

## 8. ECOLOGY AND NATURE CONSERVATION

### Introduction

- 8.1. This addendum Chapter provides a review and update of changes that have occurred to the Proposed Development and the resultant EIA following the consultation responses received after submission of the Main ES (February 2024). The information has been updated only where changes material to the assessment have occurred. Otherwise, the original information still stands and has not been repeated. This being the case, this ESA should be read in conjunction with the Main ES Chapter 8 (Ecology and Nature Conservation).
- 8.2. This ESA Chapter has been informed by consultation responses and further assessment work undertaken specifically in relation to the production of this Chapter. The points raised in regard to ecology have been fully addressed within the **ESA Appendix 8.1** (ESA Technical Appendix) and have been used to inform the updated detailed assessments and analysis carried out in producing this ESA Chapter. **ESA Appendix 8.2** is an update to the Biodiversity Net Gain (BNG), and **ESA Appendix 8.3** is a draft Habitat Management and Monitoring Plan (HMMP) produced at the request of consultees.
- 8.3. The requested information is summarised in **Table 8.1** below.

**Table 8.1: Summary of requested information from consultees**

Summary of Requested Information	Request Date and Reference	Applicants Response	Addressed in
Further bird surveys, including wintering bird surveys, should be considered.	18 <sup>th</sup> April 2024 – Response, Berkshire, Buckinghamshire & Oxfordshire Wildlife Trust (BBOWT)  April 2024 – Response, Friends of Stratfield Brake (FoSB)  4 <sup>th</sup> June 2024 – Regulation 25 letter, Cherwell District Council (CDC)	Further bird surveys have been undertaken throughout the 2023/2024 winter season and during late summer in 2024, which has evidenced the findings that the Site does not offer significant ornithological value.	ESA Appendix 8.1 – section 2
Insufficient information regarding Great crested newts <i>Triturus cristatus</i>	4 <sup>th</sup> June 2024 – Regulation 25 letter, CDC / Newt Officer, Naturespace.	An additional survey and further information have been provided which has concluded that Great Crested Newts will not be significantly impacted by the proposals. Precautionary measures have been restated.	ESA Appendix 8.1 – section 3

	April 2024 – Response, FoSB		
Further consideration required for invertebrates	4 <sup>th</sup> June 2024 – Regulation 25 letter, CDC  18 <sup>th</sup> April 2024 – Response, BBOWT  April 2024 – Response, FoSB	Further assessment of invertebrate survey results and consideration have been provided. The findings conclude that the habitats on Site are ‘unfavourable’ and not considered to be of high value to the invertebrate groups that occupy them.  Additional specific mitigation and enhancement measures have been detailed in regard to notable invertebrate species identified on Site.	ESA Appendix 8.1 – section 5
Additional botanical survey is requested, and more specific information requested on translocation of rare / notable plant species recorded	4 <sup>th</sup> June 2024 – Regulation 25 letter, CDC  18 <sup>th</sup> April 2024 – Response, BBOWT  April 2024 – Response, FoSB	A botanical survey was undertaken in July 2024 which has provided more detailed assessment of the value of the grassland and willow plantation. The habitats are not of any significant botanical interest. A number of notable plant species have been recorded (already known to Site), with specific mitigation and enhancement measures outlined for the loss of individual plant species.	ESA Appendix 8.1 – section 6  ESA Appendix 8.2
A strong buffer is requested on the woodland adjacent to southern boundary	4 <sup>th</sup> June 2024 – Regulation 25 letter, CDC  18 <sup>th</sup> April 2024 – Response, BBOWT  April 2024 – Response, FoSB	A buffer will be provided for the majority of the woodland edge, with the exception of two pinch points where an access road and part of the car park will encroach into the buffer zone. The lighting strategy outlines specific measures to reduce potential impacts to bats. Noise impacts are not considered to be significant.	ESA Appendix 8.1 – section 4
Further information requested for proposed habitat classifications / conditions in Biodiversity Net Gain assessment	4 <sup>th</sup> June 2024 – Regulation 25 letter, CDC  18 <sup>th</sup> April 2024 – Response, BBOWT  April 2024 – Response, FoSB	The landscape design has been amended in respect of the size of proposed planted trees.  A justification has been provided for the baseline habitat classifications / conditions, and also as to why the pitch has been assigned ‘modified grassland’ in poor condition.  The condition of the grassland within the proposed ‘garden area’ has been re-assessed.  A draft Habitat Management and Monitoring Plan (HMMP) has been produced to provide further information on how proposed habitats will fulfil target criteria.	ESA Appendix 8.1 – section 7  ESA Appendix 8.2  ESA Appendix 8.3
Inclusion of offsite, adjacent ditch along southern boundary	4 <sup>th</sup> June 2024 – Regulation 25 letter, CDC	This has been brought into the BNG assessment.	ESA Appendix 8.1 – section 7  ESA Appendix 8.2 –

Further consideration for reptiles	18 <sup>th</sup> April 2024 – Response, BBOWT  April 2024 – Response, FoSB	Justification has been provided as to why no further reptile surveys are necessary. Reptiles are scoped into the precautionary measures as outlined for Great Crested Newts.	ESA Appendix 8.1 – section 3
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## Legislation and Policy

### **Legislative Context**

- 8.4. There has been no change in relevant legislation and policy since the original ES.
- 8.5. Regarding guidance, there has been no material change in that relevant to the evaluation and assessment of significant effects.

## Assessment Methodology and Significance Criteria

- 8.6. The methodologies employed in relation assessment work within this ESA Chapter follow those described within Chapter 8 (Ecology and Nature Conservation) of the Main ES, which are considered to remain relevant.
- 8.7. The methodology utilised for the updated / additional requested survey work can be seen in the ESA Addendum Ecology Technical Note (ESA-TN) at **ESA Appendix 8.1**.
- 8.8. The significance criteria as set out within the Main ES was used to evaluate the sensitivity of each receptor and magnitude of impact to determine the significance of effects in respect of ecology and nature conservation.

## Updated Baseline Conditions

### **Habitats**

#### **Botanical Survey**

- 8.9. Since the submission of the Main ES, a detailed botanical survey was undertaken in July 2024 which focused on the other neutral grassland and willow plantation habitats on Site. The survey was undertaken to address concerns regarding the importance of these habitats as there were differences between the assessment carried out by Ecology Solutions and by an independent ecologist, Judith A Webb.
- 8.10. Full details of the botanical survey results can be seen within Section 6 of the ESA-TN at **ESA Appendix 8.1**.

- 8.11. The findings conclude that the grassland habitat has no significant affinity to any NVC community, being weakly associated with commonly occurring and widely distributed damp / waterlogged grassland types. It is also still considered that the willow plantation is representative of an arable habitat type and remains classified as such.
- 8.12. Three notable plant species were observed during the botanical survey, including Common Spotted Orchid *Dactylorhiza fuchsii*, Pyramidal Orchid *Anacamptis pyramidalis* and Corn Mint *Mentha arvensis*. Although not recorded by Ecology Solutions, Narrow-leaved Bird's-foot-trefoil *Lotus tenuis* was recorded on Site by an independent ecologist in 2023.

### **Updated Baseline Conditions**

- 8.13. In light of the above, the Willow plantation and other neutral grassland habitat classification remains as outlined within Chapter 8 (Ecology and Nature Conservation) of the Main ES. As such, further assessments for these habitats have been scoped out as no amendments are required to the original assessment. However, further consideration has been given to the potential effects to individual notable plant species within this updated assessment.

### **Biodiversity Net Gain Assessment**

- 8.14. Comments received in regard to the Biodiversity Net Gain (BNG) assessment have been addressed within Section 7 of the ESA-TN at **ESA Appendix 8.1** and within **ESA Appendix 8.2** (Updated BNG Assessment).

### **Fauna**

- 8.15. General observations were made during Ecology Solutions' updated surveys of any faunal use of the Site, with attention paid to the potential presence of protected species. In addition, specific updated surveys have been undertaken for birds, bats and Great Crested Newts.
- 8.16. Full details of the updated faunal survey results can be seen within the ESA-TN at **ESA Appendix 8.1**.
- 8.17. A summary of the results is set out below.

## Birds

### Wintering Bird Surveys

- 8.18. A suite of wintering bird surveys was conducted between October 2023 and March 2024 within the Site and offsite woodland (referred to as the 'study area').
- 8.19. The total count of 28 species recorded within the study area (33 species observed inclusive of those flying overhead), would put the Site and adjacent woodland into the category of Local Importance. This is the lowest level afforded under the methodology by Fuller (detailed in **ESA Technical Appendix 8.1**).
- 8.20. A total of three red-listed species were recorded during the surveys, with a flock of Herring Gull *Larus argentatus* observed to fly over the study area on one occasion and not directly using the study area itself. Low and occasional numbers of two Schedule 1 species and five Priority species were also recorded.
- 8.21. A notably large flock of Golden Plover *Pluvialis apricaria* was observed to fly over the study area but not seen to utilise the study area for foraging / roosting. It is assumed that the flock had left the areas of farmland located to the north-east of the study area and flying toward suitable overwintering habitat located to the west/south-west.
- 8.22. The off-site woodland was observed to be of the highest ornithological value in the context of the habitats found within the study area, with the boundary features also providing value (hedgerows and scrub); however, it is not considered that the study area supports any significant flocks or assemblages of overwintering birds.

### Late Summer Breeding Bird Surveys

- 8.23. Additional late-summer breeding bird surveys were conducted between July and August 2024 across the study area.
- 8.24. Across all breeding bird surveys in 2023 and 2024, a total of 25 species were recorded. When considering the Fuller criteria, this would put the study area into the category of Local Importance. This is the lowest level afforded under this methodology.
- 8.25. An individual Red Listed and Priority species (Yellowhammer *Emberiza citrinella*) was recorded off-site on one occasion only, along Frieze Way in mid-June 2023, but was not observed during the updated surveys in 2024. Priority Species Song Thrush *Turdus philomelos* was also recorded

occasionally in low numbers. Generally, the study area is considered to support a range of commonly occurring bird species with infrequent / low usage from bird species of conservation concern.

#### Updated Baseline Conditions

8.26. The assessment for birds remains that of what is outlined within Chapter 8 (Ecology and Nature Conservation) of the Main ES; that the Site supports an unremarkable ornithological assemblage. As such, breeding / wintering birds have not been included for any further assessment within this ASA Chapter.

### **Great Crested Newts**

#### eDNA Surveys

8.27. In light of the comments received, further consideration was given to the ditches on site and whether they could have capacity to support the aquatic phase of Great Crested Newts. A site visit was therefore undertaken in June 2024 to carry out an eDNA survey on any ditches found to be wet.

8.28. All of the ditches on Site were observed to be dry. Water samples therefore could not be collected, and the ditches considered unsuitable for the aquatic phase of Great Crested Newts. These ditches have not been observed to hold sufficient levels of water during the surveys conducted between 2022-2024 and have generally been recorded as dry / damp during the breeding season.

8.29. Given the distances of the closest ponds to the triangle Site (and the major dispersal barriers) it is still not considered that Great Crested Newts would likely be present within the triangle area of the Site.

8.30. It is also considered unlikely that Great Crested Newts would be present within the proposed highway works area as the habitats are isolated and next to a heavily used road and pedestrianised area (Oxford Parkway).

#### Updated Baseline Conditions

8.31. It is not considered that any additional consideration for Great Crested Newts is required further than what has already been addressed within Chapter 8 (Ecology and Nature Conservation) of the Main ES. As such, Great Crested Newts have not been included for any further assessment within this ESA Chapter.

## **Bats**

- 8.32. In order to update survey information and address concerns raised, further bat survey work has been carried out. Specifically, additional static monitoring surveys were conducted between August and October 2024 and a ground-level tree assessment (GLTA) was conducted on the trees observed to have roosting potential in July 2024.

### Ground Level Tree Assessment

- 8.33. The updated GLTA observed trees T1 and T2 (Figure 8.9, **ESA Appendix 8.1**) to still have roosting potential for bats. As part of the latest layout changes, these trees will now be retained as the proposed access along the western boundary has since moved further north.

### Static Monitoring Surveys

- 8.34. A peak total of nine bat species were recorded to utilise the Site during 2024 surveys, which were largely associated with the woodland boundary and eastern boundary. The majority of registrations occurred from Common Pipistrelle, with very low / occasional registrations occurring from more light-sensitive, rare / regionally restricted species such as Barbastelle *Barbastella barbastellus*

### Updated Baseline Conditions

- 8.35. The findings from the updated static monitoring surveys were similar to what was recorded previously, and Chapter 8 (Ecology and Nature Conservation) of the Main ES provides sufficient regard to general Site usage from bats. However, additional consideration is given within this updated assessment to bats specifically utilising the woodland edge, as requested by consultees.

## **Invertebrates**

- 8.36. Further consideration for invertebrates has been carried out in response to consultee concerns. Specifically, the results provided by an independent ecologist within their invertebrate survey report has been further analysed utilising the Pantheon database which is a tool developed collaboratively by Natural England and the Centre for Ecology & Hydrology to serve as a robust platform for analysing invertebrate sample data.

### Survey Data Analysis

- 8.37. The results from the Pantheon database show that the habitats present within the Site are all 'unfavourable' and therefore not considered to be of high value to the invertebrate groups that occupy them.

8.38. A number of notable invertebrates have been recorded by Ecology Solutions and an independent ecologist, such as Brown Hairstreak *Thecla betulae*; however, an insufficient number of species were recorded per each habitat and it is therefore not considered that the Site is of significant invertebrate interest.

#### Updated Baseline Conditions

8.39. The notable species observed by an independent ecologist have also been brought into the updated assessment, which include Cinnabar Moth *Tyria jacobaeae*, a picture-wing fly *Myopites inulaedyssentericae*, two beetle species *Paraphotistus nigricornis* and *Variimorda villosa*, and the White-letter Hairstreak *Satyrium w-album* (not recorded on Site but known to the local area).

#### **Updated Sensitivity of Receptors**

8.40. The sensitivity of the above receptors has been set out in **Table 8.2** below. All other receptors remain as set out at Table 8.4 of Chapter 8 (Ecology and Nature Conservation) of the Main ES and have already been considered.

**Table 8.2: Updated summary of receptors and their sensitivity.**

<b>Receptor</b>	<b>Sensitivity</b>
Common-spotted Orchid	Medium
Pyramidal Orchid	Medium
Corn Mint	Medium
Narrow-leaved Bird's-foot-trefoil	Medium
Bats – woodland edge	Medium
Brown Hairstreak	Medium
Cinnabar Moth	Low
<i>Myopites inulaedyssentericae</i>	Medium
<i>Paraphotistus nigricornis</i>	Medium
<i>Variimorda villosa</i>	Medium
White-letter Hairstreak	Low
Common-spotted Orchid	Medium
Pyramidal Orchid	Medium

#### **Updated Potential Effects**

8.41. The updated assessment has revisited potential effects on the following receptors: notable plant and invertebrate species recorded within / near to the Site and bats utilising the woodland edge shared with the southern Site boundary. Only the potential effects that are required to be updated have been included within this ESA, so this should be read alongside Chapter 8 (Ecology and Nature Conservation) of the Main ES.

## **During Construction**

### **Habitats**

#### Notable Plant Species

- 8.42. Revisited Impacts: Potential damage to retained habitats where notable plant species have been recorded, including Common-Spotted Orchid, Pyramidal Orchid and Corn Mint, and Narrow-leaved Bird's-foot-trefoil (recorded by an independent ecologist).

*Prior to mitigation, impacts on notable plant species are adverse at the site level and are of Medium sensitivity, Medium magnitude and of **Moderate significance**.*

### **Fauna**

#### Notable Invertebrates

- 8.43. Revisited Impacts: Loss of suitable habitat for notable species including a picture-wing fly species, two beetle species, two butterfly species and a moth species.

*Prior to mitigation, impacts on Brown Hairstreak are adverse at the site level and of Medium sensitivity, Medium magnitude and of **Moderate significance**.*

*Prior to mitigation, impacts on Cinnabar Moth are adverse at the site level and of Low sensitivity, Medium magnitude and of **Minor significance**.*

*Prior to mitigation, impacts on *Myopites inulaedyssentericae*, *Paraphotistus nigricornis* and *Variimorda villosa* are adverse at the site level and of Medium sensitivity, Medium magnitude and of **Moderate significance**.*

*Prior to mitigation, impacts on White-letter Hairstreak are adverse at the site level and of Medium sensitivity, Low magnitude and of **Minor significance**.*

## **During Operation**

### **Habitats**

#### Notable Plant Species

- 8.44. Revisited Impacts: Majority loss of where notable plant species have been recorded within Willow plantation and other neutral grassland habitats, including Common-Spotted Orchid, Pyramidal Orchid, Corn Mint and Narrow-leaved Bird's-foot-trefoil (recorded by an independent ecologist).

*Prior to mitigation, impacts on notable plant species are adverse at the site level and are of Medium sensitivity, Medium magnitude and of **Moderate significance**.*

### **Fauna**

#### Bats and the Woodland Edge

- 8.45. Revisited Impacts: The off-site woodland and a strip of adjacent habitat within the Site will be retained and thus continue to provide a commuting / foraging resource for bats. However, encroachment of built-form will occur at two pinch-points of the woodland 'buffer zone' (Figure 8.10, **ESA Appendix 8.1**). Potential disturbance from lighting on this foraging and commuting route during the operational phase.

*Prior to mitigation, impacts are adverse at the Local level and of Medium sensitivity, Medium magnitude and of **Moderate significance**.*

#### Notable Invertebrates

- 8.46. Revisited Impacts: Loss of suitable habitat for notable species including a picture-wing fly species, two beetle species, two butterfly species and a moth species.

*Prior to mitigation, impacts on Brown Hairstreak are adverse at the site level and of Medium sensitivity, Low magnitude and of **Minor significance**.*

*Prior to mitigation, impacts on Cinnabar Moth are adverse at the site level and of Low sensitivity, Medium magnitude and of **Minor significance**.*

*Prior to mitigation, impacts on *Myopites inulaedyssentericae*, *Paraphotistus nigricornis* and *Variimorda villosa* are adverse at the site level and of Medium sensitivity, Medium magnitude and of **Moderate significance**.*

Prior to mitigation, impacts on White-letter Hairstreak are adverse at the site level and of Low sensitivity, low magnitude and of **Minor-Negligible significance**.

## Updated Mitigation Measures and Residual Effects

8.47. A summary of updated mitigation measures are shown in **Table 8.3** below.

**Table 8.3: Summary of updated mitigation measures**

Effect	Receptor	Mitigation
<b>Construction Phase</b>		
Potential damage caused to retained habitats	Notable plants (Common-spotted Orchid, Pyramidal Orchid, Corn Mint and Narrow-leaved Bird's-foot-trefoil)	Production of bespoke 'Orchid and Notable Plant Species Transplantation Strategy' to ensure protection of retained habitats where specimens have been recorded during construction phase or to be transplanted to (e.g. fencing off retained habitats from construction activities).
	Notable invertebrates (Brown Hairstreak, Cinnabar Moth, <i>M. inulaedyssentericae</i> , <i>P. nigricornis</i> , <i>V villosa</i> and White-letter Hairstreak)	Retention and protection of habitats that are of benefit to notable invertebrate species, e.g. fencing off habitats from construction activities.
<b>Operational Phase</b>		
Loss of Willow Plantation and Other Neutral Grassland habitats (and partial losses to hedgerows in respect of invertebrates)	Notable plants (Common-spotted Orchid, Pyramidal Orchid, Corn Mint and Narrow-leaved Bird's-foot-trefoil)	Production of bespoke 'Orchid and Notable Plant Species Transplantation Strategy' which will inform transplantation exercise to ensure continued success of these notable species.
	Notable Invertebrates (Brown Hairstreak, Cinnabar Moth, <i>M. inulaedyssentericae</i> , <i>P. nigricornis</i> , <i>V villosa</i> and White-letter Hairstreak)	Retention and creation of habitats that are of benefit to listed notable invertebrate species.  Inclusion of specific plant species in proposed planting schedule that are of benefit to listed notable invertebrate species.
Potential disturbance on foraging and commuting routes	Bats	Lighting strategy has been created in mind of impacts to bats, with specific measures introduced to reduce lighting impacts.

## **During Construction**

### **Habitats**

#### *Notable Plant Species*

- 8.48. Areas of retained neutral grassland along the southern boundary within the Triangle and where sections of hedgerow will be retained will be fenced off during clearance and construction and will be included within the extended fence lines proposed for retained sections of hedgerows and the off-site woodland. This will allow for partial retention and safeguarding of notable plant species recorded in these areas.
- 8.49. A bespoke 'Orchid and Notable Plant Transplantation Strategy' can be conditioned and implemented during clearance works to ensure a successful and sufficient strategy is agreed. As part of the Transplantation Strategy, the Site will be subjected to a full walkover prior to any clearance works commencing during the optimal botanical period when these species are known to be visible / in flower. Areas where these plants are recorded will be mapped to inform sufficient safeguarding measures from construction activities of retained areas and will also inform the transplantation exercise, which will be undertaken at an appropriate time of the year, informed by the strategy.
- 8.50. The notable plants will be transplanted within retained areas along the southern boundary, within newly created habitats toward the tip of the Triangle in areas where footfall is not anticipated, and also upon the biodiverse green roof of the stadium, which will be secured as part of the BNG requirements (see further details in **ESA Appendix 8.1**).
- 8.51. Specific measures to avoid impacts on sensitive retained habitats and flora species will be set out within a conditioned Construction and Environment Management Plan (CEMP).

*Post mitigation, effects are neutral at the site level and are of Medium sensitivity, Low magnitude and of **Minor significance (not significant)**.*

### **Fauna**

#### *Notable Invertebrates*

- 8.52. Areas of retained neutral grassland along the southern boundary within the Triangle, along with retained sections of hedgerows, will be fenced off during clearance and construction which will allow for some availability of suitable habitat and plant species of benefit to these notable species, e.g. Blackthorn *Prunus spinosa* for Brown Hairstreak.

8.53. Plants such as Common Ragwort *Jacobaea vulgaris* are not desirable species for landscaping purposes. However, the retained areas of roadside verges where this species is known to be present should be left intact and *in situ* during the construction phase to allow continued opportunities for ragworts to remain and / or colonise.

*Post mitigation, effects are minor adverse at the Site level and are of Medium sensitivity, Low magnitude and of **Minor significance (not significant)**.*

## **During Operation**

### **Habitats**

#### Notable Plant Species

8.54. BNG conditions which will be imposed on the planning permission will include a finalised habitat management and monitoring plan (HMMP) which OUFC will be obligated to follow for a minimum of 30 years to ensure that habitat creation and enhancement works will be carried out and commitments upheld. The translocation, management and monitoring of notable species will be detailed within a conditioned translocation strategy and included within the final HMMP. A draft HMMP has been provided upfront to demonstrate how the habitats and targets can be achieved **(ESA Appendix 8.3)**.

*Post mitigation, effects are beneficial at the Site level and are of Medium sensitivity, Medium magnitude and of **Minor significance (not significant)**.*

### **Fauna**

#### Bats and the Woodland Edge

8.55. The lighting strategy has utilised the ILP and Bat Conservation Trust Guidance Note 08/23 to inform the design process in respect to lighting impacts on bats. Specific measures have been implemented, as per recommended guidance, that will reduce effects:

- Installation of back light shields / external light louvres or shields that reduce light spill onto boundary features and woodland buffer zone;
- External lighting for the stadium will be dimmed by  $\leq 50\%$  after 23:00 and once spectators have vacated the Site during match days;
- Luminaires will have zero tilt and an Upward Light Ratio (ULR) of 0% which will avoid light being emitted directly into the sky;
- Correlated colour temperatures of  $\leq 3000\text{k}$  will be utilised;
- Reduction of blue light spectrum;

- Warmer white colour temperature lights which have lower attractiveness to some invertebrate species (resulting in greater number of insects in dark areas); and,
- Selection of warmer colour temperatures with peak wavelengths greater than 550 nanometres to avoid the component of light most disturbing to bats.

8.56. Anticipated lighting impacts during operation will therefore be at reduced levels, with the proposed lux levels exclusive of any positive screening effects that the proposed planting will create.

*Post mitigation, effects are neutral at the Local level and are of Medium sensitivity, Low magnitude and of **Minor significance (not significant)**.*

#### Notable Invertebrates

8.57. Specific enhancements for invertebrates, and specifically Brown Hairstreak, have been outlined within Chapter 8 (Ecology and Nature Conservation) of the Main ES. The measures outlined below are in addition to the original invertebrate assessment.

8.58. The planting schedule of new native hedgerow planting will include Blackthorn; known to be of benefit to Brown Hairstreak. In addition, the proposed pond within the northern area of the Site will be sown with an appropriate seed mixture such as Emorsgate EP1 Pond Edge Mixture, which is inclusive of herbs known to be of benefit to Brown Hairstreak, such as Hemp Agrimony *Eupatorium cannabinum*. The proposed wetland wildflower seed mix proposed around the attenuation features should also incorporate wildflowers specifically known to benefit this species, such as Common Fleabane *Pulicaria dysenterica*, Hemp Agrimony and Umbellifer *Umbelliferae* species.

8.59. The proposed wetland wildflower seed mix proposed around the attenuation features should also incorporate Common Fleabane, also known to benefit *M. inulaedysentericae*. This will allow for retained breeding opportunities for this picture-wing fly within areas inaccessible to the public.

8.60. The safeguarding of the offsite woodland will continue to provide opportunities for White-letter Hairstreak, known to the local area. The partial retention and creation of hedgerows will also provide opportunities for this species post-development.

8.61. The planting of new native hedgerows and trees, a biodiverse green roof, green walls, rain gardens and, to an extent, amenity planting, as part of the Proposed Development, will continue to provide opportunities for those species listed above as well as *P. nigricornis* and *V. villosa* post-development.

8.62. The creation of 'Bee Banks' on the Stadium's biodiverse green roof will provide habitat for nomadic and mining bees which provides additional initiative for supporting pollinator populations. These can

also be designed into the landscaping design in appropriate sunny locations that will not be subjected to potential impacts from stadium visitors, such as along the mound at the top of the Triangle.

*Post mitigation, impacts on notable invertebrate species are beneficial at the Local level and are of Medium sensitivity, low magnitude and of **Minor significance**.*

## Updated Cumulative Effects

- 8.63. In accordance with the EIA Regulations, the assessment considers the cumulative effects of the Development in combination with the environmental effects of other developments on sensitive features identified through the EIA process.
- 8.64. It is assumed that, as with the Proposed Development, wider schemes will be required to mitigate likely significant effects upon important ecological features and deliver a net gain in biodiversity in-line with policy and legislation. As such, it is assumed that the quality, quantum, and connectivity of suitable habitat within the scope of these wider schemes will not be diminished and, consequently, the cumulative effects are expected to be **Negligible (not significant)**.

## Updated Conclusions

- 8.65. A summary of effects relevant to the updated assessment is presented within Table 8.4 below.
- 8.66. This assessment has been undertaken with regard to the CIEEM guidance. All relevant policies from the NPPF and CDC have been considered as part of the assessment, while all survey work has been undertaken with regard to the relevant survey guidance. As such, it is considered that an accurate and robust assessment has been made.
- 8.67. A botanical survey and updated Protected Species surveys have been undertaken throughout the Site including bats, wintering and breeding birds and Great Crested Newts. Further consideration has also been provided in respect to invertebrates. Mitigation measures have been specifically designed to ensure no adverse effects arise to any notable plants, invertebrates or Protected Species as a result of the Proposed Development.
- 8.68. Following mitigation and enhancement measures, overall impacts are considered to be positive at the local level and will ensure no net loss in biodiversity terms.

**Table 8.4: Summary of effects in respect of updated assessment of relevant ecology receptors**

<b>Effect</b>	<b>Receptor (Sensitivity)</b>	<b>Magnitude</b>	<b>Nature/Level of Effect</b>	<b>Mitigation</b>	<b>Residual Effect</b>
<b>Construction Phase</b>					
Potential damage caused to retained habitats	Notable plants (Common-spotted Orchid, Pyramidal Orchid, Corn Mint and Narrow-leaved Bird's-foot-trefoil)	Medium	Temporary	Retained habitats to be fenced off and safeguarded from construction activities	Minor beneficial, not significant
	Notable invertebrates (Brown Hairstreak, Cinnabar Moth, <i>M. inulaedyssentericae</i> , <i>P. nigricornis</i> , <i>V villosa</i> and White-letter Hairstreak)				Minor beneficial, not significant
<b>Operational Phase</b>					
Change in baseline habitats and conditions relevant to woodland edge	Bats utilising the woodland edge boundary	Medium	Permanent	More detailed lighting strategy to reduce lighting impacts to bats.	Minor neutral, not significant
Loss of Willow Plantation and Other Neutral Grassland habitats (and partial losses to hedgerows in respect of invertebrates)	Notable plants (Common-spotted Orchid, Pyramidal Orchid, Corn Mint and Narrow-leaved Bird's-foot-trefoil)	Medium	Permanent	Production of bespoke 'Orchid and Notable Plant Species Transplantation Strategy' which will inform transplantation exercise to ensure continued success of these notable species	Minor beneficial, not significant
	Notable invertebrates (Brown Hairstreak, Cinnabar Moth, <i>M. inulaedyssentericae</i> , <i>P. nigricornis</i> , <i>V villosa</i> and White-letter Hairstreak)	Low-medium	Permanent	Retention and creation of habitats that are of benefit to listed notable invertebrate species. Inclusion of specific plant species in proposed planting schedule that are of benefit to listed notable invertebrate species.	Minor beneficial, not significant