus* was recorded.

13.105. Common and soprano pipistrelle bats are considered amongst the most common and widespread bat species in England (population estimate of 3,040,000 and 2,980,000 respectively)<sup>13</sup>. As such these species are of a low conservation status. Given the number of bats recorded and as they were re-entering the roost sites at dawn it is assessed that the roosts recorded on Site are either a common pipistrelle or soprano pipistrelle day roost (low numbers) as defined in current best practice guidance<sup>14</sup>. Although building B9 the Maltings is a historical bat roost site (soprano pipistrelle day roost (low numbers) recorded in 2019) no roosting bats were recorded during the surveys in 2021 or 2022, however and as a precautionary approach building B9 the Maltings is still assessed to be a soprano pipistrelle day roost (low numbers).

13.106. Given the number of day roost recorded, the species utilising them and their conservation status, with reference to the criteria for valuing roost sites<sup>15</sup> for ecological impact assessments roosting bats are assessed to be of **Local** value.

### Foraging and commuting bats

13.107. The bat activity surveys were undertaken on the 4<sup>th</sup> October 2021, the 21 July 2022 and 13<sup>th</sup> August 2022 as detailed in **Table 13.6** and **13.7**.

Table 13.6: Summary of Bat Activity Surveys

Survey	Date	Sunset Time	Time Start / End (GMT+1)	Wind (Beaufort)	Cloud Cover (Oktas)	Temp Start / End (°C)
Evening Transect	04/10/2021	18:32	18:51/ 21:19	0	5/8	14 / 11

Table 13.7: Summary of Bat Activity Surveys 2022

Survey	Date	Sunset / Sunrise Time	Time Start / End (GMT+1)	Wind (Beaufort)	Cloud Cover (Oktas)	Temp Start / End (°C)
Activity Survey	21/07/2022	21:03	21:03/ 23:03	3	7/8	22/ 20
Activity Survey	13/08/2022	20:20	20:20/ 22:20	2	8/8	20/ 18

13.108. In summary, (full results **Appendix 13.3**) during the 2021 survey, a total of 61 bat passes were recorded along the transect survey route in October 2021 (refer to **Figure 13.5**). Of these, 54 passes were by soprano pipistrelle bats, 1 by brown long-eared bat and 6 by common pipistrelles bats. The first bat call recorded was of a soprano pipistrelle at 19:01 (28 minutes after sunset) which was heard but not seen.

13.109. In summary, (full results **Appendix 13.3**) during the 2022 surveys, a total of 165 bat passes were recorded along the transect survey route (slightly altered connect down to Mortlake Train Station) in both July 2022 (refer to **Figure 13.6**) and August 2022 (refer to **Figure 13.7**). Of these, 51 passes were by soprano pipistrelle bats, 103 passes by common pipistrelles bats, 4 by *Myotis* species and 2 by *Pipistrellus* species. In July, the first bat call recorded was of a soprano pipistrelle at 21:28 (25 minutes after sunset) which was heard but not seen. In August, first bat call recorded was of a soprano pipistrelle at 20:42 (19 minutes after sunset) which was heard but not seen.



13.110. The automated detector surveys in 2021 and 2022 were undertaken as detailed in **Table 13.8** and **13.9**.

Table 13.1: Summary of Bat Automated Surveys 2021

Survey Month	Date	Sunset Time	Max Wind speed (mph)	Rain (inches)	Average Day Temp °C
October 2021	04/10/2021	18:33	13	0	14
	05/10/2021	18:31	23	1.3	13
	06/10/2021	18:28	8	0	14
	07/10/2021	18:24	4	0	15
	08/10/2021	18:21	9	0	16

Table 13.9: Summary of Automated Detector Bat Surveys 2022

Survey Month	Date	Sunset Time	Max Wind speed (mph)	Rain (inches)	Average Day Temp °C
July 2022	21/07/2022	21:04	13	0	20
	22/07/2022	21:03	8	0	19
	23/07/2022	21:02	12	0	21
	24/07/2022	21:00	14	1	20
	25/07/2022	20:59	14	0	20
August 2022	11/08/2022	20:30	8	0	32
	12/08/2022	20:28	9	0	30
	13/08/2022	20:27	9	0	32
	14/08/2022	20:25	5	0	31
	15/08/2022	20:23	8	0	28

13.111. In summary, (full results **Appendix 13.3**) a total of six confirmed bat species were recorded by the automated detectors deployed across the Site in 2021, the majority of the recordings were made by common and soprano pipistrelle bats. Brown long eared, noctule, nathusius' pipistrelle and myotis bats were also recorded.

13.112. A total of eight confirmed bat species were recorded by the automated detectors deployed across the Site in July and August 2022, the majority of the recordings were made by common and soprano pipistrelle bats. Brown long eared, nathusius' pipistrelle, noctule, leisler, serotine and myotis bats were also recorded.

13.113. A summary of the number of passes recorded by each species during each automated bat detector survey is provided in **Tables 13.11 to 13.13**.

Table 13.11: Results of Automated Detector Surveys October 2021

Recording Period and Location	Common Pipistrelle	Soprano Pipistrelle	Nathusius' Pipistrelle	Noctule	Brown Long Eared	Nyactulus Species	Myotis Species	Total no. of Bat Passes
04/10/2021 – 08/10/2021 Detector located on top of the northern boundary wall adjacent to the River Thames under the Budweiser sign at grid reference TQ 2044276093	511	576	-	3	1	1	2	<b>1095</b>
04/10/2021 – 08/10/2021 Detector located on top of the northern boundary wall adjacent to the River Thames to the east of the Site at grid reference TQ2063376025	139	99	1	5	-	1	1	<b>246</b>
04/10/2021 – 08/10/2021 Detector located to the west of the Site and on a tree at grid reference TQ2030076112	56	42	-	1	1	1	-	<b>101</b>
<b>Total</b>	<b>706</b>	<b>717</b>	<b>1</b>	<b>9</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>1441</b>

Table 13.12: Results of Automated Detector Surveys July 2022

Recording Period and Location	Common Pipistrelle	Soprano Pipistrelle	Nathusius' Pipistrelle	Noctule	Leisler	Serotine	Brown Long eared	Nyactulus Species	Myotis Species	Total no. of Bat Passes
21.07.22 to 24.07.22* Detector located on top of the northern boundary wall adjacent to the River Thames under the Budweiser sign at grid reference TQ 2044276093	1700	2409	-	2	1	1	5	18	-	<b>4237</b>
21.07.22 to 26.07.22 Detector located on top of the northern boundary wall adjacent to the River Thames to the east of the Site at grid reference TQ2063376025	628	417	1	15	-	-	-	-	4	<b>1065</b>
27.07.22 to 31.07.22** Detector located on a tree at grid reference TQ20237600 at the north of Watney's Sports Ground in 2022*	-	-	-	-	-	-	-	-	-	
<b>Total</b>	<b>2328</b>	<b>2826</b>	<b>1</b>	<b>17</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>18</b>	<b>4</b>	<b>5302</b>

\*No recordings made on the night of the 25<sup>th</sup> July due to technical issues

\*\*\*Automated detector failed to record due to technical issues

Table 13.13: Results of Automated Detector Surveys August 2022

Recording Period and Location	Common Pipistrelle	Soprano Pipistrelle	Pipistrellus sp.	Nathusius' Pipistrelle	Noctule	Leisler	Serotine	Brown Long eared	Nyactulus Species	Myotis Species	Total no. of Bat Passes
10.08.2022-15.08.2022 Detector located on top of the northern boundary wall adjacent to the River Thames under the Budweiser sign at grid reference TQ 2044276093	5205	1597	8	-	8	5	-	12	22	2	<b>6856</b>
11.08.2022-15.08.2022 Detector located on top of the northern boundary wall adjacent to the River Thames to the east of the Site at grid reference TQ2063376025	1489	423	-	1	11	-	2	-	-	17	<b>1943</b>
11.08.2022-15.08.2022 Detector located on a tree at grid reference TQ20237600 at the north of Watney's Sports Ground in 2022	398	293	-	2	16	-	1	3	-	4	<b>716</b>
<b>Total</b>	<b>7092</b>	<b>2313</b>	<b>8</b>	<b>3</b>	<b>35</b>	<b>5</b>	<b>3</b>	<b>15</b>	<b>22</b>	<b>23</b>	<b>9515</b>

- 13.114. Given the results of the bat activity and automated surveys undertaken in 2021 and 2022 it is assessed that the habitats at the Site and adjacent to (i.e. the River Thames) to the northern boundary of the Site are used by urban bat species common and soprano pipistrelle typically associated to be non-light sensitive. It is noted that species including long-eared, noctule, *Nyctalus* species and myotis species were also recorded however these were in very low numbers (passes recorded).
- 13.115. The results of the bat activity and automated survey has demonstrated that bat activity is low at the Site and adjacent to the northern boundary of the Site. Nonetheless, bat species were recorded in good diversity. with eight confirmed species. Due to this diversity and with reference to the criteria for valuing commuting routes and foraging areas<sup>16</sup> for ecological impact assessments foraging and commuting bats at the Site (but specifically at the northern boundary of the Site adjacent to the River Thames) are therefore assessed to be of **Regional** value.

## Birds

- 13.116. As a result of the PEA (**Appendix 13.1**) numerous bird records were returned from the ecological data search within 2km of the Site, with the most recent records of reed bunting, herring gull, common tern, swift, pochard and song thrush in 2020 and tawny owl in 2021.
- 13.117. The black redstart survey undertaken in 2016 determined that this species was absent from the Site. During the survey 33 other species of bird were recorded on, adjacent to or overflying the Site (during the five surveys undertaken). Of these, 22 species were recorded on the Site itself (excluding species seen flying over the Site only). These included three species that are classified as BTO Conservation Red Listed; herring gull, grey wagtail *Motacilla cinerea* and common starling, and three species that are BTO Conservation Amber Listed; black-headed gull *Chroicocephalus ridibundus*, lesser black-backed gull *Larus fuscus* and stock dove *Columba oenas*.
- 13.118. Two SoPI listed birds were recorded on the Site itself; herring gull and common starling with two further SoPI species, dunnock and song thrush, being recorded outside the Site boundary. Common kingfisher *Alcedo atthis* (Schedule 1 and Annex 1) and common tern *Sterna hirundo* (Annex 1) were recorded outside the Site, along the River Thames. A single RBAP species, song thrush, was recorded adjacent to the Site. Three species were recorded breeding on Site (carrion crow, feral pigeon and grey wagtail all a single breeding pair).
- 13.119. The data search returned three non-confidential records of black redstart within 2km of the Site, with the closest record located 1.8km (1999) east of the Site.
- 13.120. Black redstart is a species fully protected under Schedule 1 of the WCA and is the subject of a SAP in the LES. It is considered that the majority of the existing buildings at the Site still offer limited suitable nesting habitat for black redstarts owing to their structure. Areas of wasteland vegetation, usually typical of brownfield sites, are the optimal foraging habitat for black redstarts. The sparse patches of ephemeral vegetation / gravel present at the Site are not considered extensive enough to provide suitable foraging habitat for black redstart. However, the River Thames which lies adjacent to the northern boundary of the Site is known to be an important habitat corridor for black redstarts in London.

- 13.121. The data search returned 5 confidential records of peregrine falcon *Falco peregrinus* within 2 km of the Site. Given the confidential nature of the records, the London Peregrine Partnership (LPP) was contacted on 28<sup>th</sup> September 2021 to determine if they are aware of any records of breeding peregrines (or other records) in the local area (2km). The LPP responded on the same day and detailed that there are no records of breeding pairs in the local area, either recent or historical. In addition, the LPP also stated that there are records of a pair roosting on Saint Matthias Church (2.5km to the south west of the Site) during the past few years, and sightings this year of at least one bird on Holy Trinity Church (2km to the south west of the Site). In addition, a nesting tray has now been installed at St Matthias, but it has not yet been made use of.
- 13.122. Peregrine falcon is a species fully protected under Schedule 1 of the WCA and is the subject of a SAP in the RBAP and is listed on the LES. Peregrines breed on tall buildings (typically 20m-200 m above ground level<sup>17</sup>) which have suitable ledges for nesting.
- 13.123. Although tall buildings exist on-Site, the majority of these buildings are of simple warehouse style construction. However, building B9 the Maltings is approximately 18-20 m in height and a tower associated with B17 is approximately 30-35m in height that could provide suitable opportunities for peregrines.
- 13.124. On 4<sup>th</sup> October 2021 a single peregrine falcon was heard calling from the direction of building B3 during the day and then during an evening emergence survey on the same day at building B9 the Maltings, a single peregrine falcon was observed entering the south west corner (7 storeys high). The bird was recorded entering building B9 through a gap in the wooden boarding 20 minutes post sunset, just as light was fading. The bird was not observed to have re-emerged from the building for the remainder of the bat survey by any of the four surveyors that surrounded the building. It is assessed that given this is the only evidence / sighting of peregrine falcon at the Site during a six-year period (when ecologists have been on Site undertaking various surveys in support of the previous planning applications) and given the results of the data search, as extended through consultation with London Peregrine Partnership, that the peregrine recorded entering building B8 has only recently started to roost at the Site and it is unlikely that a breeding pair have taken residence.
- 13.125. As a result of the peregrine falcon and breeding bird surveys undertaken at the Site in 2022 (refer to **Figures 13.8-13.10**), peregrine falcons are likely to be absent from the Site, however breeding feral pigeons have been confirmed at building 3. In addition, feral pigeon nesting was confirmed at building 6, 8, 9 the Maltings and 17 and other activity (perching flying in/out etc) confirmed at buildings 3, 4, 5, 12 and 13. Grey wagtail were recorded signing and lesser black backed gull perching on/from the roof of building.
- 13.126. Bird interest at the site was limited with a total of 12 bird species recorded that were seen either on or immediately adjacent to the Site (those flying over the Site were not recorded) with S41 and red list species including house sparrow and starling and amber list species including lesser black-backed gull, wood pigeon, wren, grey wagtail. No black redstart were recorded during the 2022 surveys.
- 13.127. The general bird usage on Site with only three species recorded to be breeding as part of the 2016 and 2022 survey, is assessed to be of **Site** value. However, due to the presence of the



recorded roosting peregrine on Site (single bird in 2021), the Site is assessed to be of **Local** value to birds.

### Terrestrial Invertebrates

- 13.128. During the PEA (**Appendix 13.1**) numerous invertebrate species records were returned from the ecological data search from within 2km of the Site.
- 13.129. The ornamental planting and trees recorded on Site are likely to offer opportunities for common species of invertebrates. However, owing to the extent of these habitats and species diversity recorded, it is considered unlikely that they would support any large populations or notable species assemblages.
- 13.130. Terrestrial invertebrates are assessed to be of **Site** value.

## Baseline conditions summary

13.131. In summary, the ecological features either scoped in to (and therefore qualifying as IEFs) or out of this assessment are detailed in **Table 13.14**.

Table 13.14: Ecological Features Scoped in / out of the Assessment

Ecological Feature	Geographical Scale	Scoped In or Out?
Statutory Designated Sites (Richmond Park SAC and Wimbledon Common SAC)	European	In
Statutory Designated Sites (Richmond Park NNR and SSSI)	National	In
Non-Statutory Designated Sites (River Thames and Tidal Tributaries SMI)	Regional	In
Non-Statutory Designated Sites (Kew Meadow Path SBI)	District	In
Non-Statutory Designated Sites (North Sheen and Mortlake Cemeteries SLI and Old Mortlake Burial Ground SLI)	Local	In
Buildings	Negligible	Out
Hardstanding	Negligible	Out
Bare ground	Negligible	Out
Wall	Site	Out
Fence	Negligible	Out
Ornamental Planting	Site	Out
Trees	Site	Out
Amenity Grassland	Site	Out
Hedgerows	Site	Out
River Thames	Regional	In (assessed under Non-Statutory Designated Sites)
Roosting Bats	Local	In
Foraging and Commuting Bats	Regional	In
Birds (Peregrine Falcon Only)	Local	In
Terrestrial Invertebrates	Site	Out

## Limitations

- 13.132. It should be noted that the building numbering referred to in this Chapter and the Supplementary Protected Species Report (**Appendix 13.3**) has now been amended to align with system used for the planning submission (**Figure 3.1**). This system therefore supersedes the numbering system used in **Appendix 13.1, Appendix 13.2, Appendix 13.4 and Appendix 13.5**.
- 13.133. Given the results of the Internal PRA review, it is assessed that the results of the PRA undertaken as part of the PEA (**Appendix 13.1**) are still valid and do not present a significant constrain given the supplementary surveys (evening emergence and/or pre-dawn re-entry and the use of automated detectors) undertaken.
- 13.134. During the evening emergence survey at building 10/11 on the 27<sup>th</sup> June 2022 no access was possible to the Site side of the building. Instead, the survey was undertaken from the adjacent road and from vantage points through the locked gate adjacent to the security building. As a result of this constraint an additional evening emergence survey was undertaken on the 2<sup>nd</sup> August 2022 at the PRFs not covered by the survey on the 27th June 2022.
- 13.135. It should be noted that during the surveys in 2022 at building B9 the Maltings the tree line at the Site's northern elevation slightly limited visibility. However, as surveyors were positioned in opposite locations and a dawn survey was also carried out, the risk of any emergences or re-entries being missed was reduced. Therefore, this is not considered to be a significant limitation.
- 13.136. The northern boundary wall inspections in 2021 and 2022 were undertaken as an alternative method to evening emergence/pre-dawn re-entry surveys. This was due to the associated number of surveyors that would be required to ensure full survey coverage due to the number of PRFs recorded. However, where a full endoscope inspection of a PRF could not be undertaken an evening emergence / pre-dawn re-entry survey was undertaken in 2021 to ensure a robust survey approach was undertaken.
- 13.137. The automated bat detector located on a tree at grid reference TQ20237600 at the north of Watney's Sports Ground failed to record in July 2022 due to technical issues. However, and given the number of automated detectors deployed and that recordings were collated in October 2021 and August 2022 this is not assessed to be a significant constraint to the assessment.
- 13.138. Although the automated bat detector deployed in July 2022, on top of the northern boundary wall adjacent to the River Thames under the Budweiser sign at grid reference TQ 2044276093 was set to record for a 5 night period only 4 nights worth of data was recorded. However, the loss of one nights worth of data is not assessed to be a significant constraint to the assessment.
- 13.139. It should be noted that the activity survey undertaken in October 2021 did not start at the time of sunset (18:32) but 20 minutes after (18:51), this does not comply with the recommended start times of activity surveys. However, the loss of 20 minutes' worth of data is not assessed to be a significant constraint to the assessment.
- 13.140. When undertaking the bat recordings data analysis it should be noted that there is considerable crossover between echolocation calls within British bat species<sup>18</sup>. Given the close parameters of the frequency range of the calls of certain bat species, analysis of bat calls from the group *Myotis* is fraught with difficulties. Whilst slope, call duration and inter-pulse intervals have been used as indicators to separate *Myotis* calls from frequency modulated *Pipistrellus* calls, for the purposes of

this assessment, identification has only been made down to the group *Myotis* level. Both Frequency Modulation (FM) -qCF (quasi Constant-frequency calls) and qCF parameters are provided within Russ for identifying *Nyctalus* species, however there is a large amount of crossover between the parameters of the *Nyctalus* species. The lower frequency vocalisation calls of noctule bats can be differentiated from Leisler's *Nyctalus leisleri* as the Leisler's bat does not echolocate below 20.9 kHz. However, as there is crossover between the parameters of vocalisations above this frequency, Leisler's bats can be particularly difficult to differentiate from noctule and where this has occurred identification has been made to the group *Nyctalus* level. In addition, any recordings of long-eared bats have been noted as being of brown long-eared given the location of the Site.

- 13.141. As part of the peregrine falcon and breeding bird surveys internal access was restricted at buildings 2, 3, 4, 5, 7, 8, 9 (the Maltings), 13, 17 and 18 as the buildings due to structural integrity concerns. Instead, vantage points were sought during the surveys to record bird behaviour.
- 13.142. As part of the Protected Species Report (**Appendix 13.2**), no bat activity surveys were undertaken with regard to the area at Chalkers Corner. This is due to the high level of associated street lighting present within this area and, therefore, any associated bat activity is likely to be on an infrequent and opportunistic basis from common species of bats adapted to urban environments. As such, it is considered that any adverse effects upon foraging and commuting bats as result to Section 278 (S278) highways works to Chalkers Corner would be not significant.

#### [Impact Assessment](#)

##### [Demolition and Construction](#)

- 13.143. During the demolition and construction phase, the assessment considers potential direct and indirect effects brought about by the Development as a result of:
- Habitat loss;
  - Disturbance; and
  - Pollution events.

##### [Completed Development](#)

- 13.144. During the completed phase, the assessment considers potential direct and indirect effects brought about from the Development as a result of:
- Habitat provision;
  - Disturbance;
  - Pollution events; and
  - Overshadowing.

## Assessment of Likely Significant Effects

### The Works

#### Statutory Designated Sites

##### Richmond Park SAC, NNR, SSSI and Wimbledon Common SAC

##### *Direct and Indirect Effects*

- 13.145. During the demolition and construction phase of the proposed Development no significant effects (direct or indirect) are anticipated to both SACs the NNR and SSSI.
- 13.146. This is consistent with the formal EIA scoping response received on the 30<sup>th</sup> June 2017 as part of the 2018 Planning Applications. As part of this response both LBRuT and NE stated that the proposed Development is unlikely to affect statutory designated sites as based on the proposed Development information provided or the proposed Development Site being outside of the geographical 'buffer' area within which developments are likely to affect designated sites.
- 13.147. It is noted that NE go on to state that due to the specific nature of a development proposal impacts can arise at a greater distance than is encompassed by NE's buffers, however given that the proposed Development as part of this planning application is still for a residential mixed use development and that the scale is similar the need for any additional assessment of effects is not required.
- 13.148. As such, the likely effect would be **not significant**.

#### Non-Statutory Designated Sites

##### River Thames and Tidal Tributaries SMI, Kew Meadow Path SBI, North Sheen and Mortlake Cemeteries SLI and Old Mortlake Burial Ground SLI

##### *Direct Effects*

- 13.149. During the demolition and construction phase of the proposed Development up to three drainage connections are to be made, through existing or new outfalls, to the River Thames (and so the River Thames and Tidal Tributaries SMI).
- 13.150. The surface water outfalls are proposed to facilitate drainage of surface waters from the northern areas of the Site, which currently drain into the River Thames (refer to **Chapter 12: Surface Water Drainage and Flood Risk** for further information). These may use existing outfalls or be newly constructed, or a combination of these approaches, the new connections are to be provided to enable attenuation of flows and pollution control measures to be incorporated. Spillways will also be required to control the erosion of the foreshore but will result in minimal land take.
- 13.151. Further details will be provided as the detailed drainage design is developed, and it is anticipated that a condition requiring details of outfalls shall be attached to any planning consent to ensure the outfalls result in insignificant impacts to the River Thames.

- 13.152. The habitat in the location of the proposed outfalls and associated spillways at the riverbank is heavily modified, being reinforced by stone and concrete and as the spillways will result in minimal land take (but required to protect the remaining foreshore), no significant effects to the SMI are anticipated.
- 13.153. The boundary of the S278 works (to improve the Chalkers Corner Junction) encroaches into the adjacent North Sheen and Mortlake Cemeteries SLI, however, the Works will be confined to the existing B306 Lower Richmond Road and as such no significant effects to the SLI are anticipated.
- 13.154. Given the proposed Works and the distances involved no significant effects are anticipated to the other non-statutory designated sites.
- 13.155. As such, the likely effect would be **not significant**.

#### *Indirect Effects*

- 13.156. During the demolition and construction phase of the proposed Development, indirect effects are anticipated at the River Thames and Tidal Tributaries SMI located directly adjacent to the Sites northern boundary and North Sheen and Mortlake Cemeteries SLI. The remaining non-statutory Sites are assessed to be too far removed for the Site in an urban environment to be subject to any indirect effects as a result of the proposed Development.
- 13.157. There would potentially be an increase in dust, noise pollution, and vibration from demolition and construction activities (refer to **Chapter 9: Noise and Vibration** and **Chapter 10: Air Quality**) which has a low risk of disturbing faunal species and coating plant leaves within the adjacent River Thames and Tidal Tributaries SMI and the adjacent North Sheen and Mortlake Cemeteries SLI. In addition, there could be an increase in light spill from temporary artificial lighting installed to facilitate the Works.
- 13.158. As detailed in **Chapter 11: Ground Conditions and Contamination** and **Chapter 5: The Proposed Development**, the new flood wall would be formed within the north of the Site. This would comprise a sheet pile wall extending to -1m Above Ordnance Datum (AOD). Such intrusive works may mobilise contamination in the made ground and create a pollutant pathway for contaminants to migrate to and impact the SMI. The risk to the River Thames and Tidal Tributaries SMI is therefore increased due to piling works for the flood wall works, in comparison to activities undertaken within the wider Site. In addition, the construction of up to three outfalls and the associated spillways may also cause pollution events.
- 13.159. In the absence of mitigation, indirect effects such as dust, noise, vibration, surface water run-off and lighting may occur during the Works. The likely significant effect to the River Thames and Tidal Tributaries SMI and North Sheen and Mortlake Cemeteries SLI would be **Adverse** and at a **Significant** level.

#### *Roosting Bats*

#### *Direct Effects*

- 13.160. The Works have the potential to directly impact upon the bat roost present within the building B9 the Maltings and the southern boundary wall which could result in the destruction of the roost. The bat roost at tree T75 will be retained and will have a multi-use games area (MUGA) and soft



landscaping constructed in proximity. The likely significant effect to roosting bats would be **Adverse** and at a **Significant** level.

*Indirect Effects*

- 13.161. Prior to the potential destruction of the roosts, the roost present within building B9 the Maltings the southern boundary wall and at the retained roost at tree T75 also has the potential to be indirectly affected by the Works, through effects such as noise, dust arisings, vibration and lighting. The likely significant effect to roosting bats would be **Adverse** and at a **Significant** level.

**Foraging and Commuting Bats**

*Direct Effects*

- 13.162. Bats using the Site and the northern boundary of the Site and directly adjacent to the River Thames for foraging and commuting are considered unlikely to be directly affected during the Works. The works to facilitate the outfalls and the associated spillways at the River Thames will be minimal in area and whilst some pruning of understorey vegetation (treeline along the towpath) will be undertaken to open key views, the works are minimal and would not have a significant effect on bats. The loss of habitats within the remainder of the Site would not adversely impact bats given their limited value to the species. As such, the likely effect would be **not significant**.

*Indirect Effects*

- 13.163. In the absence of mitigation, indirect effects to foraging and commuting bats along the River Thames including disturbance via increased noise and vibration, and lighting is likely to occur given the works to the northern boundary wall and the outfalls and associated spillways. Whilst it is proposed that the Works would be undertaken during daylight hours and therefore unlikely to affect bats, should night-time working be required, the effects of this would be **Adverse** and at a **Significant** level.

**Birds (Peregrine Falcon Only)**

*Direct Effects*

- 13.164. The Works have the potential to directly impact upon peregrine falcon roost (used by a single bird) present within building B9 the Maltings as recorded in 2021 which could result in the destruction of the roost should the bird be present. The likely significant effect to peregrine falcon would be **Adverse** and at a **Significant** level.

*Indirect Effects*

- 13.165. The peregrine falcon present within building B9 the Maltings as recorded in 2021 also has the potential to be indirectly affected by the Works should the bird be present, through effects such as noise, dust arisings, vibration and lighting. The likely significant effect to peregrine falcon would be **Adverse** and at a **Significant** level.

## Completed Development

### Statutory Designated Sites

#### Richmond Park SAC, NNR, SSSI and Wimbledon Common SAC

##### *Direct and Indirect Effects*

- 13.166. During the completed phase of the proposed Development no effects (direct or indirect) are anticipated on both the SACs, NNR and SSSI.
- 13.167. As detailed above, the assessment of no (direct or indirect) effects is consistent with the formal EIA scoping response received on the 30<sup>th</sup> June 2017 as part of the 2018 Planning Applications. As part of this response both LBRuT and NE stated that the proposed Development is unlikely to affect statutory designated sites based on the proposed Development information provided and / or the proposed Development Site is located outside of the geographical 'buffer' area within which developments are likely to affect designated sites.
- 13.168. It is noted that NE go on to state that due to the specific nature of a development proposal's impacts can arise at a greater distance than is encompassed by NE's buffers, however, given that the proposed Development remains as a residential mixed use development and that the scale is similar, the need for any additional assessment of effects is not required.
- 13.169. As such, the likely effect would be **not significant**.

#### Non-Statutory Designated Sites

##### River Thames and Tidal Tributaries SMI, Kew Meadow Path SBI, North Sheen and Mortlake Cemeteries SLI and Old Mortlake Burial Ground SLI

##### *Direct Effects*

- 13.170. The completed phase of the proposed Development is not anticipated to affect the non-statutory sites. As such, the likely effect would be **not significant**.

##### *Indirect Effects*

- 13.171. During the completed phase of the Development, the River Thames and Tidal Tributaries SMI could potentially be adversely impacted by increased public disturbance as a result in a change in surrounding land use. However, the River Thames is already well used for recreational purposes, including heavy usage of boats adjacent to the northern boundary of the Site, and as such the effect is considered to be insignificant. Furthermore, the provision of green space within the Development design would provide amenity space for the future residents.
- 13.172. As detailed in the indicative lighting strategy prepared by Michael Grub Studio (submitted as a standalone document in support of the planning applications), the proposed river terrace would be subject to low level lighting. High level lighting has been avoided in this part of the Site so that light spill upon the River Thames and Tidal Tributaries SMI is avoided. A small amount of lighting would be installed to illuminate the steps that lead down to the towpath for safety reasons. The

internal lighting for the buildings fronting the river has not been designed at this stage. The uses on ground floor are flexible with residential uses on upper floors. The final lighting design will be mindful of light spill to the river and tree canopies with lighting designed in compliance with the guidance published by the Institute of Lighting Professionals (ILP). Up lighting will be avoided. Furthermore, the floodlighting for the proposed sports pitch would be suitably controlled and be located sufficiently far from any designated sites to have a significant effect.

- 13.173. As detailed in **Chapter 18: Daylight, Sunlight, Overshadowing and Light Pollution**, the results of the sunlight amenity assessment has shown that all amenity areas surrounding the Site would experience direct sunlight across more than 50% of their area for 2 hours or more on the 21st of March or see a reduction of less than 20% from the existing level. The Development does cause some shadow to the towpath, however, it should be noted that the existing buildings on Site already cause a level of overshadowing in the afternoon. The buildings within the proposed Development (East of Ship Lane) have been designed to have gaps facing onto the towpath in order to allow a good level of direct sunlight to penetrate. As such, levels of overshadowing would be less than in the baseline condition at specific times during the day.
- 13.174. As detailed in **Chapter 11: Ground Conditions and Contamination**, the proposed Development does not propose any land uses that would be classified as hazardous. In addition, the drainage system would be designed to incorporate drainage solutions such as interceptors, filters or silt traps to avoid the discharge of any fuels or oils associated with the three proposed surface water drainage outfalls to the River Thames (refer to **Chapter 12: Water Resources and Flood Risk**). Such inherent design features of the Development would likely reduce the silt and oil deposition into the River Thames when compared to the existing situation.
- 13.175. As such, the likely effect would be **not significant**.

#### Roosting Bats

##### *Direct Effects*

- 13.176. The completed Development is not anticipated to have a direct impact on roosting bats as the bat roosts present within building B9 the Maltings and at the southern boundary wall would have been removed. The roost at tree T75 will be retained so direct effects will not occur.
- 13.177. As detailed in **Chapter 5: The Proposed Development**, artificial bat roosting habitats would be provided in the proposed Development, as embedded mitigation inherent to the scheme design. The Site would include a minimum of ten bat roosting features.
- 13.178. In view of the above, the completed Development would have a **beneficial** effect on roosting bats.

##### *Indirect Effects*

- 13.179. The completed development is not anticipated to have an indirect impact on roosting bats as the bat roosts present within building B9 the Maltings and at the southern boundary wall would have been removed. In addition, and whilst the bat roost at tree T75 is to be retained it will have a multi-use games area (MUGA) and soft landscaping constructed in proximity and an increase in disturbance levels are not anticipated. Tree T75 is currently located to the south of Watney's Sports Ground that is already subjected to human disturbance (similar to that a MUGA will produce) and is directly adjacent to Lower Richmond Road (A3003) that is already subjected to

high levels of traffic disturbance and street lighting. Any additional lighting for the MUGA will however be controlled by the indicative lighting strategy as detailed above to ensure no significant increase of existing levels at the roost site or along the treeline.

13.180. The ten bat roosting features will be located in close proximity to the River Thames and or other green infrastructure (commuting and foraging resource) where lighting levels will be controlled by the indicative lighting strategy as detailed above.

13.181. As such, the likely effect would be **not significant**.

#### Foraging and Commuting Bats

##### *Direct Effects*

13.182. The completed Development is not anticipated to have a direct impact on existing foraging and commuting bats using the northern boundary of the Site given the retention of trees along the tow path at this part of the Site.

13.183. As detailed in **Chapter 5: The Proposed Development**, soft landscaping would be provided in the Development, as embedded mitigation inherent to the scheme design, which would provide enhanced opportunities at the Site for foraging and commuting bats. The Site would include:

- up to 405 new trees and up to 99 individual and 3 tree groups retained;
- hedge planting (1.5 m high) enclosing all ground level residential courtyards east of Ship Lane;
- provision of new trees including the use of native species, or species of benefit to wildlife. This includes planting in areas close to the river edge responding to existing riverside vegetation and grove trees located in the community park south of the proposed school;
- provision of biodiversity roofs, including a mix of green and brown roofs; and
- a green link connecting the River Thames and Mortlake Green.

13.184. In view of the above, the completed Development would have a **beneficial** effect on foraging and commuting bats.

##### *Indirect Effects*

13.185. As detailed above, light spill upon the River Thames would be avoided given the scheme design (retention of the trees along the towpath and the landscape design as detailed above), the lighting strategy And the distance of the proposed floodlighting for the sports pitch. Both the existing sports field and proposed sports pitch hold little habitat value for bats. The proposed floodlighting at this location would, therefore, not result in a significant effect on bats. Given the nature of commuting and foraging bats, it is highly likely that commuting and foraging bats are already commuting between various highly lit areas and are, therefore, well adapted to artificially lit environments. The results of the bat surveys undertaken assessed that the habitats at the Site and along the River Thames, adjacent to the northern boundary of the Site, are used by low numbers of urban bat species typically associated to be non-light sensitive (excluding long-eared and myotis species).

13.186. The likely significant effect to foraging and commuting bats is **not significant**.

### Birds (Peregrine Falcon Only)

#### *Direct and Indirect Effects*

- 13.187. The peregrine falcon roost (used by a single bird) if present within building B9 the Maltings would have been removed. As such, the likely effect would be **not significant**.

### **Mitigation Measures and Likely Residual Effects**

- 13.188. The mitigation measures detailed during the Works and the Completed Development below apply to the important ecological features that have been scoped into this Chapter. Mitigation measures for other ecological features are included in the Supplementary Protected Species Report (**Appendix 13.3**).

#### **The Works**

##### *Statutory Designated Sites*

Richmond Park SAC, NNR, SSSI and Wimbledon Common SAC

##### *Direct Effects*

- 13.189. As no direct effects are anticipated at the demolition and construction phase, mitigation is not required, and the residual effect remains **not significant**.

##### *Indirect Effects*

- 13.190. As no indirect effects are anticipated at the demolition and construction phase, mitigation is not required, and the residual effect remains **not significant**.

##### *Non-Statutory Designated Sites*

River Thames and Tidal Tributaries SMI, Kew Meadow Path SBI, North Sheen and Mortlake Cemeteries SLI and Old Mortlake Burial Ground SLI

##### *Direct Effects*

- 13.191. As no direct effects are anticipated at the demolition and construction phase, mitigation is not required, and the residual effect remains **not significant**.

##### *Indirect Effects*

- 13.192. A Construction Environmental Management Plan (CEMP) would be produced to ensure appropriate environmental controls to protect the River Thames and Tidal Tributaries SMI and North Sheen and Mortlake Cemeteries SLI from dust, noise, vibration, surface water run-off and lighting. As detailed within **Chapter 6: Development Programme, Demolition, Alteration, Refurbishment and Construction**, such protective measures would include:

- the Contractor would minimise disturbance to the River Thames and Tidal Tributaries SMI by minimising noise and dust arisings through the use of environmental screens, water jet suppression, dust monitoring devices and other best working practices;
- no waste materials, including silt laden drainage and spillages, hazardous / contaminated materials, chemicals or fuels shall be allowed to enter the River Thames and Tidal Tributaries SMI through measures such as the use of appropriately tanked and bunded storage areas;
- all construction lighting would be aimed towards the centre of the Site to minimise light spill towards the adjacent River Thames and Tidal Tributaries SMI.; and
- The appropriate and legal removal of the Himalayan balsam Thames (refer to **Figure 13.1** and **Appendix 13.1**) and other invasive plant species away from the River Thames but on Site, as listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), that have been recorded, or are otherwise encountered on Site during the Works.

13.193. With the implementation and adherence to the measures to be detailed in the CEMP, the likely residual effects on non-statutory designated sites during the Works would be **not significant**.

#### Roosting Bats

##### *Direct Effects*

- 13.194. In order to ensure the requirements of legislation are met, and as a requirement of the CEMP, a Natural England European Protected Species (EPS) Licence would be submitted to and approved by Natural England prior to any works which could impact on the bat roosts.
- 13.195. As part of the licence a method statement would set out the sensitive working methodologies required that will be overseen by an Ecological Clerk of Works (ECoW) (licence holder or accredited agent) to allow for roost destruction.
- 13.196. In support of the licence application updated surveys (between May and August) will be undertaken should the existing data become older than 18 months in age at these recorded roost sites. In addition, and should the existing data become older than 18 months in age and prior to works at the remaining buildings, walls and trees on Site, update bat surveys will also be required to determine if roosting bats have taken residence give the highly transient nature of the species and additional Natural England licencing would be required.
- 13.197. The residual effect would remain **Adverse** and at a **Significant** level as replacement roost mitigation will not be provided until the completed development.

##### *Indirect Effects*

- 13.198. Measures to avoid light spill and minimise noise at the roost sites would be set out within the CEMP (as detailed above and in **Chapter 6: Development Programme, Demolition, Alteration, Refurbishment and Construction**) to ensure appropriate environmental controls are set in place to protect the roost from any indirect effects associated with the Works.
- 13.199. The residual effect to bats would therefore be **not significant**.

## Foraging and Commuting Bats

### *Direct Effects*

- 13.200. As no direct effects are anticipated at the demolition and construction phase, mitigation is not required, and the residual effect remains **not significant**.

### *Indirect Effects*

- 13.201. Specifications for external lighting controls would be set out in the CEMP (as detailed above and in **Chapter 6: Development Programme, Demolition, Alteration, Refurbishment and Construction**). Lighting during the demolition and construction works would be designed with consideration to the commuting and foraging habitats along the northern boundary of the Site and adjacent to the River Thames, in order that light levels in these areas would be appropriately controlled. The CEMP would also include measures to minimise noise along the northern boundary of the Site and adjacent to the River Thames.
- 13.202. With the implementation of the mitigation listed above, the likely residual effects during the Works on foraging and commuting bats would be **not significant**.

## Birds (Peregrine Falcon Only)

### *Direct Effects*

- 13.203. Although peregrine falcon were recorded to be absent from the Site in 2022, their presence was recorded in October 2021, roosting in building B9 the Maltings and as such a precautionary approach will be adopted to ensure that any contravention of legislation is avoided.
- 13.204. As a requirement of the CEMP, a series of monitoring visits (including surveys at both ground level and at height subject to safe access being possible) will be undertaken until it can be confirmed that the roosting peregrine is absent from the building. Works will then be undertaken at the building to block access points previously utilised (pending the results of any updated bat surveys as detailed above). Monitoring will continue prior to the demolition and construction works commencing at building B9 the Maltings to ensure the bird does not return to the roost site.
- 13.205. The residual indirect effect to peregrine falcon would remain **Adverse** and at a **Significant** level as replacement roost mitigation will not be provided until the Development is completed. A new permanent roost site would be provided, the design, construction and location of this should be subject to a planning condition, in order that appropriate stakeholder input can be incorporated.

### *Indirect Effects*

- 13.206. As a precautionary approach and to avoid any potential disturbance events as a requirement of the CEMP, the Works at the Site would be timed to commence outside of the main peregrine falcon breeding season (assessed to be between February / March when courtship intensifies to June when the young normally fledge).
- 13.207. The residual effect to peregrine falcon would therefore be **not significant**.



## Completed Development

### Statutory Designated Sites

Richmond Park SAC, NNR, SSSI and Wimbledon Common SAC

#### *Direct Effects*

13.208. The completed Development is considered to have no direct effects on the statutory designated sites, no mitigation is required. As such, the likely residual effect would remain **not significant**.

#### *Indirect Effects*

13.209. The completed Development is considered to have no indirect effects on the statutory designated sites, no mitigation is required. As such, the likely residual effect would remain **not significant**.

### Non-Statutory Designated Sites

River Thames and Tidal Tributaries SMI, Kew Meadow Path SBI, North Sheen and Mortlake Cemeteries SLI and Old Mortlake Burial Ground SLI

#### *Direct Effects*

13.210. As no direct effects are anticipated at the demolition and construction phase, mitigation is not required, and the residual effect remains **not significant**.

#### *Indirect Effects*

13.211. The embedded mitigation and inherent design of the proposed Development would avoid light spill on the River Thames and Tidal Tributaries SMI as well as reduce silt and oil deposition. The massing of the completed Development would also not result in any significant overshadowing effects on the River Thames and Tidal Tributaries SMI and towpath. Furthermore, the provision of green space within the proposed Development would provide amenity space for the future residents, alleviating pressure on the adjacent non-statutory sites. The likely residual effect on the River Thames and Tidal Tributaries SMI would therefore remain **not significant**.

### Roosting Bats

#### *Direct Effects*

13.212. As embedded mitigation as part of the inherent design of the proposed Development would provide suitable roosting opportunities for bats in the form of 10 roosting features, the residual effects remain **beneficial**.

#### *Indirect Effects*

13.213. The bat roosting features will be located in close proximity to the River Thames and or other green infrastructure (commuting and foraging resource) where lighting levels will be controlled by the previously mentioned lighting strategy. In addition, mitigation in the form of a Landscape and

Environment Management Plan (LEMP), will be provided to ensure the roosting features provided have the best possible chance of uptake. The LEMP will also ensure that measures are put in place for monitoring. The likely residual effects would remain as **not significant**.

#### Foraging and Commuting Bats

##### *Direct Effects*

- 13.214. As embedded mitigation as part of the inherent design of the proposed Development would provide soft landscape of value to foraging and commuting bats and avoid light spill on the River Thames the residual effects remain **beneficial**.

##### *Indirect Effects*

- 13.215. To ensure the permanence of the foraging and commuting habitats provided within the proposed Development in the long-term a Landscape and Environment Management Plan (LEMP) would be implemented.
- 13.216. Given the implementation of mitigation in the form of a LEMP, the residual effect (both direct and indirect) would remain as **not Significant**.

#### Birds (Peregrine Falcon Only)

##### *Direct Effects*

- 13.217. A peregrine falcon nest box will be incorporated into the proposed Development on the roof of the building B9 the Maltings after the refurbishment works have been completed. This would be subject to a suitably worded planning condition, in order that appropriate stakeholder input can be incorporated
- 13.218. The likely residual effects would be **not significant**.

##### *Indirect Effects*

- 13.219. Mitigation in the form of a Landscape and Environment Management Plan (LEMP), will be provided to ensure the peregrine nesting box has the best possible chance of uptake. The LEMP will ensure no direct lighting of the box and that measure are put in place for monitoring.
- 13.220. The likely residual effects would remain as **not significant**.

## Summary

13.221. **Table 13.15** summarises the likely significant effects, mitigation measures, and likely residual effects identified within this Chapter.

Table 13.15: Summary of Likely Significant Effects, Mitigation Measures and Likely Residual Effects

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
<b>The Works</b>			
Statutory Designated Sites (Richmond Park SAC, Richmond Park NNR and SSSI and Wimbledon Common SAC) – Direct Effects.	Not Significant	No mitigation required.	Not Significant
Statutory Designated Sites (Richmond Park SAC, Richmond Park NNR and SSSI and Wimbledon Common SAC) – Indirect Effects.	Not Significant	No mitigation required.	Not Significant
Non-Statutory Designated Sites (River Thames and Tidal Tributaries SMI, Kew Meadow Path SBI, North Sheen and Mortlake Cemeteries SLI and Old Mortlake Burial Ground SLI) – Direct Effects.	Not Significant	No mitigation required.	Not Significant
Non-Statutory Designated Sites (River Thames and Tidal Tributaries SMI, Kew Meadow Path SBI, North Sheen and Mortlake Cemeteries SLI and Old Mortlake Burial Ground SLI) – Indirect Effects.	Adverse	Implementation of CEMP	Not Significant
Roosting Bats – Direct Effects.	Adverse	Implementation of CEMP (Approved Natural England EPS Licence).	Adverse
Roosting Bats – Indirect Effects.	Adverse	Implementation of CEMP	Not Significant
Foraging and Commuting Bats – Direct Effects.	Not Significant	No mitigation required.	Not Significant
Foraging and Commuting Bats – Indirect Effects.	Adverse	CEMP	Not Significant
Birds – Direct Effects.	Adverse	CEMP	Adverse
Birds – Indirect Effects.	Adverse	CEMP	Not Significant

<b>Issue</b>	<b>Likely Significant Effect</b>	<b>Mitigation Measures</b>	<b>Likely Residual Effect</b>
<b>Completed Development</b>			
Statutory Designated Sites (Richmond Park SAC, Richmond Park NNR and SSSI and Wimbledon Common SAC) – Direct Effects.	Not Significant	No mitigation required.	Not Significant
Statutory Designated Sites (Richmond Park SAC, Richmond Park NNR and SSSI and Wimbledon Common SAC) – Indirect Effects.	Not Significant	No mitigation required.	Not Significant
Non-Statutory Designated Sites (River Thames and Tidal Tributaries SMI, Kew Meadow Path SBI, North Sheen and Mortlake Cemeteries SLI and Old Mortlake Burial Ground SLI) – Direct Effects.	Not Significant	No mitigation required.	Not Significant
Non-Statutory Designated Sites (River Thames and Tidal Tributaries SMI, Kew Meadow Path SBI, North Sheen and Mortlake Cemeteries SLI and Old Mortlake Burial Ground SLI) – Indirect Effects.	Not Significant	No mitigation required.	Not Significant
Roosting Bats – Direct Effects.	Beneficial	Embedded mitigation inherent to the scheme design.	Beneficial
Roosting Bats – Indirect Effects.	Not Significant	Embedded mitigation inherent to the scheme design and LEMP.	Not Significant
Foraging and Commuting Bats – Direct Effects.	Beneficial	Embedded mitigation inherent to the scheme design.	Beneficial
Foraging and Commuting Bats – Indirect Effects.	Not Significant	Embedded mitigation inherent to the scheme design and LEMP.	Not Significant
Birds – Direct Effects.	Not Significant	Provision of peregrine nesting box, to be secured by planning condition.	Not Significant
Birds – Indirect Effects.	Not Significant	LEMP	Not Significant

## **Monitoring**

13.222. The LHMP would provide specifics for monitoring of the habitats and artificial features provided on Site during the complete and operation phase of the Development. An annual report would be provided specifying any remediation actions required.

## References

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- 1 Magic.defra.gov.uk. (2017); Magic. [online] Available at: <http://magic.defra.gov.uk/>
- 2 ODPM (2006); 'Natural Environment and Rural Communities Act (2006)'.
- 3 The London Biodiversity Partnership (2004); 'London Biodiversity Action Plan'.
- 4 London Borough of Richmond upon Thames (2019); 'Biodiversity Action Plan'.
- 5 Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> edn). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1
- 6 Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> edn). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1
- 7 S. Swift (1998). Long-Eared Bats. Poyser Natural History.
- 8 Russ, J., 2012. British bat calls: a guide to species identification. Pelagic publishing
- 9 Russ, J., 2012. British bat calls: a guide to species identification. Pelagic publishing
- 10 Gilbert, G. (2011); 'Bird Monitoring Methods – A manual of techniques for key species'. RSPB.
- 11 CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- 12 Natural England (2006): 'Natural Environment & Rural Communities (NERC) Act 2006'.
- 13 Natural England Joint Publication (2018): 'A review of the Population and Conservation Status of British Mammals'. JP025
- 14 Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> edn). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1
- 15 CIEEM (2010) Valuing Bats in Ecological Impact Assessment. In Practice, Number 70.
- 16 CIEEM (2010) Valuing Bats in Ecological Impact Assessment. In Practice, Number 70.
- 17 Dixon, D & Shawyer, C. Peregrine Falcons: Provision of artificial nest sites on built structures. Advice note for conservation organisations, local authorities and developers.
- 18 Russ, J., 2012. British bat calls: a guide to species identification. Pelagic publishing.