



Yeargate Limited

BIRCH BUSINESS PARK

Environmental Statement Volume 2 Chapter 11 –
Biodiversity Ecology

August 2026

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BIODIVERSITY ECOLOGY

ABBREVIATIONS

BNG	Biodiversity Net Gain
HMMP	Habitat Management and Maintenance Plan
CEMP	Construction Ecological Management Plan

11.1 INTRODUCTION

- 11.1.1. This chapter reports the outcome of the assessment of likely significant effects arising from the Proposed Development upon ecology and biodiversity. This chapter has been produced by E3P.
- 11.1.2. The assessment of ecology and biodiversity has established that the following additional mitigation measures are required:

Construction Phase

- Pollution prevention measures.
- Offsite compensation for the reedbed lost on site will be secured prior to commencement of construction on site in line with BNG commitments.
- Fencing to protect retained habitat and root protection areas.
- The Proposed Development will be covered by a GCN DLL Scheme in advance of the construction on-site
- Any common amphibians encountered will be moved away from construction activities.
- Lighting should follow the protocols outlined in The Institute for Lighting Engineers document “Guidance for the Reduction of Obtrusive Lighting” (2005) and The Institution of Lighting Professionals (ILP) (2023). “Bats and Artificial Lighting at Night. Guidance Note GN08/23”.
- Precautionary Working Methods for badgers.
- Toolbox talk and checks will be undertaken prior to the removal of vegetation for hedgehogs.
- Pre-commencement check of grassland habitats for leverets.
- Nesting bird checks will be undertaken prior to vegetation removal, if these works are carried out during the nesting bird season.
- Care should be taken during construction to ensure retained ragwort is not trampled or strimmed.
- Himalayan balsam will be eradicated following the most current guidance set out by the Environment Agency by a qualified contractor.

Operational Phase

- A HMMP will be implemented over 30 years of the operational Development to ensure that the retained and proposed habitats and hedgerows are managed to maintain/reach their condition.
- Precautionary Working Methods for great crested newts will be followed during habitat management in accordance with the HMMP.
- Any common amphibians encountered during habitat maintenance will be moved away.
- Lighting should follow the protocols outlined in The Institute for Lighting Engineers document “Guidance for the Reduction of Obtrusive Lighting” (2005) and The Institution of Lighting Professionals (ILP) (2023). “Bats and Artificial Lighting at Night. Guidance Note GN08/23”.
- Precautionary Working Methods should be followed during habitat management.
- Lighting should ensure the retained boundary features such as the hedgerows are retained as dark corridors
- Precautionary working methods should be followed during habitat management.
- Nesting bird checks will be undertaken prior to vegetation removal, if these works are carried out during the nesting bird season.
- Planting will be introduced into the Development to include pollinator-friendly flora by including wildflower plants and shrubs, as well as flowering trees.

11.1.3. The following residual effects have been identified:

Construction Phase

- There is likely to be a direct, temporary, medium-term **minor adverse** residual effect on the reedbed (**not significant**) following the implementation of mitigation measures.
- There is likely to be a direct, temporary, medium-term **minor adverse** residual effect on the non-priority habitats (**not significant**) following the implementation of mitigation measures.
- The sensitivity of common amphibians within the Site has been categorised as site level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.
- The sensitivity of commuting and foraging bats within the Site has been categorised as county level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.
- The sensitivity of badgers within the Site has been categorised as site level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.
- The sensitivity of hedgehogs and brown hare within the Site has been categorised as site level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.
- There is likely to be a direct, temporary, medium-term **minor adverse** residual effect on the breeding birds (**not significant**) following the implementation of mitigation measures.
- There is likely to be a direct, temporary, medium-term **minor adverse** residual effect on notable invertebrates (**not significant**) following the implementation of mitigation measures.

Operational Phase

- The sensitivity of reedbed within the Site has been categorised as up to County level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.
- There is likely to **Negligible** residual effect on the non-priority habitats (**Not Significant**) following the implementation of mitigation measures.
- The sensitivity of great crested newt within the Site has been categorised as up to County level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.
- The sensitivity of common amphibians within the Site has been categorised as site level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.
- The sensitivity of commuting and foraging bats within the Site has been categorised as local level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.
- The sensitivity of badgers within the Site has been categorised as site level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.
- The sensitivity of hedgehogs within the Site has been categorised as site level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.
- The sensitivity of breeding birds within the Site has been categorised as site level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.
- The sensitivity of notable invertebrates within the Site has been categorised as site level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.

11.1.4. The following monitoring requirements have been identified:

- A CEMP will be produced to set out how protected and notable fauna and habitats will be protected and managed during the construction phase of the development.
- A HMMP will be produced to set out how habitats will be protected and managed appropriately during the operational phase of development for the long-term benefit to local wildlife.

- 11.1.5. The following environmental enhancement opportunities have been identified:
- Creation of other neutral grassland.
 - Creation of mixed scrub.
 - Creation of other woodland; broadleaved.
 - Creation of fens.
 - Tree planting.
 - Species-rich hedgerow planting.
- 11.1.6. The remainder of this chapter describes the assessment methodology and the baseline conditions relevant to the assessment, which have been used to reach these conclusions, as well as a summary of the likely significant effects leading to the additional mitigation measures required to avoid, prevent, reduce or, if possible, offset any likely significant adverse effects, and the likely residual effects and any required monitoring after these measures have been employed. Opportunities for environmental enhancement, where such opportunities exist, are also discussed.
- 11.1.7. This chapter (and its associated figures and appendices) is intended to be read as part of the wider ES.
- 11.1.8. Furthermore, this EcIA is supported by figures and a series of other appendices documents intended to be read in conjunction as detailed below:
- UKHab Habitat Plan
 - Preliminary Ecological Appraisal
 - Biodiversity Net Gain
 - Arboricultural Impact Assessment
 - Reptile Survey
 - Breeding Bird Survey
 - Bat Activity Survey

11.2 CONSULTATION, SCOPE, METHODOLOGY AND SIGNIFICANCE CRITERIA

CONSULTATION UNDERTAKEN TO DATE

- 11.2.1. **Table 11-1** provides a summary of the consultation activities undertaken in support of the preparation of this assessment.

Table 11-1 - Summary of consultation undertaken

Body / organisation	Individual / stat body / organisation	Meeting dates and other forms of consultation	Summary of outcome of discussions
GMEU.	-	Received local species records data on 20/02/2025	Species record data was utilised within the PEA.
Rochdale Borough Council	Melanie Hale, Head of Planning Services	Pre-Application planning advice received 24/06/2026	A robust assessment of environmental impacts and BNG mitigation based on

			relevant and up-to-date environmental information should be undertaken prior to a decision on whether to grant planning permission.
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SCOPE OF THE ASSESSMENT

- 11.2.2. The scope of this assessment has been established through an ongoing scoping process. Further information can be found in **Chapter 5: Approach to EIA**.
- 11.2.3. This section provides a scope of the assessment and iterates the evidence base for scoping out elements following iterative assessment.

ELEMENTS SCOPED OUT OF THE ASSESSMENT

- 11.2.4. The elements shown in **Table 11-2** are not considered to give rise to likely significant effects as a result of the Proposed Development and have therefore not been considered within this assessment:

Table 11-2 - Elements scoped out of the assessment

Element scoped out	Justification
Statutory Designated Sites	Outside of zone of influence of designated sites No consultation with Natural England Required
Non-Statutory Designated Sites (Site of Biological Importance)	Outside of zone of influence of designated sites and lack of ecological connectivity.
Roosting Bats	No buildings or structures were identified within the site boundary. All trees that could be accessed were assessed for their suitability to support roosting bats, as detailed in Collins (2023), and were found to have no bat roosting potential as they lacked maturity and/or any potential roost features suitable to support roosting bats.
Otter	Lack of suitable watercourses on or within proximity to the site
Water Vole	Lack of suitable watercourses on or within proximity to the site
White-Clawed Crayfish	Lack of suitable watercourses on or within proximity to the site
Reptiles	No evidence of reptiles was identified during the reptile surveys.

ELEMENTS SCOPED INTO THE ASSESSMENT

Construction Phase

11.2.5. The following elements are considered to have the potential to give rise to likely significant effects during construction of the Proposed Development and have therefore been considered within this assessment:

- Habitats (Priority and Non-Priority)
- Great crested newts
- Common amphibians
- Commuting and foraging bats
- Badger
- Hedgehogs
- Brown hare
- Breeding birds
- Notable invertebrates

Operation Phase

11.2.6. The following elements are considered to have the potential to give rise to likely significant effects during operation of the Proposed Development and have therefore been considered within this assessment:

- Habitats (Priority and Non-Priority)
- Great crested newts
- Common amphibians
- Commuting and foraging bats
- Badger
- Hedgehogs
- Breeding birds
- Notable invertebrates

EXTENT OF THE STUDY AREA

11.2.7. Appendix 11.2: Preliminary Ecological Appraisal Report outlines the extent of the study area and has had regard to good practice guidance published by CIEEM (2017). The following distances are collectively referred to as the 'study area' throughout this report:

- Statutory designated sites of international importance (e.g. Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites) within the Site and extending up to 10km from the Site.
- Statutory designated sites of national importance (Sites of Special Scientific Interest (SSSIs) and Local Nature Reserves (LNRs)) and non-Statutory Designated Sites (Sites of Biological Importance (SBI)) within the Site and extending up to 1 km from the Site.
- Any legally protected and conservation notable species, within the Site and extending up to 1 km from the Site
- Biodiversity Action Plan (BAP) Priority Habitat and woodland listed on the Ancient Woodland Inventory within the Site and extending up to 1 km from the Site; and

- Waterbodies on site and within 250 m of the site.
- Watercourses on site and within 10 m.

METHOD OF BASELINE DATA COLLATION

DESK STUDY

11.2.8. The following sources of information and ecological records were consulted:

- MAGIC – A web-based interactive mapping system, on which geographic information regarding key environmental schemes and designations are collated, including details of statutory conservation sites, accessed February 2025.
- Aerial mapping and Ordnance Survey maps.
- Local data records provided by Greater Manchester Ecology Unit (GMEU) on 21st February 2025.

11.2.9. A 1 km search area was utilised for the data search, with this being deemed an appropriate distance for the Zone of Influence of the site. The 1 km data search was selected due to the size of the site as well as the ecological value of the land surrounding the site, comprising predominantly agricultural land.

11.2.10. The data search included the request for details of protected and notable species of flora and fauna within 1 km of the central grid reference of the site. In addition, a request was made for any non-statutory designated sites within 1 km of the site boundary.

11.2.11. Please note that a lack of up-to-date records does not confirm the absence of a species from the area. Lack of records may simply be a result of a lack of protected species surveys being undertaken within the local area.

SITE VISIT AND SURVEYS

Vegetation and Habitats

11.2.12. A Preliminary Ecological Appraisal of the proposed development site was undertaken by Phoebe Parry on 11th February 2025. The weather was cold and overcast with strong winds. An updated walkover and habitat condition assessment was undertaken on 10th July 2025 by Phoebe Parry. The weather was warm and sunny.

11.2.13. The assessment follows the methodology as per “Guidelines for Preliminary Ecological Appraisal” (CIEEM, 2017).

11.2.14. A vegetation and habitat plan has been produced for the proposed development site (Appendix 11.1). The mapping is based on the UK Habitat Classification Version 2.0 (UKHab, 2023).

11.2.15. Searches were made for uncommon, rare, and statutorily protected plant species, those species listed as protected in the Wildlife and Countryside Act 1981 (as amended) and species which are indicators of important and uncommon plant communities. All plant nomenclature follows Stace (2019).

11.2.16. Searches were carried out for the presence of invasive species, including those listed on the revised (April 2010) Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), including Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*) and giant hogweed (*Heracleum mantegazzianum*).

Fauna

- 11.2.17. A thorough search of the site for signs of protected species of fauna was undertaken during the site walkover. These searches considered the following:
- Suitability of any ponds to support notable amphibians, and the suitability of the site’s terrestrial habitats to support amphibians.
 - Suitability of the site to support reptiles by way of habitat structure and refuge piles, as well as links to the wider landscape.
 - Signs of badgers (*Meles meles*), by way of setts, mammal paths, foraging signs or latrines to indicate usage of the site by the species.
 - Search of any watercourses for signs or suitability for water vole (*Arvicola amphibius*) and otter (*Lutra lutra*) by way of burrows, resting places, holts and foraging signs.
 - Suitability of the site to support roosting, foraging and commuting bats.
 - Suitability of the site to support notable bird species.
 - Suitability of the site to support notable invertebrates.
 - Search of the site for any invasive species.

Preliminary Roost Assessment

- 11.2.18. The Preliminary Roost Assessment (PRA) was undertaken by Phoebe Parry on 11th February 2025.
- 11.2.19. The survey involved undertaking a systematic search of the trees, searching for signs of bats, or spaces where bats would be able to access. The methodology followed that described in Bat Surveys for Professional Ecologists, 4th Edition (Collins, 2023).
- 11.2.20. The trees were categorised for their bat roosting potential as described in **Table 11-3** in accordance with Collins (2023).

Table 11-3 Bat Roosting Potential Classification of Trees

Category	Description
PRF-I	PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony.

Great Crested Newt eDNA Survey

- 11.2.21. The eDNA surveys were undertaken on 23rd June 2025 by Graduate Ecologist Sam Kirkham BSc (Hons), MSc and Graduate Ecologist Daniel Syddall BSc (Hons). Both Sam and Daniel have experience undertaking numerous GCN eDNA surveys at a wide variety of sites across the UK.
- 11.2.22. The survey comprised a water sample extraction and lab analysis for GCN eDNA following the protocol set out in Appendix 5 of the DEFRA WC1067 Technical Advice Note.
- 11.2.23. Water samples were retrieved from WB1.
- 11.2.24. WB2 was found to be inaccessible due to the instability of the surrounding mud. As a result, an eDNA survey could not be conducted.

11.2.25. WB3 was found to be inaccessible due to the steepness of its banks and the density of the surrounding vegetation. As a result, an eDNA survey could not be conducted.

Reptile Survey

11.2.26. The site was subjected to a presence/absence survey using artificial refugia, or “tins”, in accordance with Froglife (1999) guidelines.

11.2.27. Artificial Cover Objects (ACOs) or refugia were constructed of 1 m × 0.5 m sheeting using roofing felt as recommended by Froglife (1999) for reptile surveys. A total of 50 ACOs were placed across the site, locally sited in the most appropriate position for use by basking/sheltering reptiles.

11.2.28. The ACOs were left for approximately one week to bed in. They were dispersed across the site on 25th April 2025 by Graduate Ecologist Sam Kirkham. A total of seven non-consecutive survey visits were carried out to assess the presence/absence of reptile species on site. During each visit, the ACOs were checked visually from a distance to determine whether reptiles were basking on their surface.

11.2.29. The ACOs were checked under the recommended ideal temperatures for a reptile survey, between 9°C and 18°C (Froglife, 1999) and were carefully approached and lifted to check for reptiles sheltering beneath them.

Arboricultural Impact Assessment

11.2.30. The site survey was carried out by Martin Dilworth on 25th July 2025. All trees on site were inspected from ground level, using the Visual Tree Assessment (VTA) method. Any notable defects of trees were recorded, although the site survey did not constitute a full tree safety assessment.

11.2.31. Tree heights and crown clearances were measured to the nearest 0.5 m with a clinometer. Crown spreads of trees were measured on their north, east, south and west aspects to the nearest 0.5 m. The Diameter at Breast Height (DBH) of trees was measured to the nearest 1 cm, and was used to calculate the Root Protection Area (RPA) of trees using methods prescribed in BS 5837:2012.

11.2.32. In accordance with BS 5837:2012, trees were classified as either A, B, C or U using the criteria shown in Table 1. Trees were further classified by the subcategories 1, 2 and 3, depending upon whether they had mainly arboricultural, landscape, or cultural qualities. The additional subcategory does not affect the retention value of the tree, e.g. a Category A2 tree does not have a higher retention value than a Category A1 tree.

Breeding Bird Survey

11.2.33. The current guidance (Bird Survey & Assessment Steering Group, 2022) recommends six survey visits between March and mid-July. Due to the date on which Tyrer Ecological was commissioned, only four breeding bird surveys have been undertaken at the site, from June to July 2025, missing the months of April and May.

11.2.34. The survey methodology involved using the standard territory mapping techniques (Bibby, Burgess, Hill, & Mustoe, 2007). This method is based on the observation that many species are territorial during the breeding season and is found particularly amongst passerines, where territories are often marked by conspicuous song, display, and periodic disputes with neighbouring individuals.

- 11.2.35. The surveys consisted of a combination of observations from a walked transect route around the site, which ensured full coverage of the survey area. The surveys were timed between sunrise and midday to record high periods of uniform bird activity.
- 11.2.36. Registrations of birds were recorded on a field map, using standard British Trust for Ornithology (BTO) two letter species codes (Gilbert, Gibbons, & Evans, 2002).
- 11.2.37. Behaviours including singing, calling and movements of the same bird between different areas, flying, carrying food, nest building, aggressive encounters and other notable behaviour were recorded (Gilbert, Gibbons, & Evans, 2002). The expected outcome of this technique was that mapped registrations fell into clusters, approximately coinciding with territories.
- 11.2.38. The likelihood of breeding was determined using the BTO breeding status codes using observations of activities such as singing, food carrying, aggressive encounters and actual nest building.

Bat Activity Survey

- 11.2.39. The bat activity period is generally considered as being April – October inclusive. Typically, a total of three surveys would be undertaken, with one survey per season of Spring, Summer and Autumn. However, due to the period in which Tyrer were commissioned, the spring season had been missed. It was thus decided that the two remaining surveys would be undertaken, one in the summer season and the second within the autumn season. It is considered that this was a suitable effort to obtain sufficient survey data, alongside the data obtained from the automated static monitoring, to inform how bats are using the site and any mitigation measures required.
- 11.2.40. Therefore, the timing of the surveys took place in July and September 2025 within the main active period of bats, which covered the summer and autumn seasons of the 2025 bat active period, in accordance with guidance set out in the BCT Good Practice Guidelines (2023). Surveys were completed when weather conditions were considered suitable (sunset temperature 10°C or above, no rain or strong wind).
- 11.2.41. The number, timing and arrangement of the manual and automatic surveys aim to determine the following factors:
- Likelihood of bats being present,
 - Likely species concerned,
 - Levels of activity / relative abundance,
 - Type and diversity of habitats affected,
 - Predict impact of the proposed development on bats,
 - Type and scale/size of proposed development.
- 11.2.42. The frequency that bats are encountered during nighttime bat walkovers will depend upon several factors.
- Number of roosts within or in close proximity to the survey area and the number of individuals in the roost,
 - The availability of quality foraging habitat and the distance to which it is located from a roost,
 - The quantity and diversity of invertebrates. Where an abundance of quality or similar habitat is present, then the distribution of bats tends to be greater, which will avoid competition for food,

and the frequency that bats are encountered may be reduced, which can give the impression that bat populations are low.

- 11.2.43. Furthermore, although there is often an overlap of species at some feeding sites, there can be a slight variation in actual foraging by each species, which is often subtle, and the peak feeding time is generally up to two hours post-emergence and approximately an hour before dawn.
- 11.2.44. Use of foraging places will vary at different times of the year and will depend upon insect densities, which in turn can be affected by climatic conditions both within the general and localised area; for example, around ponds which receive partial or no shelter at all or around woodland edge. Therefore, the optimum time to undertake habitat surveys for bats is May – October, which covers the main activity period.
- 11.2.45. The surveys were undertaken by two ecologists per transect. At the start of the activity surveys, the surveyors arrived on site and commenced vantage point observations just before sunset and were stationed on potential flight lines to note any commuting onto site by bats from potential nearby roost locations.
- 11.2.46. Surveyors then commenced the nighttime bat walkover (NBW) 30 minutes after sunset, following a pre-determined route. The route incorporated the habitats on site and those immediately adjacent that are likely to support commuting and foraging bat species, predominantly following linear features through and around the site.
- 11.2.47. All bat activity and echolocation calls were noted and recorded in respect to activity and genus.

ASSESSMENT METHODOLOGY

Establishing Importance

- 11.2.48. The CIEEM EcIA guidance confirms that detailed assessment of ecological features that are ‘widespread, unthreatened and resilient to project impacts’ is not necessary. It is therefore necessary to determine which ecological features are sufficiently important (and potentially affected by the Scheme). Decisions on relative importance will be outlined in the assessment and consider quality, extent, rarity (including local rarity) and threats or declines of a feature. Relevant statutory and non-statutory designations, legislation and policies will be taken into account, although not all populations of legally protected species show the same rarity, so contextual information is vital. Importance could also relate to the supportive function of the feature (i.e. providing a buffer, connections or opportunities for expansion/climate change resilience of a neighbouring feature).
- 11.2.49. The importance of a feature is identified within a defined geographical context, the scales relevant to the proposed development and its ecological features are presented in **Table 11-4**. These criteria provide a starting point for the assessment, but specific site conditions together with information on the local and wider context may result in different criteria being applied.

Table 11-4 Criteria for Determining Receptor Sensitivity

Importance	Geographic Context	Criteria
High	International and European	Designated or proposed/candidate Special Areas for Conservation (SAC), Special Protection Areas (SPA) and Ramsar Sites and their qualifying features, some of which may depend on land outside the designation

Importance	Geographic Context	Criteria
		boundaries. Candidate or proposed designations are treated as of equal value to fully designated sites. Under the NPPF, land that is set aside as compensation for adverse effects of development on European Sites should also be regarded as of European value. Species populations or habitat areas (such as those listed in Annex I, II or IV of the Habitats Directive or Annex I of the Birds Directive) of international importance due to relative size, rarity or quality of the feature.
	National	Designated or proposed Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Marine Nature Reserves (MNR) and their qualifying features, some of which may depend on land outside the designation boundaries. A viable area of ancient semi-natural woodland (ASNW). Species populations or habitat areas (including legally protected or NERC Act S41 species or habitats) of national importance due to relative size, rarity or quality of the feature.
Medium	County	Designated or proposed Site of Biological Importance (SBI), Local Wildlife Sites (LWS), Sites of Nature Conservation Importance (SNCI) and their qualifying features where they occur within the designation boundaries. 'Important' hedgerows (as described under the Hedgerows Regulations 1997) where these occur as an extensive network. Species populations or habitat areas (including legally protected or NERC Act S41) or Nationally Scarce species or habitats of district or county importance due to relative size, rarity or quality of the feature. Sites should comfortably exceed Site of Nature Conservation Importance (SNCI) criteria if these exist, but not meet SSSI selection criteria.
Low	Local	Local Nature Reserves (LNR) unless also designated at a higher level, and other nature conservation designations (under local planning policies). Green infrastructure designations where these contribute to local landscape connectivity and/or buffer other ecological features valued at least this geographic scale. Species populations or habitat areas (including legally protected or NERC Act S41 species or habitats) of local importance due to relative size or quality. Features that appreciably enrich the local ecological resource, although these may themselves be common and widespread, such as long-established hedgerows, woodlands and ponds.
	Immediate Zone of Influence (IZoI)	Populations of common and widespread species or habitats without protection or conservation designation. Isolated and small fragments of NERC Act S41 habitats or species (only where better representative examples of such habitats or species are common nearby).

Characterisation of Impact

11.2.50. The proposals may result in multiple potential impacts on an important ecological feature, and the CIEEM approach requires that only those that are likely to occur and have significant impacts need

be assessed, although a precautionary approach to scoping potential impacts is recommended. The following characteristics are used to describe impacts (not all may be relevant in all cases):

- Positive or negative.
- Extent.
- Duration.
- Timing.
- Frequency.
- Reversibility.
- Significance of Effect

11.2.51. Magnitude refers to the scale of the impact and reflects the extent, duration, frequency, and reversibility. The categories of magnitude are portrayed in **Table 11-5**.

Table 11-5 Criteria for Determining Magnitude of Change / Impact

Magnitude	Criteria
Large	A permanent or long-term effect on the receptor which affects a large area/population. Irreversible change to ecological function.
Medium	A medium-term effect on the receptor which affects a medium-sized area/population. Reversible changes with recovery possible.
Small	Short-term or temporary impact which affects a small area/population. Localised or easily reversible changes
Negligible	No impact on the receptor.

11.2.52. Once an impact has been described, it is necessary to determine if the effect is 'significant'. In the context of CIEEM EcIA guidance, a significant effect is one that either 'supports or undermines biodiversity conservation objectives for 'important ecological features'. This can include impacts on the structure and function of sites and habitats or the conservation status of habitats and species (i.e. does the impact alter the extent, distribution or abundance of the feature). The decision on significance is made irrespective of the geographical scale of importance of the feature; if an effect is found not to be significant at the level at which the receptor has been valued, it may be significant at a more local level. A significant negative effect is not necessarily one that would make the proposals unacceptable.

Likelihood of Effect

11.2.53. The following four-point scale has been used to express the degree of confidence in the prediction of impact significance, for residual impacts, this scale will also indicate the reliability of mitigation proposals.

- Certain/near certain
- Probable

- Possible
- Extremely unlikely

Mitigation and Residual Effects

11.2.54. Recommendations will be made to mitigate any significant detrimental impacts associated with the construction and operation of the proposed development on any identified important ecological feature. Any other mitigation that is not related to an important ecological feature but is nonetheless considered necessary would also be set out. Once the appropriate mitigation measures and monitoring have been proposed, the residual impacts remaining once they are taken into account will be identified.

SIGNIFICANCE CRITERIA

11.2.55. The significance level attributed to each effect has been assessed based on the sensitivity/value of the affected receptor(s) and the magnitude of change arising from the Proposed Development, as well as a number of other factors that are outlined in more detail in **Chapter 5: Approach to EIA**. The sensitivity of the affected receptor is assessed on a scale of high, medium, low and negligible, and the magnitude of change is assessed on a scale of large, medium, small, negligible and no change, as set out in **Chapter 5: Approach to EIA**.

EFFECT SIGNIFICANCE

11.2.56. The following terms have been used to define the significance of the effects identified and apply to both beneficial and adverse effects:

- **Major effect:** where the Proposed Development could be expected to have a substantial improvement or deterioration on receptors
- **Moderate effect:** where the Proposed Development could be expected to have a noticeable improvement or deterioration on receptors;
- **Minor effect:** where the Proposed Development could be expected to result in a perceptible improvement or deterioration on receptors; and
- **Negligible:** where no discernible improvement or deterioration is expected as a result of the Proposed Development on receptors, including instances where no change is confirmed.

11.2.57. As set out in **Chapter 5: Approach to EIA**, effects that are classified as **moderate or above** are considered to be **significant**. Effects classified as below **moderate** are considered to be **not significant**.

11.3 LEGISLATIVE FRAMEWORK, POLICY AND GUIDANCE

LEGISLATIVE FRAMEWORK

11.3.1. The applicable legislative framework is summarised as follows:

- The Environment Act 2021 – requires most new developments in England to deliver a minimum 10% Biodiversity Net Gain (BNG), measured using the Defra Biodiversity Metric and secured for at least 30 years. The Act also supports Local Nature Recovery Strategies, embedding biodiversity enhancement into land-use planning and ensuring developments contribute positively to wider ecological networks.
- Conservation of Habitats and Species Regulations 2017 (as amended) – transposes the EC Habitats Directive and Birds Directive into national law, enabling the designation and protection of

'European sites' and the protection of 'European protected species' and the habitats on which they rely to complete their lifecycle.

- Wildlife & Countryside Act 1981 (as amended) – provides a national level of protection to specific animals and plants and controls the release of non-native species.
- Countryside & Rights of Way Act 2000 – extends the protection of certain species from reckless as well as intentional acts. Part III requires that government departments have regard for the conservation of biodiversity, something that is extended by the NERC Act 2006.
- Natural Environment and Rural Communities (NERC) Act 2006 – requires planning authorities to consider impacts on “habitats and species of principal importance for the conservation of biodiversity” when determining planning applications. Section 41 (S41) lists habitats and species of principal importance, which are to be considered, irrespective of whether they are covered by other legislation. The S41 list was originally taken forward under the UK Biodiversity Action Plan (BAP) (first published 1994) but is now prioritised under the Biodiversity 2020 Strategy (see National Policy below).
- Hedgerows Regulations 1997 – protection of ‘important’ hedgerows from being uprooted or destroyed. Importance is determined based on adjacent land use, age, historic value and ecological value (specific criteria are set out).
- Protection of Badgers Act 1992 – protection of badgers and their setts from killing, injury and certain acts of cruelty. Protection of setts from damage, obstruction or destruction.

POLICY

11.3.2. The relevant policy documents include:

- Rochdale Local Plan
- GMCA Places for Everyone Joint Plan

11.3.3. In addition, this chapter has been prepared in accordance with the Government’s National Planning Practice Guidance (**Ref. 11.1**).

GUIDANCE

11.3.4. The following guidance documents have been used during the preparation of this chapter:

- Chartered Institute of Ecology and Environmental Management (CIEEM). ‘Guidelines for Preliminary Ecological Appraisal’. (**Ref. 11.2**).
- CIEEM. ‘Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine.’ (**Ref. 11.3**).
- Collins, J (ed.). ‘Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th edition.’ (**Ref. 11.4**).
- Environment Alliance. ‘PPG5: Pollution Prevention Guidelines; Works and Maintenance In or Near Water.’ (**Ref. 11.5**).
- Froglife. ‘Great Crested Newt Conservation Handbook.’ (**Ref. 11.6**).
- Institute of Lighting Engineers. ‘Guidance Notes for the Reduction of Obstructive Light’ (**Ref. 11.7**).
- The Institution of Lighting Professionals (ILP). ‘Bats and Artificial Lighting at Night. Guidance Note GN08/23.’ (**Ref. 11.8**).
- Natural England Joint Publication JP029. ‘The Biodiversity Metric 2.0. Auditing and Accounting for Biodiversity, User Guide, Beta Version.’ (**Ref. 11.9**).

- Oldham, R. S., Keeble, J., Swan, M. J. S. & Jeffcote, M. 'Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*).' (Ref. 11.10).
- Stace, C. A. 'New Flora of the British Isles. Fourth Edition.' (Ref. 11.11).
- UKHab. 'UK Habitat Classification Version 2.0' (Ref. 11.12).

11.4 BASELINE CONDITIONS

DESIGNATED SITES

Statutory Designated Sites

- 11.4.1. The site is not located within 1 km of any statutory designated sites.
- 11.4.2. However, the site is located within the Impact Risk Zone of the following designated sites:
 - Rochdale Canal Site of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC) is located 3.7 km east of the site. The site is designated as an SSSI for its rare submerged and emergent vegetation including floating water-plantain (*Luronium natans*). The site is also designated as an SAC due to the presence of floating water-plantain.
 - West Pennine Moors SSSI is located 9.7 km northwest of the site. This site is designated for its extensive mosaic of upland and upland fringe habitats.
- 11.4.3. Given the distance of these designated sites from the development, small size of the site and lack of ecological connectivity, no impacts on the designated sites are anticipated.

Non-Statutory Designated Sites

- 11.4.4. Pilsworth Site of Biological Importance (SBI) was located 860 m northwest of the site. The site comprises two large bodies of water connected via Brightley Brook. Given the distance of these designated sites from the development, the small size of the site and lack of ecological connectivity, no impacts on the designated sites are anticipated.

HABITATS AND FLORA

Developed Land; Sealed Surface

- 11.4.5. A hardstanding access road was present within the south west of the site. The road appeared in good condition and well-sealed. No colonisation by flora species was identified.

Ruderal/Ephemeral

- 11.4.6. The centre of the site comprised ruderal/ ephemeral land associated with historical disturbance to the soil. Vegetation cover was sparse. Species included great willowherb (*Epilobium hirsutum*), smooth meadow grass (*Poa pratensis*), white clover (*Trifolium repens*), creeping buttercup (*Ranunculus repens*), black medic (*Medicago lupulina*) and nettle (*Urtica dioica*).

Other Neutral Grassland

- 11.4.7. Other neutral grassland was present on the north and east of the site. The northern parcel of grassland had colonised waterlogged soil and comprised more wetland-tolerant plant species such as bulrush (*Scirpoides holoschoenus*), common reed (*Phragmites australis*), soft rush (*Juncus effusus*), jointed rush (*Juncus articulatus*), and pendulous sedge. Himalayan balsam (*Impatiens glandulifera*) and field horsetail were also present within the wetland grassland. The eastern parcel comprised drier soil. Species included cock's foot (*Dactylis glomerata*), creeping bent (*Agrostis stolonifera*), creeping buttercup (*Ranunculus repens*), teasel (*Dipsacus fullonum*), small teasel

(*Dipsacus pilosus*), fescue species (*Festuca* sp), broadleaved dock (*Rumex obtusifolius*), white clover (*Trifolium repens*), willowherb species (*Epilobium*), ragwort (*Jacobaea vulgaris*), bittercress species (*Cardamine* sp.), mouse ear species (*Cerastium* sp.), tufted hair grass (*Deschampsia cespitosa*) and compact rush (*Juncus conglomeratus*).

Willow Scrub

- 11.4.8. An area of scrub dominated by willow species (*Salix* sp) was present in the northeast of the site. Other species included soft rush, creeping bent, and reed canary grass.

Mixed Scrub

- 11.4.9. An area of mixed scrub was present in the west of the site. Species included silver birch (*Betula pendula*), dogwood (*Cornus sanguinea*), willow species, alder (*Alnus glutinosa*), bramble (*Rubus fruticosus* agg.), hawthorn (*Crataegus monogyna*), ragwort, pendulous sedge (*Carex pendula*) and teasel. In addition, invasive non-native species Himalayan balsam was also present in the southwest corner of the site.

Other Woodland; Broadleaved

- 11.4.10. A small area of broadleaved woodland was located along the western site boundary. Species present within the woodland included silver birch, willow species, and alder. The ground flora comprised bramble, pendulous sedge, broadleaved dock and ragwort.

Reedbed

- 11.4.11. An area of reedbed dominated by common reed was present on the east of the site. Bulrush and nettle were also present, but infrequent, within the reedbed. The reedbed on site is a UK BAP Priority Habitat.

Individual Trees

- 11.4.12. A number of individual trees were noted throughout the site. Species included willow species, pedunculate oak (*Quercus robur*) and silver birch.

Line of Trees

- 11.4.13. Two lines of trees (LoT1 and LoT2) were present on site.

Species-Rich Native Hedgerow

- 11.4.14. A species-rich native hedgerow (H1) was located along the northern site boundary. Species included hawthorn, dogrose (*Rosa canina*), elder (*Sambucus nigra*), and holly (*Ilex aquifolium*). The hedgerow was approximately 3 m tall and 2 m wide.

Invasive Non-Native Species

- 11.4.15. During the survey, Himalayan balsam was identified on site within the mixed scrub in the west of the site and the other neutral grassland along the northern site boundary. Field horsetail was also present within the wet grassland.

PROTECTED AND NOTABLE SPECIES

Great Crested Newt

- 11.4.16. Consultation with GMEU identified numerous records of great crested newt within the 1 km search area. Historic survey records from 2004 on WB1 and WB3 found WB1 to be absent and WB3 to be

positive for great crested newts. The closest recent records were all located 710 m south of the site associated with disused farmland. The records ranged from 2009 to 2021.

- 11.4.17. Consultation with MAGIC did not identify any great crested newt European Protected Species Licences within the 1 km search area. The closest licence was located approximately 2 km east of the site, adjacent to Junction 19 of the M62, active between October 2017 and December 2017 for the damage and destruction of a great crested newt breeding and resting place.
- 11.4.18. Great crested newts' upper dispersal limit is generally considered to be up to 250 m from a waterbody (though occurrence of greater distances does exist where habitat connectivity is of high quality) (English Nature, 2001). As the majority of the surrounding area comprised agricultural land, which provides limited ecological value and connectivity for great crested newts, 250 m from the site was deemed an appropriate distance from the site. Three waterbodies (WB1, WB2, and WB3) were located within 250 m of the site boundary. A HSI Assessment was undertaken on the three waterbodies. WB1 and WB2 were assessed as being GOOD, and WB3 was assessed as POOR. All the waterbodies could support great crested newts. The habitats on site, including the woodland, scrub, log and brash piles, grassland, hedgerow and understorey of trees, could also support the species in their terrestrial phase, providing suitable refuge.
- 11.4.19. An eDNA survey was undertaken on WB1 while WB2 and WB3 could not be accessed. WB1 tested positive for the presence of GCN. In addition to the positive eDNA result, GCN have been observed utilising the on-site terrestrial habitat during the reptile surveys which had taken place on site. Consultant Ecologist Phoebe Parry BSc (Hons) observed a female GCN on-site on 10th July 2025, and Sam Kirkham BSc (Hons), MSc observed a female GCN on-site on 18th July 2025. These observations irrefutably confirm both the presence of GCN on-site and their use of the on-site terrestrial habitat.

Common Amphibians

- 11.4.20. Records of common toad (*Bufo bufo*) were identified 710 m south of the site, associated with disused farmland. The records ranged from 2011 to 2020. Due to the lack of waterbodies within the site, the site does not offer suitable habitat for breeding common amphibians. However, the reedbed, other neutral grassland, scrub hedgerows, log and brash piles, and woodland on site all provide suitable shelter and protection for the species group within their terrestrial phase. As such, common amphibians are anticipated to be present on site.

Bats

- 11.4.21. Consultation with GMEU identified records of bat species within the 1 km search area comprising common pipistrelle (*Pipistrellus pipistrellus*). The closest of these was from 2022, located approximately 460 m south of the site associated with a farmhouse. Several common pipistrelle bat roosts from 2016 were located 820 m north of the site associated with an industrial estate.
- 11.4.22. Consultation with MAGIC identified the presence of one Natural England Bat Mitigation Licence within the 1 km search area. This was located approximately 720 m northeast of the site, associated with a residential building, active between September 2019 and November 2019 for the destruction of a common pipistrelle non-breeding roost.
- 11.4.23. No buildings or structures were identified within the site boundary. All trees that could be accessed were assessed for their suitability to support roosting bats, as detailed in Collins (2023), and were

found to have no bat roosting potential as they lacked maturity and/or any potential roost features suitable to support roosting bats.

- 11.4.24. The habitats on site are likely to attract invertebrate prey and in turn provide valuable foraging opportunities for the species group. In particular, the reedbed and adjacent waterbody (WB1) form high quality foraging features for the species group while the hedgerows and lines of trees bordering the site form linear commuting features. As such, the site is assessed as having High foraging and commuting value for bats.
- 11.4.25. Based on the combined nighttime bat walkover and automated static monitoring results, the site is considered to be of be significant at local level for both commuting and foraging common pipistrelle, soprano pipistrelle, whiskered / Brandt's and noctule bats.
- 11.4.26. The site provides a foraging area comprised of willow scrub and hedgerow, adjacent to reedbeds, in the north-eastern section of the site and of broadleaved woodland and mixed scrub adjacent to a large pond in the south-western section of the site, all interspersed with grassland and wetland habitat across the site, providing a variety of habitats which act as valuable foraging resources for bats. The hedgerow along the north-western boundary and line of trees along the southeastern boundary provide linear features that act as corridors for commuting. As such, the site provides valuable habitat for known roosts located to the north and south of the site.

Badger

- 11.4.27. Consultation with GMEU did not identify any records of badger within the 1 km search area.
- 11.4.28. No badger setts were located on-site or within 30 m of the site boundary. However, the woodland, scrub, understorey of hedgerows, trees and lines of trees could provide sett-building opportunities for badger. The habitats on site also provide foraging opportunities for the species.

Hedgehog

- 11.4.29. GMEU did not identify any records of European hedgehog within the 1 km search area. The site was assessed as providing suitable refuge and foraging habitat for hedgehogs within the scrub, woodland, individual tree, line of trees, log and brash piles, and hedgerow understory. These habitats may also offer suitable hibernation opportunities for the species.

Brown Hare

- 11.4.30. A record of brown hare from 2021 was recorded within the 1 km search area, located 710 m south. Additionally, the open grassland, scrub, woodland and hedgerow mosaic on site comprises good quality habitat for the species. As such, brown hare may be present on site.

Otter

- 11.4.31. Consultation with GMEU did not identify any records of otter within 1 km of the site boundary.
- 11.4.32. One watercourse (WC1), approximately 30 m in length, was located approximately 15 m north east of the site. The watercourse was deemed unsuitable for otters due to its small size and shallow depth. It is anticipated that there is a lack of aquatic prey due to the shallow depth of the stream. In addition, the watercourse culverts for over 100 m at either end of the watercourse, as such, it would be unsuitable as a commuting feature for otters. As such, otters have been scoped out of the assessment.

Water Vole

- 11.4.33. Consultation with GMEU did not identify any records of water vole within 1 km of the site boundary.
- 11.4.34. The brook was also assessed to be unsuitable for water vole. The watercourse was polluted, shallow and lacked steep embankments for burrowing. In addition, the banks were shaded by adjacent trees and scrub, further reducing the suitability for water vole. As such, otters have been scoped out of the assessment.

White-Clawed Crayfish

- 11.4.35. Consultation with GMEU did not identify any records of white-clawed crayfish within the search area.
- 11.4.36. One watercourse (WC1) was present approximately 15 m north east of the site boundary. This watercourse has limited potential for white-clawed crayfish. This is due to the shallow depth and silt-dominated substrate providing limited shelter for the species. As such, white-clawed crayfish can be discounted from being present on site and have been scoped out of the assessment.

Breeding Birds

- 11.4.37. Consultation with GMEU identified numerous records of notable birds within the search area, including kingfisher (*Alcedo atthis*), peregrine (*Falco peregrinus*), grey partridge (*Perdix perdix*), curlew (*Numenius arquata*), tree sparrow (*Passer montanus*), lapwing (*Vanellus vanellus*), reed bunting (*Emberiza schoeniclus*), lesser redpoll (*Acanthis cabaret*), house sparrow (*Passer domesticus*), skylark (*Alauda arvensis*), hobby (*Falco subbuteo*), linnet (*Linaria cannabina*), barn owl (*Tyto alba*), little ringed plover (*Charadrius dubius*), and yellow wagtail (*Motacilla flava*).
- 11.4.38. Common and notable bird species are anticipated to be present within the scrub, woodland, individual trees, reedbed, log and brash piles, and hedgerow on site. The site is assessed as having value for ground nesting birds within the open grassland.
- 11.4.39. In total 32 bird species were recorded during the breeding bird surveys, including:
- **Six** BoCC Red List species;
 - **12** BoCC Amber List species;
 - **14** BoCC Green List species;
 - **Nine** species listed as S.41 of the NERC Act 2006
- 11.4.40. The breeding statuses of the 32 bird species recorded during the surveys was as follows:
- • Five species were considered probable breeders, namely blackbird, robin, willow warbler, wren & wood pigeon;
 - • 18 species were considered possible breeders, including song thrush, reed bunting & skylark; and
 - • Nine species were overflying/ non-breeders: these include house martin, lapwing & oystercatcher.
- 11.4.41. The site is assessed to provide valuable breeding habitat suitable for a variety of passerine species. All of the identified BoCC red-listed species were determined as unlikely to be breeding onsite, with the exception of mistle thrush and skylark, where breeding was considered possible based on observational records. However, three BoCC amber-listed species are considered to be probably breeding onsite, namely willow warbler, wren and wood pigeon. No Schedule 1 birds were recorded during the breeding bird survey, although the site does provide suitable hunting habitat for barn owls

and favourable habitat for Cetti's warbler, though no evidence of these species were identified; given the adjacent agricultural land and distribution, barn owls are considered more likely to be present in the area.

- 11.4.42. The site is assessed to support widespread and common bird species including two BoCC green-listed species, namely blackbird and robin, which are considered to be probable breeders within the site based on observational records

Reptiles

- 11.4.43. Consultation with GMEU did not identify any records of reptiles within the search area.
- 11.4.44. The site comprises suitable habitat structure for reptiles with the scrub, woodland, log and brash piles, grassland mosaic providing foraging, basking and sheltering opportunities for the species group. As such, they are anticipated to be present on site.
- 11.4.45. Reptile surveys were undertaken in 2025. No reptiles were identified across the seven surveys. As such, the Site is not considered to support a reptile population of sufficient importance to require specific assessment within this chapter. However, the limitations associated with demonstrating the absence of reptiles are acknowledged.

Invertebrates

- 11.4.46. The data search identified records of notable invertebrate species within the search area, including cinnabar (*Tyria jacobaeae*), latticed heath (*Chiasmia clathrata*), and garden tiger (*Arctia caja*).
- 11.4.47. Notable invertebrates are unlikely to be present within the small area of woodland on site due to its immature trees and the lack of deadwood. The remaining habitats on site lacked the floristic diversity to support large numbers of notable invertebrates. However, the presence of ragwort within the grassland could support cinnabar.

FUTURE BASELINE

- 11.4.48. It is anticipated that the majority of habitats will remain the same distinctiveness as no significant change is anticipated. The condition of several habitats may increase due to the maturing of habitats and increasing complexity.
- 11.4.49. The ruderal/ephemeral habitat appeared to have occurred due to previous disturbance. It is anticipated that further colonisation by flora would occur within this habitat, which may increase the condition and potentially the distinctiveness.
- 11.4.50. The spread of non-native invasive flora has the potential to reduce the condition of further habitats on-site if it is not managed.

11.5 SENSITIVE RECEPTORS

- 11.5.1. The following sensitive receptors have been assessed as described in **Table 11-6**.

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Table 11-6 Important Ecological Features included in the Assessment

Ecological Feature	Ecological Importance on a Geographic Scale	Justification to Scope into the EcIA
Habitats		
Reedbeds (Priority Habitat)	County	Direct loss of reedbed habitat during the construction phase.
Non-Priority Habitat	Site	Direct loss of non-priority habitats during the construction phase. Indirect effects on the retained habitats during the construction and operational phase from noise, dust, lighting and pollution events.
Protected and Notable Species		
Great Crested Newt	County	There is the potential to encounter GCN within terrestrial habitats on site. There are likely to be impacts on GCN where present, including risk of harm and the removal of suitable GCN habitat including grassland, scrub, trees, and hedgerows.
Common Amphibians	Site	There are likely to be impacts to common amphibians during their terrestrial phase as a result of the removal of suitable habitat during the construction phase.
Bats – Commuting and Foraging	Local	There are likely to be impacts to foraging and commuting bats through the removal of commuting features, removal of foraging habitat, and disturbance from noise and lighting.
Badger	Site	There are likely to be impacts to foraging and commuting badgers through the removal of suitable habitat and effects of lighting during the Construction and Operational Phases.
Hedgehog	Site	There are likely to be impacts to foraging, commuting and sheltering hedgehogs through the removal of suitable habitat.
Brown Hare	Site	There are likely to be impacts on brown hare due to the direct loss of suitable habitat on site during the construction phase.

Breeding Birds	Local	There are likely to be impacts on nesting birds due to the loss of nesting habitat on site such as woodland, individual trees and hedgerows during the construction phase.
Invertebrates	Site	There are likely to be impacts on cinnabar moth due to the loss of their host plant during the construction phase.
Other Receptors		
INNS (Himalayan balsam)	N/A	The spread of invasive non-native species, Himalayan balsam, could occur during construction and operation. This could lead to non-compliance with legislation meant to limit their spread, and lead to habitat degradation affecting habitats and species on and adjacent to the Site.

11.6 ASSESSMENT OF POTENTIAL EFFECTS, MITIGATION AND RESIDUAL EFFECTS

CONSTRUCTION PHASE

Habitats and Flora

Reedbeds

Assessment of Potential Effects

- 11.6.1. There will be a direct loss of the reedbed on site during the construction phase. Prior to the application of mitigation, there is predicted to be a permanent, direct, long-term **Moderate Adverse effect (Significant)** on reedbed habitats.

Mitigation

- 11.6.2. As the on-site reedbed habitat is to be removed to facilitate development, the reedbed habitat must be compensated for off-site and secured through a habitat bank in line with the Environment Act 2021. This must be approved by the Local Planning Authority (LPA) prior to the commencement of construction on site.

Residual Effects

- 11.6.3. The mitigation measures will address the direct effects of habitat loss during construction.
- 11.6.4. Compensation through BNG will result in the replacement of the lost reedbed off-site; however, there will be a temporal loss due to the time taken for the off-site habitat to establish. As such, the effect of direct loss will not entirely be eliminated.
- 11.6.5. As such, the residual effects will be reduced to a direct, temporary, medium-term **minor adverse effect (Not significant)**

Non-priority Habitats

Assessment of Potential Effect

- 11.6.6. Areas of scrub, grassland, hedgerows and individual trees will require removal to facilitate the development. Works within the root zone of the individual trees and hedgerows could damage the retained trees and shrubs. Additionally, pollution events during construction could indirectly degrade the existing retained habitats. These habitats are common and widespread within the local area. As such, construction works are assessed as having a large magnitude effect on receptors of low importance, resulting in a **Moderate adverse effect (Significant)** in the medium-term at a site level.

Mitigation

- 11.6.7. Any retained habitats within the Site will be protected throughout the construction works with fencing installed to preserve these habitats and protect the root protection zones associated with the broadleaved woodland, hedgerows and scattered trees. It is recommended that gaps in the fencing are strategically placed to ensure wildlife, such as badgers and hedgehogs, can continue to commute through the woodland, this will be agreed with the project ecologist.
- 11.6.8. To ensure the habitats are not negatively impacted during the construction phase, all best practice guidance relating to pollution will be adhered to. This will include best practice use of refuelling

machinery to avoid fuel spills. Site drainage will need to be considered to ensure that no highly silted or polluted run-off from the site workings will enter the ground. Best practice protection measures as detailed within PPG5 Pollution Prevention Guidelines (2007) are to be put in place to protect the features.

11.6.9. The following control measures would be required during any ground works and during the construction phase to ensure there are no impacts on the designated sites or any wildlife utilising them:

- All operational plant will be kept well-maintained. Turning off plant when not in use.
- Dampening of the operational areas will be regularly undertaken during dry weather conditions to avoid dust. Dust management will be extended to cover the plant and all operational areas and will be complied with throughout the period of development.
- A toolbox talk should be completed by a qualified ecologist to ensure contractors are aware of the habitats and their ecological importance.
- During night hours, no lighting is to be located facing the retained habitats to ensure no wildlife are deterred from using them.
- A 'Site Tidy' protocol is to be put in place on-site. All litter is to be appropriately controlled, whilst on-site materials are to be adequately stored overnight.
- Where possible, all excavations will be battened at a 45-degree angle, or a ramp installed, to allow escape should animals become trapped.
- All best practice pollution prevention measures will be implemented, including using and storing machinery at a safe distance from the watercourse on site to avoid fuel spills.
- All machinery used will be stored within the construction zone and will not be left adjacent to the watercourse when not in use.
- Machinery will be turned off when not in use.
- Surface water run-off will be controlled to reduce water pollution

11.6.10. Measures will also be taken throughout the construction phase to avoid dust pollution. Pollution prevention and control strategies will be adhered to at all times. Any dust incidents within proximity to the site and/or adjacent habitats will be reported to the site manager and the ECoW. Dust control measures will include the following:

- Where possible, use a vacuum rather than a sweeping brush.
- Select the appropriate means of extraction/ suppression.
- If anyone is asked to carry out dust-generating activities without suppression measures, the site team will be consulted for advice.
- Dust-generating tasks will never be carried out without the required control measures in place. Sealing and sheeting of stockpiles.
- Sheeting of vehicles transporting materials to and from the site. Limiting the speed of construction vehicles within the site to 10 mph to reduce dust trails. Surfacing, where practicable, of the site haul roads.
- Dampening down using hoses and mobile bowzers.
- Carrying out visual monitoring at sensitive locations.
- Regular servicing of plant and equipment including cleaning/replacement of air filters

- Issue of COSHH reports to identify any substances likely to cause offensive odours.
- Issue of Risk Assessment and Method Statements (RAMS) setting out how effective control measures will prevent the release of odours.

Residual Effects

- 11.6.11. The mitigation measures will address damage to the root areas of trees and the indirect effects of pollution during construction. However, there will be a temporary loss of low-value habitats.
- 11.6.12. The sensitivity of the non-priority habitats is low, and the magnitude of change, following mitigation, is low. Therefore, there is likely to be a direct, temporary, medium-term **minor adverse** residual effect on the non-priority habitats (**not significant**) following the implementation of mitigation measures.

Protected and Notable Species

Great Crested Newts

Assessment of Potential Effect

- 11.6.13. eDNA surveys identified that breeding great crested newts were present within one waterbody located adjacent to the site's northwestern boundary. Great crested newts were also found within the site during their terrestrial phase. During construction, direct harm to GCN could occur if encountered on site. Additionally, direct loss of terrestrial habitat such as grassland, understory of individual trees and scrub will occur during the construction phase. The sensitivity of GCN is medium, and the magnitude of change is Medium. Prior to the application of mitigation, there is predicted to be a permanent, direct, medium-term **Moderate Adverse** effect (**Significant**).

Mitigation

- 11.6.14. The Proposed Development will be covered by a Great Crested Newt District Level Licensing (DLL) Scheme. As such, the impacts of the Proposed Development will be mitigated by payment for off-Site compensation ponds. While there is no legal requirement, care will be made to move any great crested newts encountered on site away from construction activities into retained habitats.

Residual Effects

- 11.6.15. The sensitivity of great crested newt within the Site has been categorised as up to County level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**, due to the assumed implementation of the DLL, which is expressly designed to maintain the favourable conservation status of GCN within Greater Manchester.

Common Amphibians

Assessment of Potential Effects

- 11.6.16. Common amphibians are anticipated to be present within the woodland, scrub, other neutral grassland, hedgerow, and understorey of individual tree habitats. As such, enabling construction works including vegetation clearance could result in the injuring or killing of common and widespread species of amphibians. This is assessed as having a medium magnitude effect on a receptor of low importance, resulting in a permanent, direct, short-term **Moderate adverse** effect (**Significant**).

Mitigation

- 11.6.17. During the construction phase, a Toolbox Talk will be given prior to the commencement of works detailing the likely presence of amphibians within the site. If amphibians are encountered, they will be moved by hand away from the construction activities to areas of retained habitat.

Residual Effects

- 11.6.18. The mitigation measures will ensure that harm to any common amphibians on site will be negated.
- 11.6.19. As such, the residual construction effect on common amphibians is considered to be **negligible (not significant)**.

Bats – Commuting and Foraging

Assessment of Potential Effects

- 11.6.20. Bat activity was concentrated to the boundary features of the site which are predominantly being retained throughout the development. However, habitat clearance and lighting during enabling and construction may limit commuting and foraging for bats. The sensitivity of commuting and foraging bats on site is medium, and the magnitude of effect is low, resulting in a temporary, indirect, short-term **Moderate adverse** effect (**significant**).

Mitigation

- 11.6.21. It is recommended that any lighting during construction works is appropriately placed to avoid being directed at any retained habitats. Lighting should follow the protocols outlined in The Institute for Lighting Engineers document “Guidance for the Reduction of Obtrusive Lighting” (2005) and The Institution of Lighting Professionals (ILP) (2023). “Bats and Artificial Lighting at Night. Guidance Note GN08/23”.

Residual Effects

- 11.6.22. As a result of the retention of the important commuting features along the site boundary and measures to reduce lighting impacts. The sensitivity of commuting and foraging bats within the Site has been categorised as county level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.

Badger

Assessment of Potential Effects

- 11.6.23. Some areas of suitable foraging and commuting habitat, such as scrub and individual trees, for badgers will be lost during the enabling and construction phase associated with the site clearance. However, these habitats are widespread in the wider area.
- 11.6.24. Badgers in the local area may also be disturbed as a result of construction activities.
- 11.6.25. This is assessed as having a low magnitude effect on a receptor of low importance, resulting in a temporary, indirect, short-term **Minor adverse** effect (**Not Significant**).

Mitigation

- 11.6.26. The following Precautionary Working Methods will be adhered to during the construction phase to ensure that no badgers within the local area are impacted by the proposed development

- All site operatives will be inducted to the presence of the species and their working limits and legal responsibilities.
- All site operatives will be inducted as to identifying potential badger setts and should be vigilant if they suspect they locate a new sett during works and inform the project ecologist immediately.
- All excavations will be battered at a 45-degree angle, or ramps will be installed, to allow the escape should animals become trapped. Alternatively, excavations will be covered overnight.
- All site machinery and materials will be appropriately stored to avoid harm to the species, notably between July and November each year when extra care is needed to avoid potential impacts on pregnant females.
- During works, should any new badger setts be identified on or within 30m of the proposed works, the ECoW should be consulted immediately. A Natural England Licence may be required to close the sett if it is deemed to be active. Active setts can only be closed between July and November, and as such, appropriate measures will be undertaken (including utilising stand-off distances and adapting working methods) to avoid badgers.
- No works are to be undertaken after dark, and floodlights will not be used throughout the night-time hours

Residual Effects

11.6.27. As a result of the proposed precautionary working methods, any disturbances to badgers within the area are anticipated to be limited. The sensitivity of badgers within the Site has been categorised as site level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.

Other Terrestrial Mammals

Assessment of Potential Effects

11.6.28. Hedgehogs may be present within the scrub, woodland, hedgerow understory and grassland habitats. The woodland, scrub and hedgerow habitats may also offer suitable hibernation opportunities for the species. As such, during vegetation clearance and groundworks, there is a chance that there could be disturbance to the species. This is assessed as having a medium magnitude effect on a receptor of low importance resulting in a permanent, direct, short-term **Moderate adverse** effect (**Significant**)

11.6.29. The open grassland and ruderal mosaic on site comprise good quality habitat for brown hare. The clearance of this habitat could impact the species. However, as the surrounding habitat is also suitable for the species, this is not anticipated to have a major effect on local populations. This is assessed as having medium magnitude effect on a receptor of low importance resulting in a permanent, direct, short-term **Moderate adverse** effect (**Significant**)

Mitigation

11.6.30. The site was assessed as providing suitable refuge, foraging and hibernation opportunities for hedgehogs within the woodland, scrub, hedgerow, and grassland habitats, as well as the brash and debris piles. These habitats should be retained where possible. Where vegetation, brash, or debris require removal, they should be checked for the presence of hedgehog prior to removal. If any vegetation is too dense to be fully inspected, it should be strimmed to 50 cm and checked for hedgehog before being cleared to ground level. If trees are removed, their bases should be checked prior to removal for sheltering hedgehogs. It is recommended that any clearance takes place outside of December-March to avoid impacting hibernating hedgehogs.

11.6.31. Brown hare, a UK BAP species, may be present within the open space on site. The habitats on-site are common within the wider landscape and as such impacts on the local brown hare population are anticipated to be low. However, it is recommended that a pre-commencement check for young hare, which may have been left in the grassland fields by mothers after the breeding season (February to September), is undertaken.

Residual Effects

11.6.32. As a result of the proposed precautionary working methods, any disturbances to hedgehog and brown hare within the area are anticipated to be limited. As such, the residual effects on hedgehogs and brown hare during construction are anticipated to be **negligible (Not significant)**.

Breeding Birds

Assessment of Potential Effects

11.6.33. The site was assessed as being of local importance for widespread and common breeding bird species within the hedgerows, individual trees, woodland and scrub. The open grassland and ruderal areas could provide opportunities for ground-nesting birds. During the operational phase, there will be a direct loss in breeding habitat and potential disturbance or harm to nesting birds. This is assessed as having a medium magnitude effect on a receptor of low importance, resulting in a permanent, direct, medium-term **Moderate adverse** effect (**Significant**)

Mitigation

11.6.34. Where vegetation requires removal or soil stripping, it should be carried out outside of nesting bird season. Breeding bird season occurs between March–September (inclusive). If this is not possible, a suitably qualified ecologist should inspect the area no more than 48 hours prior to the removal. Should any nests, or nests in construction be located, a suitable stand-off distance should be maintained until the young have fledged. The ecologist will advise on suitable stand-off and provide a toolbox talk to all site contractors regarding their working limits and legal implications.

Residual Effects

11.6.35. As a result of the proposed mitigation, any harm or disturbance to nesting birds during construction will be negated. The sensitivity of the breeding birds is low, and the magnitude of change, following mitigation, is low. Therefore, there is likely to be a direct, temporary, medium-term **minor adverse** residual effect on the breeding birds (**not significant**) following the implementation of mitigation measures.

Invertebrates

Assessment of Potential Effects

11.6.36. The presence of ragwort within the grassland could support cinnabar moth. As such, the removal of ragwort during the construction phase reduces cinnabar numbers on site. This is assessed as having a medium magnitude effect on a receptor of low importance, resulting in a permanent, direct, medium-term **Moderate adverse** effect (**Significant**)

Mitigation

11.6.37. Much of the grassland on the boundary of the site will be retained; however, care should be taken during construction to ensure the retained ragwort is not trampled or strimmed.

Residual Effects

11.6.38. With the mitigation in place, the residual effects will be reduced to a **minor adverse effect (not significant)**.

Invasive Non-Native Plant Species

Assessment of Potential Effects

11.6.39. During the Construction Phase, without mitigation, clearance of habitats on-site may cause the Himalayan balsam on site to spread and could result in the spread of the species to the surrounding habitats and wider area via vehicle movements.

Mitigation

11.6.40. Prior to the construction works commencing, the Himalayan balsam will be eradicated following the most current guidance set out by the Environment Agency by a qualified contractor.

Residual Effects

11.6.41. Following the above mitigation, the residual effect will be reduced to negligible (**Not significant**).

11.6.42. **Table 11-7** sets out the summary of ecological effects arising from the Construction Phase

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Table 11-7 – Assessment of potential effects, additional mitigation, residual effects and monitoring during construction

Sensitive receptor	Potential Effects, Mitigation and Residual Effects	
Habitats		
Reedbeds	Potential effects	Direct loss of reedbed habitat located on site. The sensitivity of the reedbeds is medium, and the magnitude of change is Medium. Prior to the application of mitigation, there is predicted to be a permanent, direct, long-term Moderate Adverse effect (Significant) on reedbed habitats.
	Additional mitigation	Offsite compensation for the reedbed lost on site will be secured prior to commencement of construction on site in line with BNG commitments.
	Residual effects and monitoring	The offsite compensation will ensure that the habitat lost will be replaced. However, there will be a temporary loss of reedbed due to the time taken for the created reedbed to establish. As such, the residual effects will be reduced to a direct, temporary, medium-term minor adverse effect (Not significant)
Non- Priority Habitats	Potential effects	Direct loss of non-priority habitat on site Works within the root zone of the individual trees and hedgerows could damage the retained trees. Indirect effects on retained habitats as a result of pollution events The sensitivity of the non-priority habitats is low, and the magnitude of change is Medium. Prior to the application of mitigation, there is predicted to be a permanent, direct, long-term Moderate Adverse effect (Significant) on the non-priority habitats.
	Additional mitigation	Fencing to protect retained habitat and protect root protection areas. Pollution and dust pollution measures.

Sensitive receptor	Potential Effects, Mitigation and Residual Effects	
	Residual effects and monitoring	The sensitivity of the non-priority habitats is low, and the magnitude of change, following mitigation, is low. Therefore, there is likely to be a direct, temporary, medium-term minor adverse residual effect on the non-priority habitats (not significant) following the implementation of mitigation measures.
Protected and Notable Species		
Great Crested Newts	Potential effects	Direct harm to GCN could occur if encountered on site. Loss of terrestrial habitat such as grassland, understory of individual trees and scrub during clearance. The sensitivity of GCN is medium, and the magnitude of change is Medium. Prior to the application of mitigation, there is predicted to be a permanent, direct, medium-term Moderate Adverse effect (Significant).
	Additional mitigation	The Proposed Development will be covered by a GCN DLL Scheme in advance of the construction on-site. The payment to the scheme will be used to maintain or improve the conservation status of GCN in a strategically targeted area by Natural England.
	Residual effects and monitoring	The sensitivity of great crested newt within the Site has been categorised as up to County level. After mitigation, the effect is considered to be Negligible , and therefore Not Significant .
Common Amphibians	Potential effects	Vegetation clearance could result in the injuring or killing of common and widespread species of amphibians. This is assessed as having a medium magnitude effect on a receptor of low importance, resulting in a permanent, direct, short-term Moderate adverse effect (Significant).
	Additional mitigation	Any common amphibians encountered will be moved away from construction activities.
	Residual effects and monitoring	The sensitivity of common amphibians within the Site has been categorised as site level. After mitigation, the effect is considered to be Negligible , and therefore Not Significant .
	Potential effects	Light disturbance, temporary disturbance of foraging areas or severance of commuting routes.

Sensitive receptor	Potential Effects, Mitigation and Residual Effects	
Bats – Commuting and Foraging		The sensitivity of commuting and foraging bats on site is medium, and the magnitude of effect is low, resulting in a temporary, indirect, short-term Moderate adverse effect (significant).
	Additional mitigation	Lighting should follow the protocols outlined in The Institute for Lighting Engineers document “Guidance for the Reduction of Obtrusive Lighting” (2005) and The Institution of Lighting Professionals (ILP) (2023). “Bats and Artificial Lighting at Night. Guidance Note GN08/23”.
	Residual effects and monitoring	The sensitivity of commuting and foraging bats within the Site has been categorised as local level. After mitigation, the effect is considered to be Negligible , and therefore Not Significant .
Badger	Potential effects	Loss of commuting, foraging and sett building habitat during site clearance.
		Disturbance to badgers in local area.
		This is assessed as having a low magnitude effect on a receptor of low importance, resulting in a temporary, indirect, short-term Minor adverse effect (Not Significant) .
	Additional mitigation	Precautionary Working Methods.
	Residual effects and monitoring	The sensitivity of badgers within the Site has been categorised as site level. After mitigation, the effect is considered to be Negligible, and therefore Not Significant.
Other Terrestrial Mammals	Potential effects	Disturbance or direct harm to hedgehogs and clearance of suitable habitat during construction.
		This is assessed as having a medium magnitude effect on a receptor of low importance, resulting in a permanent, direct, short-term Moderate adverse effect (Significant)
		Clearence of suitable habitat for brown hare. This is assessed as having medium magnitude effect on a receptor of low importance resulting in a permanent, direct, short-term Moderate adverse effect (Significant)

Sensitive receptor	Potential Effects, Mitigation and Residual Effects	
	Additional mitigation	Toolbox talk and checks will be undertaken prior to the removal of vegetation for hedgehogs. Pre-commencement check of grassland habitats for leverets.
	Residual effects and monitoring	The sensitivity of hedgehogs and brown hare within the Site has been categorised as site level. After mitigation, the effect is considered to be Negligible , and therefore Not Significant .
Breeding Birds	Potential effects	Removal of suitable nesting habitat for common and widespread species. This is assessed as having medium magnitude effect on a receptor of low importance resulting in a permanent, direct, medium-term Moderate adverse effect (Significant)
	Additional mitigation	Nesting bird checks will be undertaken prior to vegetation removal, if these works are carried out during the nesting bird season.
	Residual effects and monitoring	The sensitivity of the breeding birds is low, and the magnitude of change, following mitigation, is low. Therefore, there is likely to be a direct, temporary, medium-term minor adverse residual effect on the breeding birds (not significant) following the implementation of mitigation measures.
Invertebrates	Potential effects	Removal of host plant for cinnabar moth. This is assessed as having medium magnitude effect on a receptor of low importance resulting in a permanent, direct, medium-term Moderate adverse effect (Significant)
	Additional mitigation	Much of the grassland on the boundary of the site will be retained; however, care should be taken during construction to ensure the retained ragwort is not trampled or strimmed.
	Residual effects and monitoring	The sensitivity of the receptor is low, and the magnitude of change, following mitigation, is low. Therefore, there is likely to be a direct, temporary, medium-term minor adverse residual effect on notable invertebrates (not significant) following the implementation of mitigation measures.
Other Receptors		

Sensitive receptor	Potential Effects, Mitigation and Residual Effects	
Invasive Non-Native Species (INNS)	Potential effects	Disturbance and spread of Himalayan balsam across the Site
	Additional mitigation	Himalayan balsam will be eradicated following the most current guidance set out by the Environment Agency by a qualified contractor.
	Residual effects and monitoring	No Change (INNS are not evaluated therefore, not subject to assessment). Effects on Important Ecological Features expected to be Not Significant .

OPERATIONAL PHASE

Habitats and Flora

Reedbeds

Assessment of Potential Effects

- 11.6.43. As the reedbed habitat is to be removed during the Construction Phase with no further habitat clearance during the Operational Phase, no impacts are anticipated to reedbeds during the Operational Phase. As such, the effect is considered to be **Negligible (Not Significant)**.

Additional Mitigation

- 11.6.44. As no reedbed habitat will be present on-site during the Operational Phase, no mitigation measures are recommended.

Residual effects and monitoring

- 11.6.45. The sensitivity of reedbed within the Site has been categorised as up to County level. The effect is considered to be **Negligible**, and therefore **Not Significant**.

Non-Priority Habitat

Assessment of Potential Effects

- 11.6.46. During the operational stage of the development, the retained habitats within the Site may be affected by changes in local air quality and dust pollution, which may reduce the quality of the habitats. No recreational pressure or further habitat clearance is anticipated during the operational phase. The sensitivity of the habitat is low, and the magnitude of change is low. Prior to the application of mitigation, there is predicted to be a permanent, indirect, long-term **Minor Adverse** effect (**Not Significant**) on retained habitats.

Additional Mitigation

- 11.6.47. Ecologically valuable habitats, including other neutral grassland, mixed scrub, other woodland; broadleaved, individual trees, attenuation features, and fens will be created within the Site. In addition, areas of other neutral grassland, mixed scrub, willow scrub, other woodland; broadleaved, trees, hedgerows, and lines of trees will be retained throughout the Development.
- 11.6.48. The Illustrative Landscape Masterplan shows a total loss of 17.18 (-67.48%) habitat units and a gain of 0.56 (11.16%) hedgerow units as a result of the development. As a 10% biodiversity net gain has not been achieved and the trading rules have not been met, the habitats must be compensated for offsite and secured through a habitat bank in line with the Environment Act 2021. This must be approved by the Local Planning Authority (LPA) prior to the commencement of construction on site.
- 11.6.49. Based on the current plans, a deficit of 19.73 habitat units on the 10% requirement will be incurred as a result of the development. A total of 18.48 habitat units would need to be offset to satisfy the trading rules. This includes 3.52 high distinctiveness wetland units; 8.94 medium distinctiveness habitat units (4.01 grassland units and 5.08 heathland and scrub units); and 6.02 low distinctiveness habitat units.

11.6.50. The HMMP will ensure that proposed habitats are managed to reach their target condition and retained habitats are managed to maintain their baseline condition and are not adversely affected by the Development.

Residual effects and monitoring

11.6.51. The HMMP will ensure that impacts by air quality and dust pollution are mitigated during the operational phase and habitats reach/maintain their condition.

11.6.52. Additionally, compensation through BNG will result in the replacement of the lost habitats on-site and off-site.

11.6.53. As such, after mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.

Protected and Notable Species

Great crested Newts

Assessment of Potential Effects

11.6.54. During the operation of the development, great crested newts may utilise habitats associated with the proposed development. However, pressure from human activity, such as trampling of terrestrial habitats and disturbance of refugia, could all limit the suitability of the site for foraging, shelter and dispersal.

11.6.55. The sensitivity of GCN is medium, and the magnitude of change is Low. Prior to the application of mitigation, there is predicted to be a permanent, indirect, long-term **Moderate Adverse** effect (**Significant**).

Additional Mitigation

11.6.56. The DLL Scheme will ensure off-Site compensation ponds are created within the wider area to maintain the conservation status of GCN in Greater Manchester.

11.6.57. Precautionary Working Methods for great crested newts will be followed during habitat management in accordance with the HMMP.

Residual effects and monitoring

11.6.58. The sensitivity of GCN within the Site has been categorised as up to County level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.

Common Amphibians

Assessment of Potential Effects

11.6.59. During the operation of the Proposed Development, common amphibians could be impacted by vegetation management and moving vehicles. The sensitivity of common amphibians is low, and the magnitude of change is Low. Prior to the application of mitigation, there is predicted to be a permanent, indirect, long-term **Minor Adverse** effect (**Not Significant**).

Additional Mitigation

11.6.60. Any common amphibians encountered during habitat management will be moved away by hand in accordance with the HMMP.

Residual effects and monitoring

- 11.6.61. The sensitivity of common amphibians within the Site has been categorised as site level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.

Bats – Commuting and Foraging

Assessment of Potential Effects

- 11.6.62. There may be impacts to foraging and commuting bats during the operational phase from lighting and habitat disturbance once occupied.
- 11.6.63. The sensitivity of commuting and foraging bats is medium, and the magnitude of change is Low. Prior to the application of mitigation, there is predicted to be a permanent, indirect, long-term **Moderate Adverse** effect (**Significant**).

Additional Mitigation

- 11.6.64. All bats have some degree of sensitivity to artificial, night-time lighting. The retained habitats such as the hedgerows and woodland will be maintained as dark corridors, and light spill will be less than 0.5 lux to limit impacts to bat species.
- 11.6.65. Lighting impacts on proposed habitats will be reduced, which are likely to become valuable foraging features for bats.
- 11.6.66. In order to limit these impacts, a competent lighting professional will be consulted to produce a Lighting Design with a horizontal illuminance contour plan (showing contours for 0.2, 0.5, 1, 5, and 10 lux) to demonstrate that the woodland will be maintained as dark areas of 0.5 lux levels or less. Furthermore, any construction lighting and street lighting installed should keep to the following recommendations in order to reduce the development's impact on bats.
- 11.6.67. The following recommendations are advised for the lighting strategy:
- Lighting should be pre-fixed on any proposed buildings, to ensure impacts on sensitive areas are diminished.
 - Warm white tones are preferable to blue-toned lights (3000k).
 - LED lights are preferable as they produce minimal UV.
 - To avoid light spill skyward, ensure lights face downward.
 - Make use of vegetation to block light spill into dark areas

- 11.6.68. It is recommended that any planting within the site be of native, flowering varieties to attract a diverse range of insects, which will, in turn, encourage bats onto the site.

Residual effects and monitoring

- 11.6.69. The sensitivity of commuting and foraging bats within the Site has been categorised as up to a local level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.

Badger

Assessment of Potential Impacts

- 11.6.70. Artificial lighting from the proposed buildings could extend into adjacent habitats and potentially disturb nocturnal badger activity or alter established commuting routes.

11.6.71. The sensitivity of badgers is low, and the magnitude of change is Low. Prior to the application of mitigation, there is predicted to be a permanent, indirect, long-term **Minor Adverse** effect (**Not Significant**).

Additional Mitigation

11.6.72. Precautionary Working Methods for badgers are to be followed during the management of habitats suitable for badgers, in accordance with the HMMP.

11.6.73. Lighting should ensure the retained boundary features such as the hedgerows are retained as dark corridors.

Residual effects and monitoring

11.6.74. The sensitivity of badgers within the Site has been categorised as site level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.

Other Terrestrial Mammals

Assessment of Potential Impacts

11.6.75. During the operational phase, hedgehogs may be subject to disturbance or injury during habitat maintenance.

11.6.76. The sensitivity of hedgehogs is low, and the magnitude of change is Low. Prior to the application of mitigation, there is predicted to be a permanent, direct, long-term **Minor Adverse** effect (**Not Significant**).

11.6.77. It is not thought that brown hare will utilise the site once developed and will favour the agricultural land in the wider landscape. As such, the development is assessed as having a **Negligible effect**.

Additional Mitigation

11.6.78. During habitat management in accordance with the HMMP, habitats suitable for hedgehogs will be checked for the presence of hedgehogs prior to removal. If any vegetation is too dense to be fully inspected, it should be trimmed to 50 cm and checked for hedgehog before being cleared to ground level. It is recommended that any clearance takes place outside of December-March to avoid impacting hibernating hedgehogs.

Residual effects and monitoring

11.6.79. The sensitivity of badgers within the Site has been categorised as site level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.

Breeding Birds

Assessment of Potential Impacts

11.6.80. Breeding birds may be impacted by the operational phase as a result of habitat maintenance.

11.6.81. The sensitivity of breeding birds is low, and the magnitude of change is Low. Prior to the application of mitigation, there is predicted to be a permanent, direct, long-term **Minor Adverse** effect (**Not Significant**).

Additional Mitigation

11.6.82. During habitat management in accordance with the HMMP, works are to be completed outside of the nesting bird season. This includes removal of diseased trees and pruning of hedgerows. If this is not

possible, the area will be subject to a nesting bird check by the ECoW, within 48 hours of works commencing. If a nest (or nest in construction) is found, a suitable stand-off area will be maintained.

Residual effects and monitoring

- 11.6.83. The sensitivity of breeding birds within the Site has been categorised as site level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.

Notable Invertebrates

Assessment of Potential Impacts

- 11.6.84. During the operational stage of the development, improper habitat management could result in the loss of ragwort, which in turn reduces breeding opportunities for cinnabar.
- 11.6.85. This is assessed as having a low magnitude effect on a receptor of low importance, resulting in a permanent, direct, medium-term **Minor adverse** effect (**Not Significant**).

Additional Mitigation

- 11.6.86. Habitat management will ensure that any ragwort encountered on site is not removed as detailed within the HMMP.
- 11.6.87. Planting will be introduced into the Development to include pollinator-friendly flora by including wildflower plants and shrubs, as well as flowering trees.

Residual effects and monitoring

- 11.6.88. The sensitivity of notable invertebrates within the Site has been categorised as site level. After mitigation, the effect is considered to be **Negligible**, and therefore **Not Significant**.

Table 11-8 – Assessment of potential effects, additional mitigation, residual effects and monitoring during operation

Sensitive receptor	Potential Effects, Mitigation and Residual Effects	
Habitats		
Reedbeds	Potential effects	No impacts on the reedbed habitat during the Operational Phase. The sensitivity of the reedbeds is medium, and the magnitude of change is Low. There is predicted to be a Negligible effect (Not Significant) on reedbed habitats.
	Additional mitigation	No mitigation measures are recommended.
	Residual effects and monitoring	The sensitivity of reedbed within the Site has been categorised as up to County level. As no impacts are anticipated, the effect is considered to be Negligible , and therefore Not Significant .
Non- Priority Habitats	Potential effects	Degradation of retained habitats. Disturbance from increased dust and air pollution. The sensitivity of the non-priority habitats is low, and the magnitude of change is Low. Prior to the application of mitigation, there is predicted to be a permanent, indirect, long-term Minor Adverse effect (Not Significant) on the non-priority habitats.
	Additional mitigation	Ecologically valuable habitats will be created and retained within the site. The HMMP will ensure that proposed habitats reach target condition and retained habitats maintain their baseline condition and are not adversely affected by the Development.
	Residual effects and monitoring	The sensitivity of the non-priority habitats within the Site is low. After mitigation, the effect is considered to be Negligible , and therefore Not Significant .

Sensitive receptor	Potential Effects, Mitigation and Residual Effects	
Protected and Notable Species		
Great Crested Newts	Potential effects	Disturbance from operational activities to retained/created terrestrial habitats within the Site The sensitivity of GCN is medium, and the magnitude of change is Low. Prior to the application of mitigation, there is predicted to be a permanent, direct, long-term Moderate Adverse effect (Significant).
	Additional mitigation	The DLL Scheme will ensure off-Site compensation ponds are created within the wider area to maintain the conservation status of GCN in Greater Manchester. Precautionary Working Methods for great crested newts will be followed during habitat management in accordance with the HMMP.
	Residual effects and monitoring	The sensitivity of great crested newt within the Site has been categorised as up to County level. After mitigation, the effect is considered to be Negligible, and therefore Not Significant.
Common Amphibians	Potential effects	Common amphibians could be impacted by vegetation management and moving vehicles. This is assessed as having a low magnitude effect on a receptor of low importance, resulting in a permanent, direct, long-term Minor adverse effect (Not Significant).
	Additional mitigation	Any common amphibians encountered during habitat maintenance will be moved away.
	Residual effects and monitoring	The sensitivity of common amphibians within the Site has been categorised as site level. After mitigation, the effect is considered to be Negligible, and therefore Not Significant.
Bats – Commuting and Foraging	Potential effects	Light disturbance and disturbance of foraging areas or severance of commuting routes. The sensitivity of commuting and foraging bats on site is medium, and the magnitude of effect is low, resulting in a permanent, indirect, long-term Moderate adverse effect (significant).

Sensitive receptor	Potential Effects, Mitigation and Residual Effects	
	Additional mitigation	Lighting should follow the protocols outlined in The Institute for Lighting Engineers document “Guidance for the Reduction of Obtrusive Lighting” (2005) and The Institution of Lighting Professionals (ILP) (2023). “Bats and Artificial Lighting at Night. Guidance Note GN08/23”.
	Residual effects and monitoring	The sensitivity of commuting and foraging bats within the Site has been categorised as local level. After mitigation, the effect is considered to be Negligible , and therefore Not Significant .
Badger	Potential effects	Disturbance to badgers in local area. This is assessed as having a low magnitude effect on a receptor of low importance, resulting in a permanent, indirect, long-term Minor adverse effect (Not Significant).
	Additional mitigation	Precautionary Working Methods should be followed during habitat management. Lighting should ensure the retained boundary features such as the hedgerows are retained as dark corridors.
	Residual effects and monitoring	The sensitivity of badgers within the Site has been categorised as site level. After mitigation, the effect is considered to be Negligible , and therefore Not Significant .
Other Terrestrial Mammals	Potential effects	Hedgehogs may be subject to disturbance or injury during habitat maintenance. The sensitivity of hedgehogs is low, and the magnitude of change is Low. Prior to the application of mitigation, there is predicted to be a permanent, direct, long-term Minor Adverse effect (Not Significant). It is not thought that brown hare will utilise the site once developed and will favour the agricultural land in the wider landscape. As such, the development is assessed as having a Negligible effect.
		Additional mitigation
	Residual effects and monitoring	The sensitivity of hedgehogs within the Site has been categorised as site level. After mitigation, the effect is considered to be Negligible , and therefore Not Significant .

Sensitive receptor	Potential Effects, Mitigation and Residual Effects	
Breeding Birds	Potential effects	Nest loss during habitat maintenance This is assessed as having a low magnitude effect on a receptor of low importance, resulting in a permanent, direct, long-term Minor adverse effect (Not Significant)
	Additional mitigation	Nesting bird checks will be undertaken prior to vegetation removal, if these works are carried out during the nesting bird season.
	Residual effects and monitoring	The sensitivity of breeding birds within the Site has been categorised as site level. After mitigation, the effect is considered to be Negligible, and therefore Not Significant.
Invertebrates	Potential effects	Removal of host plant for cinnabar moth. This is assessed as having a low magnitude effect on a receptor of low importance, resulting in a permanent, direct, long-term Minor adverse effect (Not Significant)
	Additional mitigation	Habitat management will ensure that any ragwort encountered on site is not removed as detailed within the HMMP. Planting will be introduced into the Development to include pollinator-friendly flora by including wildflower plants and shrubs, as well as flowering trees.
	Residual effects and monitoring	The sensitivity of notable invertebrates within the Site has been categorised as site level. After mitigation, the effect is considered to be Negligible, and therefore Not Significant.

ASSESSMENT AGAINST FUTURE BASELINE

- 11.6.89. The assessment shows that no significant likely effects are anticipated to occur due to the development. This is a similar impact to the future baseline where no significant change is expected.

11.7 CUMULATIVE EFFECTS

- 11.7.1. The above assessment has demonstrated that the proposed development would have no significant residual effects. Therefore, an assessment of cumulative effects of the proposed development alongside other consent and foreseeable development is not required. This approach is supported by Planning Practice Guidance, which confirms that Environmental Statements should be focused on likely significant effects and be proportionate to the nature and scale of the development.

11.8 OPPORTUNITIES FOR ENVIRONMENTAL ENHANCEMENT

- 11.8.1. Creation of other neutral grassland.
- 11.8.2. Creation of mixed scrub.
- 11.8.3. Creation of other woodland; broadleaved.
- 11.8.4. Creation of fens.
- 11.8.5. Tree planting.
- 11.8.6. Species-rich hedgerow planting.

11.9 DIFFICULTIES AND UNCERTAINTIES

- 11.9.1. A Preliminary Ecological Appraisal does not constitute a full botanical survey. Instead, key species are identified to give a representative description of each habitat type.
- 11.9.2. The site walkovers were undertaken in February and July, which is an appropriate time of the year to undertake a survey. However, as a result of seasonal vegetation dieback, it is possible that some species of flora may have been missed or misidentified, including some invasive/non-native species. However, due to the timing of the survey in the optimal season, this is not considered to be a significant constraint.
- 11.9.3. Generally, reptiles are reclusive animals and are often difficult to locate by virtue of their behaviour, cryptic colouration and habitat selection. It is therefore often difficult to prove absence. Binoculars were used in combination with the artificial refugia to search for basking animals in these areas to increase confidence in the survey.

11.10 SUMMARY

- 11.10.1. **Table 11-9** provides a summary of the findings of the assessment.

Table 11-9 - Summary of Potential Effects and Proposed Mitigation

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
Construction Phase					
Habitats					
Reedbeds	Loss of reedbed habitat located within the Site.	Moderate Adverse (significant) P / D / LT	Offsite compensation for the reedbed lost on site will be secured prior to commencement of construction in line with BNG commitments.	Minor Adverse (not significant) T/ D / MT	BNG obligations and will be secured via S106 agreement.
Non-Priority habitat	Direct loss of non-priority habitat on site Works within the root zone of the individual trees and hedgerows could damage the retained trees. Indirect effects on retained habitats as a result of pollution events	Moderate Adverse (Significant) P / D / LT	Fencing to protect retained habitat and protect root protection areas. Pollution and dust pollution measures.	Minor Adverse (not significant) T/ D / MT	Secured through a Construction Environmental Management Plan (CEMP) which will be conditioned
Protected and Notable Species					
Great Crested Newts	Direct harm to GCN could occur if encountered on site.	Moderate Adverse (Significant)	The Proposed Development will be covered by a GCN DLL Scheme in advance of	Negligible (Not significant)	Secured through Natural

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
	Loss of terrestrial habitat such as grassland, understory of individual trees and scrub during clearance.	P / D / MT	the construction on-site. The payment to the scheme will be used to maintain or improve the conservation status of GCN in Greater Manchester.		England District Level Licence Scheme.
Common Amphibians	Vegetation clearance could result in the injuring or killing of common and widespread species of amphibians.	Moderate Adverse (Significant) P / D/ ST	Any common amphibians encountered will be moved away from construction activities.	Negligible (Not Significant)	Secured through a Construction Environmental Management Plan (CEMP) which will be conditioned
Bats – Commuting and Foraging	Light disturbance and temporary disturbance of foraging areas or severance of commuting routes.	Moderate adverse (Significant) T / I / ST	Lighting should follow the protocols outlined in The Institute for Lighting Engineers document “Guidance for the Reduction of Obtrusive Lighting” (2005) and The Institution of Lighting Professionals (ILP) (2023). “Bats and Artificial Lighting at Night. Guidance Note GN08/23”.	Negligible (Not Significant)	Secured through a Construction Environmental Management Plan (CEMP) which will be conditioned
Badger	Loss and disturbance to commuting and foraging habitat	Minor Adverse (Not Significant) T / I / ST	Precautionary Working Method	Negligible (Not Significant)	Secured through a Construction Environmental Management Plan (CEMP)

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
	Disturbance to badgers in local area				which will be conditioned
Hedgehog	Disturbance or direct harm and clearance of suitable habitat during construction.	Moderate Adverse (Significant) P / D / ST	Toolbox talk and checks will be undertaken prior to the removal of vegetation.	Negligible (Not Significant)	Secured through a Construction Environmental Management Plan (CEMP) which will be conditioned
Brown Hare	Clearance of suitable habitat for brown hare.	Moderate Adverse (Significant) P / D / ST	Pre-commencement check of grassland habitats for leverets.	Negligible (Not Significant)	Secured through a Construction Environmental Management Plan (CEMP) which will be conditioned
Breeding Birds	Removal of suitable nesting habitat	Moderate Adverse (Significant) P / D / MT	Nesting bird checks will be undertaken prior to vegetation removal, if these works are carried out during the nesting bird season.	Minor Adverse (Not Significant) T / D / MT	Secured through a Construction Environmental Management Plan (CEMP) which will be conditioned
Notable Invertebrates	Removal of host plant for cinnabar moth.	Moderate Adverse (Significant)	Care should be taken during construction to ensure any	Minor Adverse (Not Significant)	Secured through a Construction Environmental

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
		P / D / MT	retained ragwort is not trampled or strimmed.	T / D / MT	Management Plan (CEMP) which will be conditioned
Other Receptors					
INNS	Disturbance and spread of Himalayan balsam across the Site	N/A	Himalayan balsam will be eradicated following the most current guidance set out by the Environment Agency by a qualified contractor.	N/A	Secured through a Construction Environmental Management Plan (CEMP) which will be conditioned
Operational Phase					
Habitats					
Reedbeds	No impacts are anticipated during the operational phase.	Negligible (Not Significant)	No mitigation is recommended.	Negligible (Not Significant)	-
Non-Priority Habitat	Degradation of retained habitats. Disturbance from increased dust and air pollution.	Minor Adverse (Not Significant) P / I / LT	A HMMP will be implemented over 30 years of the operational Development to ensure that the retained habitats are managed to maintain condition and created habitats are managed to reach their target condition.	Negligible (Not Significant)	Secured via the HMMP and BNG obligations and will be secured via S106 agreement.

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
			Compensation of habitats lost during the construction phase through the BNG, which will result in habitat creation on-site and off-site.		
Protected and Notable Species					
Great Crested Newts	Disturbance from operational activities to retained/created terrestrial habitats within the Site	Moderate to Minor Adverse (Significant) P / D / LT	The DLL Scheme will ensure off-Site compensation ponds are created within the wider area to maintain the conservation status of GCN in Greater Manchester. Precautionary Working Methods for great crested newts will be followed during habitat management in accordance with the HMMP.	Negligible (Not Significant)	Secured through Natural England District Level Licence Scheme.
Common Amphibians	Common amphibians could be impacted by vegetation management and moving vehicles.	Minor Adverse (Not Significant) P / D / LT	Any common amphibians encountered during habitat maintenance will be moved away.	Negligible (Not Significant)	Secured via the HMMP
Bats – Commuting and Foraging	Light disturbance and disturbance of foraging areas or severance of commuting routes.	Moderate Adverse (Significant) P / I / LT	Lighting should follow the protocols outlined in The Institute for Lighting Engineers document “Guidance for the Reduction of Obtrusive Lighting” (2005) and The Institution of Lighting	Negligible (Not Significant)	Secured via the HMMP and BNG obligations and will be secured via

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
			Professionals (ILP) (2023). "Bats and Artificial Lighting at Night. Guidance Note GN08/23".		S106 agreement.
Badger	Disturbance to badgers in local area.	Minor Adverse (Not Significant) P / I / LT	Precautionary Working Methods should be followed during habitat management. Lighting should ensure the retained boundary features such as the hedgerows are retained as dark corridors.	Negligible (Not Significant)	Secured via the HMMP and BNG obligations and will be secured via S106 agreement.
Hedgehog	Hedgehogs may be subject to disturbance or injury during habitat maintenance.	Minor Adverse (Not Significant) P / D / LT	Precautionary working methods should be followed during habitat management.	Negligible (Not Significant)	Secured via the HMMP and BNG obligations and will be secured via S106 agreement.
Breeding Birds	Nest loss during habitat maintenance	Minor Adverse (Not Significant) P / D / LT	Nesting bird checks will be undertaken prior to vegetation removal, if these works are carried out during the nesting bird season.	Negligible (Not Significant)	Secured via the HMMP and BNG obligations and will be secured via S106 agreement.

Receptor	Potential Effects	Significance of Effects Prior to Mitigation/Enhancement	Additional Mitigation	Residual Effects	Monitoring
Invertebrates	Removal of host plant for cinnabar moth.	Minor Adverse (Not Significant) P / D / LT	Habitat management will ensure that any ragwort encountered on site is not removed as detailed within the HMMP. Planting will be introduced into the Development to include pollinator-friendly flora by including wildflower plants and shrubs, as well as flowering trees.	Negligible (Not Significant)	Secured via the HMMP and BNG obligations and will be secured via S106 agreement.

Key to table:

P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable

11.11 REFERENCES

- **Reference 11.1:** Planning Practice Guidance. [Online] accessed via <https://www.gov.uk/government/collections/planning-practice-guidance>
- **Reference 11.2:** Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal.
- **Reference 11.3:** CIEEM (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine.
- **Reference 11.4:** Collins, J. (ed.) (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th edition. The Bat Conservation Trust, London.
- **Reference 11.5:** Environment Alliance (2007). PPG5: Pollution Prevention Guidelines; Works and Maintenance In or Near Water; PPG5.
- **Reference 11.6:** Froglife (2001). Great Crested Newt Conservation Handbook.
- **Reference 11.7:** Institute of Lighting Engineers (2005). Guidance Notes for the Reduction of Obtrusive Light.
- **Reference 11.8:** The Institution of Lighting Professionals (ILP) (2023). Bats and Artificial Lighting at Night. Guidance Note GN08/23.
- **Reference 11.9:** Natural England Joint Publication JP029 (2019). The Biodiversity Metric 2.0. Auditing and Accounting for Biodiversity, User Guide, Beta Version.
- **Reference 11.10:** Oldham, R. S., Keeble J., Swan, M. J. S. & Jeffcote, M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). *Herpetological Journal* 10 (4), 143–155.
- **Reference 11.11:** Stace, C. A. (2019). New Flora of the British Isles. Fourth Edition. Cambridge University Press.
- **Reference 11.12:** UKHab (2023) UK Habitat Classification Version 2.0

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