East Midlands Gateway
Phase 2 (EMG2)

Document [6.10]
ENVIRONMENTAL STATEMENT

Volume 1 Main Statement

Chapter 9

Ecology and Biodiversity

[January] 2025

09

The East Midlands Gateway Phase 2 and Highway Order 202X and The East Midlands Gateway Rail Freight and Highway (Amendment) Order 202X

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9. Ecology and Biodiversity

9.1. Introduction

9.1.1. This chapter has been prepared to assess the potential impacts of the **Scheme** (as defined in **Chapter 1)**, on ecology and biodiversity.

9.1.2. The scope of the Ecology and Biodiversity work is as follows:

- Describe the baseline conditions of the sites affected by the **Scheme** and the surroundings, covering ecological features, designations and quality and review the importance within the existing ecological framework and its sensitivity to change;
- Assess the ecological character of the sites and context in the wider area, predict the ecological effects of the **Scheme** and assess the significance of these effects;
- Review all relevant planning policy and guidance on ecology and biodiversity issues;
- Identify and evaluate the impacts of the **Scheme** and provide a mitigation strategy including a Biodiversity Net Gain Assessment; and
- Quantify any residual impacts.

9.1.3. Additional supporting information is provided within Appendices 9a – 9.j.

- Appendix 9a: Preliminary Ecological Appraisal;
- Appendix 9b: Badger Report;
- Appendix 9c: Bat Report;
- Appendix 9d: Bird Report;
- Appendix 9e: Invertebrate Report
- Appendix 9f: Otter and Water Vole Report;
- Appendix 9g: Reptile Report;
- Appendix 9h: Shadow Habitat Regulation Assessment (sHRA); and
- Appendix 9i: Biodiversity Net Gain Report.
- Appendix 9j: Arboricultural Impact Assessment

9.1.4. Further information on the **Scheme**, including site and development descriptions, are provided within Chapters 1-3 of this ES.

9.2. Scope and Methodology of the Assessment

Scoping Criteria

9.2.1. As discussed in **Chapter 1**, section 1.6 “Factors likely to be significantly affected by the development”, an EIA Scoping Request was submitted on 14 August 2024 to seek the Secretary

of State's opinion as to the scope, and level of detail, of the information to be provided in the ES. The Scoping Report (Appendix 1a) set out the proposed methodology for the Ecology and Biodiversity chapter.

9.2.2. The Planning Inspectorate (PINS) on behalf of the Secretary of State adopted its Scoping Opinion (**Appendix 1b**) on 24 September 2024 which confirmed Ecology and Biodiversity as requiring consideration in the ES. In addition to the Inspectorate's comments, the Scoping Opinion includes individual responses from prescribed consultation bodies, relevant statutory undertakers, and local authorities. Responses relevant to this chapter were received from the following:

- Environment Agency
- Natural England
- Forestry Commission
- National Grid
- National Highways
- Leicestershire County Council
- North West Leicestershire District Council
- Rushcliffe Borough Council
- Breedon on the Hill Parish Council
- Long Whatton and Diseworth Parish Council

9.2.3. This assessment is guided by the second edition of the CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland (2018)[i]. The guidelines are endorsed by statutory and non-statutory organisations including Natural England, Environment Agency, Association of Local Government Ecologists (ALGE), Institute of Environmental Management and Assessment (IEMA) and the Wildlife Trusts. It is similar to the broad structure set out in **Chapter 1** but is more specific to ecological assessment.

9.2.4. The assessment involves the following key stages:

- identifying the zone of influence (study area) arising from the whole lifespan of the project;
- a background data search to obtain archival records of sites and species, and to gain information to focus the field surveys;
- identifying ecological features through field surveys;
- determination of the ecological value of ecological features;
- identification of the potential impacts and assessment of impacts on the integrity or conservation status of the ecological features;
- incorporation of ecological enhancement and mitigation measures to avoid or reduce impacts, and compensation measures to balance any unavoidable significant impacts; and

- assessment of the significance of any residual ecological impacts remaining after the implementation of mitigation and compensation measures.

Identification of Study Area

9.2.5. In determining a study area, the CIEEM guidelines first consider 'important ecological features' (IEF), defined as those warranting detailed assessment (thus generally excluding any that are 'widespread, unthreatened and resilient to project impacts and will remain viable and sustainable'). They are to be expressed geographically (international, national, regional, county, local) and to be identified on the basis of expert judgement, including published information (for example designations, guidelines and scientific literature) and also – especially at the local level - that of experienced professionals (ecological facilitators and specialist consultees).

9.2.6. The zone of influence (referred to as the study area) for the assessment (the area within which ecological features may be affected) was determined with reference to IEFs on or around the **Scheme** (including designated sites), the extent and nature of project activities liable to give rise to potentially significant impacts, any incidence of mobile or migratory species, seasonality of ecological features, and ecosystem functioning including interdependencies between ecological features. The study area was influenced by responses from consultees during the scoping exercise and on information gathered in the background data search, especially in respect of designated sites/species that may be remote from the **Scheme**. Natural England provided extensive advice on the scope of the assessment as part of the consultation process.

9.2.7. On this basis, the study area includes:

- the land within the **Scheme** boundary (order limits);
- ecological features adjacent to the **Scheme** boundary (e.g. adjacent features or designated nature conservation sites) or close by (at distances increasing with their likely sensitivity to likely impacts);
- ecological features at moderate distances from the **Scheme** but which support species/habitats that could be affected by the forms of development/operational activities proposed; and
- sites/features at greater distances if they are important for species that might also depend on habitats within the **Scheme** boundary.

9.2.8. For purposes of this assessment the term '**Scheme**' refers to all land within the boundary of the DCO and the MCO Order Limits as indicated on **Documents 2.1** and **MCO 2.1** and provided as [**Figure xx]**. Where necessary a distinction is made between the **Scheme** components; namely the **EMG2 Main Site, the Highways Works and the EMG1 Works.** The term 'Study Area' refers to the zones of influence covered by the desk-based and field surveys, which varies as appropriate for the ecological feature being considered, due it its particular sensitivity, species home-range etc., as well as the nature of the predicted impacts. Unless otherwise specified within specific methodologies and baseline, the zones of influence for the desk study have been taken as follows:

- 15km around the **Scheme** boundary for sites of International Importance (e.g. Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar sites);

- 2km for sites of National or Regional Importance (e.g. Sites of Special Scientific Interest (SSSIs);
- 2km for European protected species records (e.g. The Conservation of Habitats and Species Regulations 2017, SCHEDULE 2);
- 1km for sites of Local or County Importance or statutory sites such as Local Nature Reserves (LNRs), Priority Habitats and Ancient Woodland; and
- 1km for other species records (e.g. protected, or Section 41 NERC species of principal importance and notable species).
- **Scheme**/adjacent – listed habitats of principal importance (HPI) under the NERC Act

Cumulative Impacts

9.2.9. Intra-project effects (the combination of individual effects from a development on a particular receptor), will be considered as part of the technical assessments and outlined where relevant.

9.2.10. Potential development contributing to inter-project effects (effects from other developments which when considered together could create a significant cumulative effect) are set out below in **Table 9.1**.

Table 9.1: Schemes with potential for inter-project cumulative effects

Scheme	Summary
The East Midlands Airport and Gateway Industrial Cluster (EMAGIC)	The EMAGIC area includes land within SEGRO's Logistics Park East Midlands Gateway (**EMG1**) north of the Airport which benefits from approval via a Development Consent Order and has now largely been developed. It also includes two development plots within the Airport boundary itself which would benefit from airport related permitted development rights.
The redevelopment of the Ratcliffe-on-Soar Power Station site (24/01356/SCREIA) / The East Midlands Intermodal Park (EMIP) near Derby	With regards the Ratcliffe-on-Soar site and EMIP, the principal cumulative impacts would relate to traffic, and therefore these sites are to be included as part of the analysis in the Transport Assessment.
Oaklands Farm Planning Inspectorate reference EN010122	The Proposed Development comprises a proposed solar farm with an associated Battery Energy Storage System. It will have a generating capacity of over 50MW and would be situated on 322 hectares of land at Oaklands Farm to the south-east of Walton-on-Trent and to the west of Rosliston in south Derbyshire.
Isley Woodhouse site allocation (North-West Leicestershire	The site comprises a large tract of agricultural land of some 316Ha. The A453 runs along the northern edge of the site but then cuts across the western extent of the land parcel in a broadly north-south direction. The site is being promoted for development as a

Scheme	Summary
emerging Local Plan IW1/EMP70)	new mixed-use village of some 4,500 homes with approximately 23,000sqm of employment floorspace, local centres (convenience shopping, pub/restaurant/cafe, GP, community venue etc) and primary and secondary schools.
Land South of A453 Ashby Road (24/00727/OUTM)	Outline planning permission (means of access from A453 fixed; all other matters reserved for future determination) for the construction of employment floorspace (use classes B2/B8) with ancillary (integral) offices (use class E(g)(i)); and associated infrastructure including earthworks, internal estate road, parking and landscaping (all).
Solar farm at Donington Park Service Area (23/01712/FULM)	The construction and operation of ground-mounted solar farm with a generation capacity of 9MW together with access, landscaping and associated infrastructure.
Land at Sawley Crossroads (District Council references 15/00015/FULM and 17/00366/VCIM)	Construction of regional distribution centre and associated development approved under planning permission ref. 15/00015/FULM without complying with Condition 5 so as to allow for an amended building design and siting, amended external storage areas, amended car park and amended drainage.
Site of Former Sawley Crossroads Service Station (District Council reference: 18/01115/FUL)	Phase 1 redevelopment of former filling station with 5 single storey, commercial units, parking, access and associated advertising.
Land at East Midlands Point (Junction 23A) (District Council reference 18/02227/FULM)	Erection of 3 no. office buildings (Class B1(a) & B1(b)), access, car parking, landscaping and associated works.
Land North and South of Park Lane, Castle Donington (District Council references 09/01226/OUTM and 16/00465/VCUM)	Development for uses permitted under planning permission reference 09/01226/OUTM without complying with conditions 1, 4, 7, 21, 29 and 30 so as to allow for the implementation of an alternative alignment of the relief road, for an alternative timescale for the provision of the road's first phase, and for non-compliance with the Code for Sustainable Homes.

Field Survey Methods

9.2.11. This section discusses the field survey methods which are relevant to collection of baseline data. The assessment methods used to determine magnitude of effect, sensitivity of receptor and therefore significance are described in the Assessment of Significance section later in this chapter.

Habitat Survey Methodology

9.2.12. Survey methods followed the extended Phase 1 Survey technique[ii] as recommended by Natural England. This involved a systematic walk over of the **Scheme** to classify the broad habitat types and identify any Habitats of Principal Importance (HPI) for the conservation of biodiversity as listed within Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006.

9.2.13. Where feasible, target notes and species lists were compiled for individual areas and assessments of abundance were made using the DAFOR scale (Dominant, Abundant, Frequent, Occasional or Rare). Vascular plant nomenclature follows Stace[iii]. Whilst the species lists collected should not be regarded as exhaustive, sufficient information was gained during the survey to enable classification and assessment of broad habitat types and identify features likely to be of interest.

9.2.14. The **Scheme** was also assessed using the UKHab Survey technique[iv] as recommended by Natural England[v] and the Chartered Institute of Ecology and Environmental Management[vi]. Condition assessments used the methodology as detailed within the Statutory Biodiversity Metric Technical Annex 1: Condition Assessment Sheets and Methodology[vii].

9.2.15. Hedgerows were broadly assessed against the 'Wildlife and Landscape criteria' contained within The Hedgerow Regulations 1997 to determine whether they qualified as 'Important Hedgerows'. This has been achieved using a methodology in accordance with both the Regulations and Defra guidance. It should be noted that hedgerows may also qualify as Important under the Archaeology and History criteria of the Hedgerow Regulations 1997 Act, which is beyond the scope of this assessment.

9.2.16. A River Condition Assessment (RCA) was conducted by accredited MoRPh field surveyors, recording data using the RCA information system and interpreting RCA indicators and scores for baseline and post-intervention scenarios. The levels of 'in-watercourse' and 'riparian' encroachment were also assessed following guidance provided in the Statutory Biodiversity Metric – User Guide[viii].

Faunal Surveys

9.2.17. During the initial extended Phase 1 Habitat survey, observations, identification and signs of any species protected under the following list of Acts and Regulations (collectively referred to herein as 'Protected Species') were recorded:

- Schedule 1 of the Wildlife and Countryside Act 1981 (as amended);
- The Protection of Badgers Act 1992; and
- The Conservation of Habitats and Species Regulations 2017.

9.2.18. Consideration has also been given to the existence and use of the **Scheme** by other fauna listed as one or more of the following (collectively referred to herein as 'Notable Species'):

- Species of Principal Importance (SPI) for the conservation of biodiversity in England on the Natural Environment and Rural Communities (NERC) Act, Section 41 (S41);
- Species listed on any Local Biodiversity Action Plan (LBAP) initiatives; and

- Red Data Book (RDB) species.

9.2.19. Following the extended Phase 1 Habitat survey, further surveys undertaken were:

- Badger – Badgers are known to occur locally, and the **Scheme** and adjacent habitat provide areas of suitable habitat for foraging, commuting and shelter. Surveys were undertaken in 2022 and 2024 following the standard methodology as recommended by Harris, Creswell and Jefferies (1989)[ix].
- Bats – A network of hedgerows provide potential commuting routes for bats. A significant number of trees had features which could support roosting bats. A suite of surveys for bats were undertaken in 2024. These consisted of ground-based tree assessments, aerial tree assessments, nocturnal emergence / re-entry surveys and bat activity surveys. The methodologies take into account guidance from the Bat Conservation Trust (BCT)[x] and the Joint Nature Conservation Committee (JNCC)[xi]. Previous survey data from 2022 which followed the now superseded BCT Guidance[xii] provided additional context.
- Birds – The **Scheme** provides suitable habitat for a range of farmland and urban bird species. Winter and breeding bird surveys were conducted in 2024 following the latest guidelines[xiii]. This assessment was supplemented by previous survey data which broadly followed the methodology based on territory mapping as used for the British Trust for Ornithology (BTO) Common Bird Census (CBC)[xiv].
- Reptiles – Field margins along **Scheme** boundaries and watercourses provide areas of suitable habitat for foraging and shelter. Surveys were undertaken in 2022 and 2024 based on methodology detailed in the Herpetofauna Workers Manual (1998)[xv] and the Froglife Advice Sheet 10 (Froglife 1999)[xvi].
- Otter and Water Vole – While no records of these species were returned, the **Scheme** and adjacent habitat provide restricted areas of suitable habitat. Surveys were undertaken in 2022 and 2024 based on the methodologies within Strachen et al (2011)[xvii], Strachen et al (2016)[xviii] and Crawford (2011)[xix].

9.2.20. Survey methods followed best practice methods such as those recommended by the CIEEM[xx].

Assessment of Significance

9.2.21. The following section expands on the general significance criteria guidance set out within Chapter 1 of this ES, with specific reference to ecology. Reference has been made to the Guidelines for Baseline Ecological Assessment (1995)[xxi] and to the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment (EcIA) in the UK and Ireland (2018)[xxii].

9.2.22. Having established the baseline ecology within the study area, the IEFs are identified, i.e. those considered to be both potentially affected and important. Importance may relate, for example, to the quality or extent of designated sites or habitats, to habitat/species rarity, to the extent to which they are threatened throughout their range, or to their rate of decline. It is only necessary to complete a detailed assessment where significant impacts are possible. On that basis many habitats and species that are widespread, unthreatened and resilient to impacts do not require further detailed assessment.

9.2.23. The importance level of any existing designations (e.g. SSSI, LWS, Red Data species), provides the starting point for identifying IEFs, since such designations embody a wide range of established knowledge and reflect consensus views about what is important.

9.2.24. CIEEM Guidance states that: "Ecologists may identify ecological features that are not included in lists of important sites or features, but considered important on the basis of expert judgment e.g. because of their local rarity or because they enable effective conservation of other important features." A wide range of properties of IEFs may contribute to such judgements e.g. habitat connectivity issues, information on the distribution of species (e.g. from county Floras), restriction to ancient features of the countryside that cannot easily be re-created, dependencies between one species and another etc.

9.2.25. The IEFs that may be affected by such activities have been evaluated within a geographical framework, which is based on expert judgement and a wide range of legislation and governmental guidance. An assessment of the nature conservation importance of features (sensitivity) has been made following the criteria suggested in CIEEM as follows; International, National, Regional, County and Local (**Table 9.2**). Features with a value of Local (low) or above were considered to represent IEFs. Features not meeting the criteria for IEFs are those that have been classified as having either less than Local or Negligible ecological importance.

Table 9.2: Definition of Sensitivity.

Sensitivity	Typical descriptors
International/National (High)	High importance and rarity, international/national scale, and limited potential for substitution.
Regional/County (Moderate)	Medium importance and rarity, regional/county scale, limited potential for substitution
Scheme/Local (Low)	Low importance and rarity, district/local scale.
Negligible	Very low importance and rarity.

9.2.26. Describing and taking into account the embedded mitigation, the potential effects arising from the construction and operation of the **Scheme** are identified.

9.2.27. The likelihood that a change / activity will occur as predicted has a degree of confidence assigned (i.e. certain, near certain, probable, unlikely, extremely unlikely). Where there is an impact on an IEF, the change / activity can result in a beneficial or adverse impact. Other parameters used to describe an impact upon an ecological structure or function are the extent, size, duration, reversibility and frequency of the affect. The CIEEM Guideline state in broad terms, significant effects encompass impacts on structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution).

9.2.28. The magnitude of the effect prior to and post mitigation is addressed as set out in **Table 9.3**.

Table 9.3: Definition of Magnitude of Impact

Magnitude	Typical criteria descriptors
High	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements (Adverse).
	Large scale or major improvement of resource quality; extensive restoration or enhancement; major improvement of attribute quality (Beneficial).
Moderate	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements (Adverse).
	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality (Beneficial).
Low	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements (Adverse).
	Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of adverse impact occurring (Beneficial).
Negligible	Very minor loss or detrimental alteration to one or more characteristics, features or elements (Adverse).
	Very minor benefit to or positive addition of one or more characteristics, features or elements (Beneficial).

9.2.29. The ecological significance of the impacts has been assessed, based upon the likely effect on the structure, function or conservation status of each feature. The assessment of impact significance has identified the need for mitigation and residual impacts have been assessed.

9.2.30. The significance of likely direct or indirect effects is determined by identifying those ecological features likely to be affected. The features have been evaluated to identify the important ones, i.e. those which, if their level of importance reduced, national or local policies (or in some cases legislation) would be triggered. The nature of the individual and combined impacts have been characterised on each important feature, to determine the longevity, reversibility and consequences for the feature in terms of ecological structure and function. Where it is concluded that an effect would be likely to undermine the conservation objectives of an IEF, it will be described as significant. In accordance with CIEEM guidelines, an effect may be significant at any geographical scale, i.e. from local to international.

9.2.31. The overall level of each effect is determined qualitatively by comparing its magnitude against the value (sensitivity) of the IEF. For this purpose, magnitude of effect is expressed synoptically on a scale of high, medium, and low (or negligible, if the magnitude of effect would have no perceptible effect on the integrity of the IEF). The value (sensitivity) of the affected IEF (already assessed on a geographical scale) can similarly be expressed as negligible, low, medium, high (or combined classifications, such as low/medium) as shown in the table below. The level of the effect is identified on a scale of negligible, minor, moderate and major. Where the matrix below (Table 9.4) identifies a combined classification, professional judgement is used to choose one classification or the other, or a “mid” level between the two significance levels is assumed.

Table 9.4: Effect Significance Matrix

Magnitude	Sensitivity		
	High	**Moderate**	**Low**
High	Major Adverse/Beneficial*	Major-Moderate Adverse/Beneficial*	Moderate-Minor Adverse/Beneficial
Moderate	Moderate Adverse/Beneficial*	Moderate-Minor Adverse/Beneficial	Minor Adverse/Beneficial
Low	Moderate-Minor Adverse/Beneficial	Minor Adverse/Beneficial	Minor-Negligible
Negligible	Negligible	Negligible	Negligible

* These effects are considered significant for the purposes of the EIA Regulations.

9.2.32. Whether an effect is direct or indirect is considered:

- Direct impacts are changes directly attributable to a defined action of the proposed development such as the physical loss of a habitat or the immediate mortality of an individual of a particular species; and
- Indirect impacts are attributable to an action which affects ecological resources through effects on an intermediary ecosystem, process or receptor, e.g. a loss of food resources for a species downstream of a site due to fish-kill by polluted runoff entering a river.
- Residual and cumulative impacts are also considered. After assessing the impacts of the proposal all attempts should be made to avoid and mitigate ecological impacts. Once measures to avoid and mitigate ecological impacts have been finalised, assessment of the residual impacts should be undertaken to determine the significance of their effects on ecological features. Effects of major and moderate are generally considered significant in EIA terms.
- Cumulative impacts are the collective effects of changes that may be insignificant individually but in combination, often over time, have the potential to be significant. Intra-project ("in combination") cumulative effects (i.e. cumulative effects on the same receptor from different aspects of the **Scheme** are assessed; for example bats could be affected by noise, and lighting; and so are intra-project effects. Inter-project effects arise due to the interaction of the **Scheme** with other development proposals within the zone of influence; for example habitat loss resulting from multiple projects either concurrently or consecutively.

9.3. Policy, Guidance and Legislative Context

9.3.1. **Table 9.5** summarises national and local policy specific to the assessment topic.

Table 9.5: Policy Context Relevant to Assessment

Policy Document	Policy Issue
NPSNN (2024)	The NPS at Paragraph 5.45 notes that international and national legislative impacting planning decisions affecting biodiversity and nature conservation issues are set out in the National Planning Policy Framework and that the Natural Environment Planning Practice Guidance document sets out good practice in England in relation to planning for biodiversity and geological conservation. The NPS requires applicants to consider the potential direct and indirect impacts on ecosystems including the impacts on habitats and protected species and the interactions between these, and provide environmental information proportionate to the likely impacts of the infrastructure on biodiversity and nature. The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests as well as consider how their proposal will deliver biodiversity net gain in line with the requirements in a Biodiversity Gain Statement. Further requirements with regard to biodiversity net gain is provided at Paragraphs 4.23 to 4.26 of the NPS. The requirements with regard to Habitat Regulations Assessment are considered at Paragraph 4.14 to 4.22 of the NPS.
NPPF (2024)	The Government published a revised version of the National Planning Policy Framework (NPPF) in 2024. Paragraph 187 of the NPPF states that “Planning policies and decisions should contribute to and enhance the natural and local environment by: a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan); b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland.” Paragraph 187 also states that: “d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures and incorporating features which support priority or threatened species such as swifts, bats and hedgehogs;” With regard to planning applications and biodiversity, Paragraph 193 of the NPPF states that: “When determining planning applications, local planning authorities should apply the following principles: a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with

	less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused; b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest; c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate." In Paragraph 198, the NPPF advises that "Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should: a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation."
North West Leicestershire Local Plan 2011-2031 Adopted November 2017 (as amended in 2021)	Policy EN1- Nature Conservation Proposals for development will be supported which conserve, restore or enhance the biodiversity in the district. Where a proposal for development would result in significant harm to one of the following and which cannot be avoided, or mitigated or compensated for, then planning permission will be refused: a) Special Areas of Conservation (SAC); b) Sites of Special Scientific Interest (SSSI); c) Local and Regionally Important Geodiversity Sites (RIGS) and candidate Regionally Important Geodiversity Sites (cRIGS); d) Local Wildlife Sites (LWSs), Local Nature Reserves (LNRs) and candidate Local Wildlife Sites (cLWSs) which meet the Leicester, Leicestershire and Rutland LWS criteria; e) Local and National Biodiversity Action Plan-related (BAP) priority habitats; f) River corridors; g) Irreplaceable habitats (defined as Ancient woodlands; Mature plantation or secondary woodland; Species-rich ancient hedgerows; Aged or veteran trees; Species-rich neutral grassland; Acid grassland and heath grassland; Dry and wet heathland; Bogs and Sphagnum pools and Rock outcrops).

	New development will be expected to maintain existing ecological networks, hotspots and landscape features (such as water courses and waterways, disused railway lines, trees and hedgerows) for biodiversity, as well as for other green infrastructure and recreational uses. Where a proposed development would attract additional visitors to an area or facility it should be demonstrated how any potential impact upon an area or feature of biodiversity interest will be managed as part of the new development. The use of Sustainable Urban Drainage Systems (SuDS) to create wetland and marshland habitats will be encouraged subject to the provisions of Policy Cc4.
Space for Wildlife: Leicester, Leicestershire and Rutland Biodiversity Action Plan (LLRBAP). 2016-2026 2nd Edition December 2016.	The document aims to promote a flexible approach to nature conservation and areas managed for wildlife in Leicestershire and Rutland which is relevant and applicable to all parts of the local landscape. 'Space for Wildlife' has three components: • To promote the restoration, management and creation of BAP Priority Habitats • To promote the creation of new wildlife habitat in the wider countryside • To survey, monitor and promote favourable management of existing good sites through the Local Wildlife Sites system. The document provides details of 19 Priority Habitats and includes sixteen Species Action Plans. Nearly 1000 species are listed Inventory of Key Species, published by Leicestershire Museums Arts and Records Service (LMARS). To recognise this, the definition of 'Local BAP species' has been widened to include an additional core list of priority species, based on listing in Local Red Data Books or identified as 'rare' in a County or VC55 checklist.

9.3.2. In addition to the context provided by national and local policy, the nature conservation legislation that has been used to inform this assessment is as follows:

Environment Act 2021

9.3.3. The Environment Act 2021 came into force on 9th November 2021. Most developments subject to the Town and Country Planning Act are required provide an at least 10% biodiversity net gain (BNG), as calculated using a Biodiversity Metric and provide a Biodiversity Gain Plan, with habitat used for net gain to be secured for a minimum of 30 years. Delivery of BNG may be on site, off-site or undertaken using statutory biodiversity credits.

9.3.4. At the time of writing, Nationally Significant Infrastructure Project (NSIP) developments are not yet subject to mandatory BNG requirements. The implementation of BNG in relation to NSIPs is expected from November 2025 onwards.

Natural Environment and Rural Communities (NERC) Act 2006

9.3.5. Section 41 of the Natural Environment and Rural Communities Act, 2006 requires that the Secretary of State should produce a list of 'habitats and species of principal importance for conservation of biodiversity'. The list guides decision makers in having regard to the conservation of biodiversity when carrying out their normal functions.

Wildlife and Countryside Act 1981 (as amended)

9.3.6. The Wildlife and Countryside Act, 1981 (as amended) is the principal mechanism for wildlife protection in the UK. It was originally aimed at consolidating and amending previous legislation to implement the requirements of the Bern Convention and the Birds Directive.

9.3.7. Under the Wildlife and Countryside Act, 1981 nature conservation site protection measure in the UK (i.e. the statutory designation of Sites of Special Scientific Interest (SSSI)) is established.

9.3.8. It provides a range of protection relating to wild birds, other animals, and plants.

Conservation of Habitats and Species Regulations 2017

9.3.9. The Conservation of Habitats and Species Regulations 2017 (as amended) consolidate the Conservation of Habitats and Species Regulations 2010 with subsequent amendments. The Regulations transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law.

9.3.10. The Regulations provide for the designation and protection of 'European sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European sites.

The Protection of Badgers Act 1992

9.3.11. Under the Protection of Badgers Act 1992 the following acts relevant to the proposals are criminal offences: taking, injuring or killing badgers, cruelly ill-treating a badger and interfering with badger setts.

9.3.12. Licences can be obtained under the Act to carry out certain acts which would otherwise be forbidden by the Act for the following purposes. This includes for the purpose of development.

The Hedgerow Regulation 1997

9.3.13. These regulations, enforced under the Environment Act 1995, restrict the removal of important agricultural hedgerows, or parts of them which are over 20m in length.

9.3.14. The regulations include criteria for identifying "important" hedgerows where notice must be given for their removal. Exemptions to this include the carrying out of planning permission.

Background Data Search

9.3.15. In order to compile existing baseline information, relevant ecological information was sought from both statutory and non-statutory organisations, for the purpose of this report these include:

- Multi Agency Geographic Information for the Countryside (MAGIC);
- Leicestershire and Rutland Environmental Records Centre (LRERC);
- Derbyshire Biological Records Centre (DBRC); and
- Nottinghamshire Biological and Geological Record Centre (NBGRC).

9.3.16. The search area for biodiversity information was related to the significance of the site, species and potential zones of influence, as detailed above in paragraph 9.2.8[TBC].

9.3.17. Further inspection, using colour 1:25,000 OS base maps and aerial photographs from online sources were also undertaken in order to provide additional context and identify any features of potential importance for nature conservation in the wider countryside.

9.3.18. Details of any limitations encountered, and assumptions made during the surveys are provided in the relevant Technical Appendix. No limitations encountered were considered to have significantly affected results or subsequent assessment.

9.4. Baseline Conditions

Desk Study

Statutory Designated Sites

9.4.1. A single statutory sites of international conservation importance was located within 15km of the **Scheme** boundary. This was the River Mease SAC located approximately 13.5km at its closest point. As a relatively un-modified lowland river, the River Mease contains a diverse range of physical in-channel features and is designated for the following features[xxiii]:

- H3260 Water courses of plain to montane levels with *R. fluitantis*;
- S1092 Freshwater crayfish, *Austropotamobius pallipes*;
- S1149 Spined loach, *Cobitis taenia*;
- S1163 Bullhead, *Cottus gobio*; and
- S1355 Otter, *Lutra lutra.*

9.4.2. The River Mease SAC is listed as unfavourable for nutrient pressure from phosphorus[xxiii].

9.4.3. A single nationally designated sites of nature conservation interest was identified within 2km of the **Scheme** boundary. This was Lockington Marshes SSSI located approximately 1km at its closest point. The site comprises one of the largest remaining areas of willow carr woodland in Leicestershire and a diverse complex of wetland habitat supporting an important invertebrate fauna with many nationally scarce species. Attenborough Gravel Pits SSSI is a designated for:

- Invertebrate assemblage of W3 permanent wet mire (unfavourable- recovering);
- Lowland fens, including basin, flood-plain, open water transition and valley fens (unfavourable- recovering); and
- Lowland mixed deciduous woodland (unfavourable- recovering).

9.4.4. Undergrazing is the only pressure listed on the Lockington Marshes SSSI.

9.4.5. During the consultation process Natural England requested that Attenborough Gravel Pits SSSI, located approximately 5.5km at its closest point, was also considered due to potential for hydrological connection. Attenborough Gravel Pits SSSI is a nationally important site for:

- lowland eutrophic open waters with emergent vegetation (unfavourable);
- wet floodplain woodland (favourable);
- unimproved floodplain grassland (unfavourable- recovering);
- breeding bird assemblages associated with lowland open waters and their margins (no details);
- wintering shoveler Anas clypeata (favourable); and
- wintering bittern Botaurus stellaris (favourable).

9.4.6. Pressures on the Attenborough Gravel Pits SSSI are listed as land use change, agricultural sources of water pollution and other/unknown sources of water pollution.

9.4.7. Different components of the **Scheme** fall within several SSSI Impact Risk Zones (IRZs) relating to Lockington Marshes, Oakley Wood and Donington Park SSSIs. Relevant triggers were considered to be:

- Infrastructure: Pipelines and underground cables, pylons and overhead cables (excluding upgrades and refurbishment of existing network). Any transport proposal including new or extended footways, cycleways, roads/car parks, railways and waterways (excluding routine maintenance). Airports, helipads and other aviation proposals. (**Highways Works**);
- Rural Non-Residential: Large non-residential developments outside of existing settlements/urban areas where the footprint exceeds 1ha (**Highways Works**);
- Water Supply: Large infrastructure such as warehousing/industry where the total net additional gross internal floorspace following development is 1,000m² or more (**Highways Works**);
- Discharge: Any discharge of water or liquid waste of more than 5m³/day that is discharged to ground (ie to seep away) or to surface water, such as a beck or stream (**EMG1 Works** and **Highways Works**); and
- Discharge: Any discharge of water or liquid waste of more than 20m³/day that is discharged to ground (ie to seep away) or to surface water, such as a beck or stream. (**EMG2 Main Site**).

9.4.8. The identified SSSIs and SAC are of national/international importance and of high sensitivity.

Non-statutory Designated Sites

9.4.9. Consultation with the local record centres identified 80 sites of local conservation importance within 1km. These are detailed in Appendix 9a and summarised below.

9.4.10. Four local designations were reported within 1km. In brief, these consisted of:

- There were 5 LWSs. These are designated as locally important reservoirs of rare, local and declining native species and are the best local examples of habitats.
- There were 44 candidate LWSs (cLWS), three of which were closely bordering or overlapping the boundary. These are sites that meet the criteria for designation. Their status has not been formally agreed with landowner.
- There were 13 potential LWSs (pLWS). These are sites where there is recent evidence that they are likely to meet the LWS criteria, but further survey would be required to confirm this.
- There were 18 potential-historic LWSs (pLWS.hist), four of which were closely bordering or overlapping the boundary. These are sites that have not been recently surveyed to check their modern status. These sites were designated during the late 1980s/early 1990s, based on comprehensive habitat surveys.

9.4.11. The identified locally designated sites are of county importance and of medium sensitivity. The latter two designations have been assigned this value on a precautionary basis given the lack of available data.

Protected and notable species records

9.4.12. Records of protected and / or notable species have been received from those consultees highlighted above. Records were filtered to provide data from the last twenty years (2004 onwards), with either 2km for European protected species, or 1km for other notable and protected species. Records of provided in **Appendix 9a**. and summarised below in **Table 9.6**.

Table 9.6: Summary of Relevant Protected and Notable Species Records

Species	Status	Relationship to Scheme
European Protected Species – 2km		
Great crested newt *Triturus cristatus*	WCA, NERC, CHSR, BAP, Bern, HDir	Thirteen locations recorded, including on and immediately adjacent to the **EMG2 Main Site**. Based on the grid references supplied, the records located within the **Scheme** boundary were in an arable field. However, the location description listed the record as being for a pond within the grounds of the adjoining Donington services. The grid reference is considered erroneous, and the true location is likely the offsite pond within Donington Park Services.

Species	Status	Relationship to Scheme
Otter *Lutra lutra*	WCA, NERC; CHSR, BAP, Bern, CITES, HDir,	Five locations recorded with closest 1.83m east of the **Highways Works**. Additional non-specific location within SK4422.
Bats- *Chiroptera* – unidentified bat Brown long-eared *Plecotus auritus* *Pipistrelle* Sp. Common pipistrelle *Pipistrellus pipistrellus* Nathusius's Pipistrelle *Pipistrellus nathusii* Soprano pipistrelle *Pipistrellus pygmaeus* *Myotis* sp. Daubenton's *Myotis daubentonii* Natterer's *Myotis nattereri* Whiskered *Myotis mystacinus* *Nyctalus* sp. Leisler's *Nyctalus leisleri* Noctule *Nyctalus noctula*	WCA, NERC; CHSR	Various records in 2km. The closest recorded roosts were in Old Hall Farm and included common pipistrelle and brown long-eared bat Summer roosts. The farm is located 80m west of the **EMG2 Main Site** and 20m south of a small area of **Highways Works**.
Other Protected and Notable Species		
Mammals – Badger *Meles meles* Black rat *Rattus rattus* Brown hare *Lepus europaeus* Hedgehog *Erinaceus europaeus* Polecat *Mustela putorius* Water vole *Arvicola amphibius*	PBA, BAP, Bern, CHSR, HDir, NERC	For badger records see confidential Appendix 9.2. A single record of black rat 330m north of the **Highways Works**. Fourteen records of hare with closest 300m north-east **of EMG2 Main Site**. Fifty-nine records of hedgehog, with a record within **EMG2 Main Site**. Two records of polecat with the closest 125m north of the **EMG2 Main Site** boundary, within the grounds of Donnington Services. Two records of water vole in grid square SK4829.
Herpetofauna- Common frog *Rana temporaria* Common toad *Bufo bufo* Smooth newt *Lissotriton vulgaris*	BAP, Bern, NERC, WCA.	Thirteen records of common frog with the closest 30m south of the **Highways Works**. Twelve records of common toad with the closest 150m south of **EMG2 Main Site**. Twenty-seven records of smooth newt with a record within the **EMG1 Works** boundary.
Invertebrates– Blood-vein *Timandra comae* Cinnabar *Tyria jacobaeae* Hairy Dragonfly *Brachytron pratense* Shaded Broad-bar *Scotopteryx chenopodiata* Small Heath *Coenonympha pamphilus*	BAP, NERC, WCA.	Of the species listed the small heath is noted as uncommon, with the remaining species considered common and widespread. An additional record was noted just outside of the temporal search parameters of a White-letter Hairstreak *Satyrium w-album*. This was recorded in 2003 approximately 450m west of **Scheme**. This species is in serious decline and is therefore a priority species for conservation efforts.

Species	Status	Relationship to Scheme
Plants – Various records of notable plants within 1km of the Site.	CITES, LRPR	On-site records were: Bee orchid *Ophrys apifera* on the A453 road verge. Buck's-horn Plantain *Plantago coronopus* on the A453 kerbside. Burnet Rose *Rosa spinosissima* at Hyam's Lae Chicory *Cichorium intybus* on the A453 road verge. Grass Vetchling *Lathyrus nissolia* at Hyam's Lane Scarlet pimpernel *Anagallis arvensis* subsp. *arvensis* south of A453. On-site records were all listed as locally rare.
Birds- Fifty-eight notable bird species including twenty-seven WCA Schedule 1 species.	BoCC Red List, BoCC Amber List, NERC, WCA, BAP, Bern, Bonn, BDir, CITES.	Bird records were clustered around apparent targeted recording locations. Skylark *Alauda arvensis*, dunnock *Prunella modularis* and red kite *Milvus milvus*, yellow hammer *Emberiza citronella*, and lapwing *Vanellus vanellus* were all recorded within 50m of the **Scheme** boundary.

Key to Conservation Status: CHSR – The Conservation of Habitats and Species Regulations 2017 (as amended), NERC – Natural Environment and Rural Communities Act 2006, WCA – Wildlife and Countryside Act 1981 (as amended), PBA - Protection of Badgers Act 1992, BoCC Amber – Amber Listed under Birds of Conservation Concern, BoCC Red – Red Listed under Birds of Conservation Concern, BAP – UK Biodiversity Action Plan Priority Species, RedList– Red lists based on IUCN guidelines, Bern - Bern Convention on the Conservation of European Wildlife and Natural Habitats, HDir - Habitats Directive, CITES- Convention on International Trade in Endangered Species, Bonn- Bonn Convention on the Conservation of Migratory Species of Wild Animals, BDir- EU Birds Directive Annex, LRPR - VC55 Rare Plant Register 2022.

9.4.13. A search on MAGIC indicated five European Protected Species Licences (EPSL) within 2km of the **Scheme**. The details for the ESPL are as follows:

- Approximately 450m west of the **Scheme**, Natural England reference 2016-25575-EPS-MIT – brown long-eared bat, common pipistrelle, Natterer's bat, and whiskered bat resting site. License valid 21/09/2016 – 19/09/2021.
- Approximately 520m west of the **Scheme**, Natural England reference EPSM2010-2454 – common pipistrelle and brown long-eared bat breeding and resting site. License valid 01/11/2010 – 31/10/2012.
- Approximately 960m east of the **Scheme**, Natural England reference EPSM2012-4876 – common pipistrelle and brown long-eared bat breeding and resting site. License valid 17/12/2012 – 31/08/2014.
- Approximately 1.05km west of the **Scheme**, Natural England reference EPSM2011-3211 – common pipistrelle and brown long-eared bat resting place. License valid 21/07/2011 – 31/08/2013.
- Approximately 1.96km southeast of the **Scheme**, Natural England reference EPSM2012-4829 – common pipistrelle resting place. License valid 27/09/2012 – 31/10/2012.

Field Surveys – Habitats

EMG2 Main Site

9.4.14. The **EMG2 Main Site** comprises land immediately south of East Midlands Airport and to the east of the village of Diseworth. It extends to approximately 105ha in size and is dominated by arable field compartments bounded by hedgerows and scattered mature trees. In addition, there is one improved grassland field and one semi-improved grassland field compartment and 3 small areas standing water. Surrounding land-use is dominated variously by grassland and arable field compartments, with Diseworth village to the south-west, East Midlands Airport to the north and the Donington Park Services and the M1 motorway to the east.

9.4.15. A detailed description of each habitat type is described provided in **Appendix 9a**. and summarised below in **Table 9.7**.

Table 9.7: Summary of habitats at the EMG2 Main Site

Habitat Type	Description	Evaluation
Individual Trees	Mature and semi-mature trees were present throughout the **EMG2 Main Site**, mainly in association with hedgerows. Eighty-six individual trees were identified. These were trees which were not considered a constituent part of the habitat in which they were sited. As a group the trees were set in agricultural landscape with limited natural vegetation surrounding them. One tree was considered to be veteran under NPPF (2024) definition, with a further fourteen also considered to be veterans under the Biodiversity Gain Requirements[xxiv].	Veteran Trees, as classified under either definition, are considered to be of Local importance, being typical in the landscape, with ash trees declining from ash dieback (Chalara) being a prevalent feature. The remaining trees are considered to typical of the wider landscape and also of Local importance.
Mixed Scrub	Small areas of scrub were present in association with ponds P1 and P3, along ditch D1, and along hedgerows. The extents of these habitats were restricted by adjoining agricultural activities.	Scrub is common and widespread within the local area and is considered to be of Negligible importance.
Broadleaved woodland	Several areas of offsite broadleaved woodland listed as HPIs on Defra's Priority Habitats Inventory (England) bounded the northern boundary of the A453. These appeared of relatively modern origin, with the majority thought to have been planted in association with the creation of the A453.	While of a planted origin, the woodlands have developed a more diverse structure including a range of mature trees, woodland edge habitats, and associated ground flora. The woodland habitats are considered to be of Local importance.
Other neutral grassland	One semi-improved neutral grassland field was present within the **EMG2 Main Site**. The sward height was largely uniform as a result of grazing, and there was more than 5%	The grassland is relatively species-poor and support common and widespread floral species. Such grassland habitats are frequent and widespread.

	combined cover of undesirable species (creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, white clover *Trifolium repens* and broad-leaved dock *Rumex obtusifolius*).	Accordingly, the semi-improved grassland is considered to be of Negligible importance.
Modified grassland	One improved horse grazed field was present within the **EMG2 Main Site** boundary. It had a sward height of 5-15cm and was dominated by perennial ryegrass *Lolium perenne*.	The grassland is relatively species-poor and support common and widespread floral species. Such grassland habitats are frequent and widespread. Accordingly, the modified grassland is considered to be of Negligible importance.
Bare ground with Ruderal Vegetation	Two distinct areas were being used for soil and manure storage mounds within a larger area of bare ground. These had become colonised by ruderal vegetation, including bramble *Rubus fruticosus agg*., common dandelion *Taraxacum officinale*, cocksfoot grass *Dactylis glomerata* and common nettle *Urtica dioica*. The vegetation structure was not varied, and there was a limited variety of flowering species.	These areas were considered to be of Negligible importance.
Ponds	Three ponds (P1-P3) were present on **EMG2 Main Site**. Pond (P1) was seasonal pond approximately 5 x 8m in size, and was bound by a small group of crack willow trees. The pond lacked any aquatic vegetation. Pond (P2) is a steep banked field pond adjacent to a hedgerow. It measured c.20m x 5m and was bounded by dense bramble scrub. The pond is known to support a population of great crested newts. Pond (P3) comprised a wet depression, with a small rectangular area of open water at its centre. The pond was surrounded by scattered scrub. Pond P3 is listed as a potential (historic wildlife site), however does not appear to meet current criteria to selected as a LWS.	As a potential historical LWS, pond P3 is considered under the assessment of designated sites. Within Leicestershire, field ponds have declined in number and quality[xxv]. Ponds act as important stepping-stone habitats for mobile species, and can contribute to supporting metapopulations of local amphibians. The ponds do not currently meet the criteria for Local Wildlife Site designation[xxvi] and are considered to be of Local importance.
Cereal Crops and associated margins.	The majority of the **EMG2 Main Site** comprised a arable field compartments with narrow grassy margins (1-2m). Species included common couch *Elytrigia repens*, creeping bent *Agrostis stolonifera*, and cocksfoot grass.	Cropland is common and widespread within the local area and considered to be of Negligible significance. Arable margins were narrow, species poor and not under any stewardship scheme and

		considered to be of Negligible importance.
Hedgerows	There were 60 native hedgerows present on **EMG2 Main Site**. All comprised at least 80% native woody species and therefore qualify as Habitats of Principal Importance (HPI) under S41 of the NERC Act. The hedgerows were all heavily managed within their agricultural context, acting as formal field boundaries. Twelve hedgerows (H7, H11b-c, H12, H18a-c, H22, H26a, H35, H36 and H39) were considered to be of Importance under the Hedgerow Regulations.	The hedgerows provide a relatively undisturbed network of habitat for wildlife through what is ostensibly an intensively managed agricultural area. They do not currently meet the criteria for Local Wildlife Site designation and are considered to be of Local importance.
Watercourse	A shallow field ditch in poor condition runs through the south-east of the **EMG2 Main Site**, feeding into an offsite subterranean drainage system. The nature of the channel is clearly straightened to serve as a field ditch. Hydrological monitoring and modelling indicate that the ground water level is generally below the depth of the ditch. The function of the feature is considered to be surface water drainage from the surrounding arable land. Beyond the western boundary, a small tributary of the Diseworth brook runs from north to south. As the stream comes within 10m of the **EMG2 Main Site**, it is considered that the associated riparian zone extends into the **EMG2 Main Site** red line. The stream appears to be fed from attenuation and drainage features within the East Midlands Airport Complex, with a culverted section crossing under the A453 in the northwest corner of the **EMG2 Main Site**. The stream has straightened and reinforced channel sections and was classified as over-deep.	While the ditch provides some value as a habitat in itself, the lack of connectivity to a wider riparian network means it is considered to be of negligible significance. Given its hydrological connectivity the stream is considered to be of Local importance.

Highways Works

9.4.16. The **Scheme** includes improvements to off-site **Highway Works** to accommodate the anticipated traffic flows. This will involve new highway infrastructure and works to the existing road network around Junction 24 of the M1 as described in full in **Chapter 3**.

9.4.17. While much of the highways land is comprised of hardstanding, a variety of habitats bound the existing infrastructure. A detailed description of each habitat type is described provided in **Appendix 9a**. and summarised below in **Table 9.9**.

Table 9.9: Summary of habitats in association with Highways Works

Habitat Type	Description	Evaluation
Individual Trees	Mature and semi-mature trees were present throughout the **Highway Works area**, mainly in association with hedgerows and lines of trees. Eight individual trees are located by Ashby Road South of junction 24 of the M1, with and addition 2 trees to the south of that. Four individual trees were present within the roundabout island off Beverley Road along the A53. Nine individual trees were present parallel to H24.	No veteran trees have been recorded within this area of the **Highway Works area**. The trees are considered to typical of the wider landscape and of Local importance.
Mixed Scrub	Mixed scrub was recorded along woodland edges and in areas of recent planting. Bramble scrub was recorded on roadside verges and central roundabout islands.	Scrub is common and widespread within the local area and is considered to be of Negligible importance.
Other Neutral grassland	Many of the roadside verges and compartments classified as other neutral grassland supporting species compositions which were typical of commercial seeding mixes. Management appeared to being undertaken sensitively allowing a longer sward to develop in summer months.	The grasslands were subject to high levels of disturbance from adjacent highways. They supported common and widespread floral species. Such grassland habitats are frequent and widespread. Accordingly, the other-neutral grassland is considered to be of Negligible importance.
Modified Grassland	Modified grassland was recorded in association with boundary habitats along highways and around Donington services. These were generally formally managed with a short sward.	The grassland is relatively species-poor and heavily managed. Such grassland habitats are frequent and widespread. Accordingly, the modified grassland is considered to be of Negligible importance.
Broadleaved woodland	Several areas of broadleaved woodland bounded the highways and extended offsite. These appeared of relatively modern origin, with the majority thought to have been planted in association with the creation of the M1 motorway and the A453.	While of a planted origin, the woodlands have developed a more diverse structure including a range of mature trees, woodland edge habitats, and associated ground flora. The woodlands generally connect to, and in a limited area are listed themselves as HPIs on Defra's Priority Habitats Inventory (England). The woodland habitats are considered to be of Local importance.
Sustainable drainage systems (SuDS) basins	Several drainage basins were present in association with the M1 motorway. The SuDS were dry at time of survey but supported vegetation typical of damp habitats.	These areas were considered to be of Negligible importance.

Tall forbs	Area of tall forbs dominated by common nettle *Urtica dioica* was recorded in on the edge of woodland blocks and footpaths. The vegetation structure was not varied, and there was a limited variety of flowering species.	These areas were considered to be of Negligible importance.
Hedgerows	There were 23 hedgerows and five lines of trees present along the Highways. All comprised at least 80% native woody species and therefore qualify as Habitats of Principal Importance (HPI) under S41 of the NERC Act.	The hedgerows provide habitat connectivity for a range of wildlife. They are considered to be of Local importance.

EMG1 Works

9.4.18. As set out in **Chapters 1-3**, the **Scheme** includes associated works on the existing EMG1 site, specifically around the EMG1 site entrance and within and adjacent to the rail freight terminal. A detailed description of each habitat type is described provided in **Appendix 9a**. and summarised below in **Table 9.8**.

Table 9.8: Summary of habitats at the EMG1 Works

Habitat Type	Description	Evaluation
Individual Trees	Mature and semi-mature trees were present throughout the **EMG1 Works** area, mainly in association with hedgerows and lines of trees. Nine small individual trees are located by the SEGRO offices.	No veteran trees have been recorded within this area of the **EMG1 Works** area. The trees are considered to be typical of the wider landscape and of Local importance.
Mixed Scrub	Newly planted mixed scrub, still encased in tree guards, had been planted along the access road to EMG1 SEGRO.	Scrub is common and widespread within the local area and is considered to be of Negligible importance.
Other Neutral grassland	Large areas of other neutral grassland were recorded surrounding the rail freight to the east of the **EMG1 Works** area and around the SuDS to the north of the **EMG1 Works** area. Compositions which were typical of commercial seeding mixes. Management appeared to being undertaken sensitively allowing a longer sward to develop in summer months.	The grasslands provided areas of natural habitats, but its value was constrained due to the constricted areas adjacent to areas of high disturbance. Accordingly, the other neutral grassland is considered to be of Negligible importance.
Modified Grassland	Modified grassland was recorded in small pockets across the **EMG1 Works** area and more extensively along bunds. This included areas of recent whip planting where the woody species were yet to establish.	The grassland is relatively species-poor and heavily managed. Such grassland habitats are frequent and widespread. Accordingly, the modified grassland is considered to be of Negligible importance.

Broadleaved woodland	King Street Plantation is a block of woodland adjoining the **EMG1 Works** area western boundary. A review of historical mapping suggest this was planted between 1883 and 1895. This broadleaved woodland was listed as HPIs on Defra's Priority Habitats Inventory (England) and is listed as a potential historical LWS.	As a potential historical LWS, the woodland is considered under the assessment of designated sites.
Sustainable drainage systems (SuDS) basins	Three drainage features were present toward the north of the **EMG1 Works** area. A range of wetland floral species were present.	SuDS basins have been designed to provide a degree of wetland habitat, however they do not hold permanent water, and are expected to be periodically managed to remove silt build up, limiting their naturalness. These areas were considered to be of Negligible importance.
Vacant / Derelict Land	Two areas of vacant/derelict land were present in the EMG2 boundary which run either side of the public footpath near the western boundary.	These areas were considered to be of Negligible importance.
Hedgerows	There were 7 native hedgerows present on **EMG1 Works** area. All comprised at least 80% native woody species and therefore qualify as Habitats of Principal Importance (HPI) under S41 of the NERC Act.	The hedgerows provide habitat connectivity for a range of wildlife. They are considered to be of Local importance.

Field Survey - Fauna

9.4.19. A suite of field surveys for fauna were undertaken during 2022 and 2024. Survey findings for are summarised below in **Table 9.10** are included in **Appendices 9b to 9g**.

Table 9.10: Summary of Relevant Protected and Notable Species Records

Species	Description	Evaluation
Amphibians (including GCN)	**EMG2 Main Site** A medium population of GCN have been recorded in ponds located adjacent to the site within the Donington Park Services area. Further local records of smooth newts, common frog and common toad. Aquatic habitats provided by field ponds. The supporting ecological documentation (Tyler Grange 2024) for the "*Land South of A453*" application (24/00727/OUTM) includes eDNA results confirming GCN presence in on-site pond P2. Terrestrial habitat restricted to hedgerow network which provides connectivity to off-site habitats.	**EMG2 Main Site** It is considered that the existing habitats on-site could, at best, support amphibian populations of Local importance.
	Highways Works Local records of GCN, smooth newts, common frog and common toad. No aquatic habitats identified. Limited	**Highways Works** Any amphibian assemblage utilising these areas is considered to be of Negligible importance.

Species	Description	Evaluation
	areas of suitable terrestrial habitat along hedgerows, woodland, scrub and some restricted areas of tussocky grassland.	
	EMG1 Works Local records of smooth newts (including on-site), common frog and common toad. No permanent aquatic habitats identified although SuDs feature may provide a seasonal resource. Areas of suitable terrestrial habitat along hedgerows, woodland, scrub and some restricted areas of tussocky grassland within wider managed areas.	**EMG1 Works** It is considered that the existing habitats on-site could, at best, support amphibian populations of Local importance.
	Scheme Records of GCN, smooth newts, common frogs and common toads were returned within the 1km search area. GCN and smooth newts recorded within the **Scheme** boundaries.	**Scheme** It is considered that the existing habitats on-site could, at best, support amphibian populations of Local importance.
Badger	**EMG2 Main Site** A badger survey was conducted in 2022 and 2024 with results detailed in the confidential report provided in Appendix 9b. Crop fields provide seasonal foraging resources for badgers. The network of hedgerows provides commuting corridors and additional foraging opportunities. Smaller areas of additional foraging opportunities are provided by the grassland field compartments and pockets of scrub.	**EMG2 Main Site** While badger welfare is protected under legislation (The Protection of Badgers Act 1992), they are common and widespread, and for planning purposes are not ascribed a particular conservation value and are considered to be of Negligible importance.
	Highways Works A badger survey of accessible areas was conducted in 2024 with results detailed in the confidential report provided in Appendix 9b. While habitats within the site boundaries, including woodland, scrub and grassland, were restricted in scale, many extended into more extensive off-site areas and so provided a component of a wider resource.	**Highways Works** While badger welfare is protected under legislation (The Protection of Badgers Act 1992), they are common and widespread, and for planning purposes are not ascribed a particular conservation value and are considered to be of Negligible importance.
	EMG1 Works A badger survey of accessible areas was conducted in 2024 with results detailed in the confidential report provided in Appendix 9b.	**EMG1 Works** While badger welfare is protected under legislation (The Protection of Badgers Act 1992), they are common and widespread, and for planning purposes are not ascribed a particular conservation

Species	Description	Evaluation
	Areas of grassland provided the main potential foraging habitat, with hedgerows, woodland and scrub habitats being restrictive in scale, generally isolated by the road network and prone to associated disturbance.	value and are considered to be of Negligible importance.
	Scheme Badger are known to be active in the area with the Scheme providing suitable foraging and sheltering habitat. Most of the Scheme is exposed to disturbance through farming and operational activities, on-going construction works, and traffic.	**Scheme** While badger welfare is protected under legislation (The Protection of Badgers Act 1992), they are common and widespread, and for planning purposes are not ascribed a particular conservation value and are considered to be of Negligible importance.
Bats	**EMG2 Main Site** A suite of surveys was conducted in 2024 with data from 2022 providing further context. Results detailed in Appendix 9c. The habitats on-site are very limited, the majority of the **EMG2 Main Site** is made up of arable fields, which are of low value to bats, due to the lack of floristic diversity resulting in limited numbers of invertebrates. Grasslands, hedgerows, ponds and scrub have the potential to offer a more diverse range of invertebrates and are therefore of greater value to bats. Good connecting habitats include hedgerows and wet ditches which link the **EMG2 Main Site** with suitable off-site habitats in the local and wider environment. Ground and subsequent aerial tree surveys identified 21 trees supporting potential bat roost features Three further trees identified as unsafe to climb. Following a combination of aerial inspections and nocturnal surveys, no trees were identified to be in current use by roosting bats. Additional reference has been made to data from 2022 and the supporting ecological documentation (Tyler Grange 2024) for the "*Land South of A453*" application (24/00727/OUTM), neither of which identified any bat roosts beyond the 2024 survey area. Bat activity surveys comprised both transects and automated (static) bat	**EMG2 Main Site** As many tree-dwelling bat species switch roosts regularly, the collection of trees with potential roost features, can be considered as a resource of Local importance for roosting bats. The bat assemblage was consistent with the poor nature of the habitats present. Despite their listing of noctule, brown long-eared and soprano pipistrelle as species of principal importance, all species recoded within the **EMG2 Main Site** are relatively common and widespread across Leicestershire and levels of activity recorded across the study area were unexceptional. Nathusius pipistrelles were detected in small numbers, which given the **EMG2 Main Site** location within the Trent valley is not unexpected. The only Annex II species recorded on-site were three registrations of barbastelle in association with the hedgerows along the northeastern boundary in August. Based on the above, the **EMG2 Main Site** was considered to be of no more than Local importance for commuting and foraging bats.

Species	Description	Evaluation
	detector surveys, The transects identified that activity levels across the **EMG2 Main Site** were low, whilst bats were utilising hedgerows across the **EMG2 Main Site** this was mainly for commuting, with very limited periods of foraging activity recorded. Static detectors located around the **EMG2 Main Site** recorded a relatively low number of registrations.	
	Highways Works A habitat suitability assessment was carried out in 2024. Due to the nature of the site, the likelihood of significant bat assemblages occurring were considered unlikely, with habitats most able to support bats species tolerant of urban environments. No potential bat roosting habitats were identified.	**Highways Works** Any bat assemblage utilising these areas is considered to likely be of Negligible importance.
	EMG1 Works A habitat suitability assessment was carried out in 2024. Due to the nature of the site, the likelihood of significant bat assemblages occurring were considered unlikely, with habitats most able to support bats species tolerant of urban environments. No potential bat roosting habitats were identified.	**EMG1 Works** Any bat assemblage utilising these areas is considered to likely be of Negligible importance.
	Scheme The **Scheme** is not considered exceptional for bat activity.	**Scheme** Overall the **Scheme** is considered to be of Local importance for roosting and foraging bats.
Birds	**EMG2 Main Site** Breeding bird surveys were conducted in 2024 with survey data published in 2022 and supporting ecological documentation (Tyler Grange 2024) for the "*Land South of A453*" application (24/00727/OUTM providing further context. Results are detailed in the report provided in Appendix 9d. The majority of species recorded are typical of the habitats present at the **EMG2 Main Site** in a regional context, being heavily influenced by the intensive arable agricultural land use. The actively cropped arable field interiors supported a fairly limited assemblage of breeding birds with the exception of moderate numbers of skylark and yellow wagtail. Arable field margins and boundaries provided suitable foraging habitat for small numbers of widespread	**EMG2 Main Site** Arable fields and their associated margins supported a somewhat limited breeding bird assemblage. The assemblage associated with the grassland compartments was largely identical to that of the arable fields but with a more limited species diversity. There were low to moderate numbers of skylark and moderate to high numbers of yellow wagtail, an uncommon breeder in Leicestershire, both of which are specialised to arable habitats. There is an abundance of similar agricultural habitats locally which includes a mixture of cereal cropland and thus the **EMG2 Main Site** is not considered to represent an isolated resource for this species with usage likely to

Species	Description	Evaluation
	farmland birds. The two parcels of grassland in the southwest corner of the **EMG2 Main Site** supported a similar assemblage to the arable fields and margins with each parcel supporting singing male skylarks and small numbers of notable farmland birds in their peripheral habitats. The hedgerows, areas of scrub around the ponds, and woodland bordering the arable and grassland compartments hosted a number of resident and migratory breeding species including a range of common and widespread taxa. The watercourses and inundated grassland areas supported a few breeding mallard. The number and assemblage of wintering birds across the **EMG2 Main Site** was exceptionally low for a site of this size and the arable habitats of which it is comprised. The majority of the wintering bird assemblage recorded was associated with the hedgerows, scrub, and perimeter woodland though none of the species recorded occurred in significant numbers.	depend on the respective crop rotations. As such the agricultural land was assessed as being of Local importance for the breeding farmland bird assemblage. Hedgerows, scrub, and woodland blocks on-site provided breeding and/or foraging habitat for a variety of common and widespread generalist species. There are several larger areas of similar scrub and woodland habitats in the surrounding landscape and so the **EMG2 Main Site** is considered at most of Local importance for breeding generalist bird assemblage. The wintering farmland bird assemblage recorded is typical of such habitat in the region with a small number of notable species in low numbers. Given the extensive area of suitable habitat available locally, the **EMG2 Main Site** is considered to be of no more than Local importance for its wintering farmland bird assemblage. The hedgerows, scrub, and trees within the **EMG2 Main Site** provided good shelter and foraging opportunities for a variety of common and widespread generalist species. The wintering assemblage recorded in association with these habitats is typical of similar habitats in the region and is considered to be at most of Local importance.
	Highways Works The **Highways Works** areas involve very limited areas of habitat suitable for breeding and/or wintering birds and any areas of such habitat to be lost are negligible in the context of adjacent habitats.	**Highways Works** Hedgerows, scrub, and woodland blocks on-site provided breeding and/or foraging habitat for a variety of common and widespread generalist species. There are several larger areas of similar scrub and woodland habitats in the surrounding landscape and so the **Highways Works** area is considered at most of Local importance for breeding generalist bird assemblage.

Species	Description	Evaluation
	EMG1 Works The **EMG1 Works** area mainly comprises a cleared site unsuitable for significant populations of birds and thus the requirement for surveys was scoped out.	**EMG1 Works** Hedgerows, scrub, and woodland blocks on-site provided breeding and/or foraging habitat for a variety of common and widespread generalist species. There are several larger areas of similar scrub and woodland habitats in the surrounding landscape and so the **EMG1 Works** area is considered at most of Local importance for breeding generalist bird assemblage.
	Scheme The **Scheme** provides common foraging and nesting habitats throughout, and while **EMG2 Main Site** was supported only low numbers of birds for a site of this size, this did include notable farmland specialists.	**Scheme** Overall the **Scheme** is considered to be of Local importance for breeding and wintering birds.
Invertebrates	**EMG2 Main Site** Invertebrate surveys were conducted in 2024 (Appendix 9e). 3064 records of 951 invertebrate species were made over the course of the survey. This included 36 Nationally Scarce species and 4 Red Data Book or Nationally Rare species.	**EMG2 Main Site** The arable margins, where most invertebrate interest tends to be concentrated, were narrow and supported a limited ruderal flora and associated invertebrates. The invertebrate fauna is likely to be present on arable margins in the wider countryside. The grassy field margins and two grass fields present in the Development Area are of low quality, being nutrient enriched, species poor and limited in extent. They support an invertebrate fauna composed largely of widespread and common species. The wetland habitats that will be lost from the site are all heavily degraded and support little invertebrate interest. Hedgerows support an invertebrate fauna largely composed of common and widespread species but including some uncommon saproxylic species associated with small diameter dead wood. The overmature trees and their extensive associated wood decay habitats are the most valuable identified feature of the site for saproxylic invertebrates. While of more interest than surrounding

Species	Description	Evaluation
		habitats, comparable trees are typical of the local landscape as a result of Ash dieback. The habitats present on-site are generally considered to be of at most local importance for invertebrate assemblages.
	Highways Works The **Highways Works** areas involve very limited areas of habitat suitable for invertebrate assemblages and any areas of such habitat to be lost are negligible in the context of adjacent habitats.	**Highways Works** Any invertebrate assemblage utilising these areas is considered to likely be of Negligible importance.
	EMG1 Works The **EMG1 Works** area mainly comprises a cleared site unsuitable for significant populations of invertebrate and thus the requirement for surveys was scoped out.	**EMG1 Works** Any invertebrate assemblage utilising these areas is considered to likely be of Negligible importance.
	Scheme The most significant invertebrate assemblages are those associated with dead and decaying wood.	**Scheme** Invertebrate assemblages identified are considered of local importance.
Otter and Water vole	**EMG2 Main Site**. Surveys undertaken in 2022 and 2024 (Appendix 9f) confirmed that suitable aquatic and terrestrial habitat for otter and water vole was present both within the application area and directly adjacent to it. Offsite records of both species were identified as part of the desk study, and evidence of otter was detected along the Diseworth brook tributary adjacent to the Western boundary of the **EMG2 Main Site**.	**EMG2 Main Site**. Otter have large linear territories and the low status tributary will reflect only a small percentage of a much wider territory. The site is considered to be of at most Local importance for otter.

Species	Description	Evaluation
	Highways Works No suitable aquatic habitats were identified within the **Highways Works** area.	**Highways Works** Any assemblage utilising these areas is considered to likely be of Negligible importance.
	EMG1 Works No suitable aquatic habitats were identified within the **EMG1 Works** area.	**EMG1 Works** Any assemblage utilising these areas is considered to likely be of Negligible importance.
	Scheme Suitable habitat was restricted to the EMG2 Main Site.	**Scheme** Overall the **Scheme** is considered to be of Local importance for otter. Watervole are likely absent from the **Scheme**. and are not considered further.
Plants	**EMG2 Main Site**. Local records bee orchid *Ophrys apifera*, buck's horn plantain *Plantago coronopus*, bogbean Menyanthes trifoliata, monkey flower Mimulus guttatus and hybrid bluebell *Hyacinthoides x massartiana*. Further low accuracy records in the area include the Schedule 9 listed, invasive variegated yellow archangel *Lamiastrum galeobdolon argentatum*. Habitat surveys recorded species typical of arable landscapes.	**EMG2 Main Site**. Local records are primarily located on the site boundaries. The botanical records identified are generally introduced species, and those spread along highways. Bee orchids are relatively common in the area and are not ascribed a particular conservation value. The botanical assemblage is considered to be of Negligible importance.
	Highways Works Further records of bee orchid along road verges. Habitat surveys recorded a mixture of habitats including diverse grassland compositions.	**Highways Works** There is a diversity of habitats found in conjunction with the existing highways. The botanical assemblage is considered to have at most Local importance.
	EMG1 Works Limited records in close proximity which include cherry laurel *Prunus laurocerasus*, chicory *Cichorium intybus* and rhododendron *Rhododendron ponticum*.	**EMG1 Works** The botanical assemblage is considered to be of Negligible importance.
	Scheme Several locally rare species records were returned within the search area, however the Scheme itself was considered to generally support an assemblage of low botanical interest.	**Scheme** Whilst the recorded on-site botanical assemblage is limited, the species records within the search area are considered to have Local importance.
Reptiles	**EMG2 Main Site** During the initial extended phase 1 habitat assessment certain areas of the Site were assessed as having some suitability to support reptiles. On-site habitats, including long-swarded areas of poor semi-improved grassland, hedgerows, tall	**EMG2 Main Site** These species are likely absent from the **EMG2 Main Site**.

Species	Description	Evaluation
	ruderal and dense/scattered scrub, were all considered to offer suitable commuting, foraging and refuge habitats for reptiles. The presence of narrow grass verges also had the potential to provide basking areas. Targeted surveys (Appendix 9g) have been undertaken on the **EMG2 Main Site**.	
	Highway Works The highway's verges and associated land is comprised of typical habitats. This includes areas of grassland, scrub and immature woodland alongside ruderal habitats. This mosaic is considered suitable for reptiles. The scope of impact within the **Highway Works** zone is generally limited to in nature and unlikely to affect any significant area of suitable reptile habitat.	**Highway Works** Any assemblage present in the **Highway Works** areas is likely to be limited in scale and not dependent on the habitats therein.
	EMG1 Works This area is a cleared plot of the previous phase of development. This comprised an active construction site and bare ground. This area did not contain any features able to support reptiles.	**EMG1 Works** Any assemblage present in the **EMG1 Works** areas is likely to be limited in scale and not dependent on the habitats therein.
	Scheme On-site habitats, including long-swarded areas of poor semi-improved grassland, hedgerows, tall ruderal and dense/scattered scrub, were all considered to offer suitable commuting, foraging and refuge habitats for reptiles. The presence of narrow grass verges also had the potential to provide basking areas. Targeted surveys (Appendix 9g) have been undertaken on the **EMG2 Main Site**, with reduced survey effort in the **Highways Works** and **EMG1 Works** areas. The scope of impact within the **Highway Works** zone is generally limited to in nature and unlikely to affect any significant area of suitable reptile habitat. The **EMG1 Works** area consists of a previously cleared plot of the previous phase of development.	**Scheme** Any reptile assemblage utilising these areas of **Scheme** is considered to be of Negligible importance.

Species	Description	Evaluation
Other Species	**Scheme** No additional incidental species were recorded during the above species surveys. Desk study results included black rat, brown hare, hedgehog and polecat. The **Scheme** offers suitable foraging and sheltering habitat for these species.	**Scheme** Considering the number and distribution of records for these species, and the availability of suitable habitats in the local area, any populations of these species utilising the **Scheme** are considered to be at most of Local importance.

Future Baseline

9.4.20. Designated sites in the local area are unlikely to be directly affected by the continuance of the existing land uses without the **Scheme**. However, based on the existing pressures identified on statutory sites, the condition of these sites would be reasonably expected to decline over time as pollution accumulates, and desirable management interventions are not fulfilled.

9.4.21. In the absence of the **Scheme**, the **EMG2 Main Site** would be reasonably assumed to be managed as agricultural land and much of it would therefore experience limited change, continuing to support an overall low biodiversity value for wildlife across the managed habitats. The exception to this would be the ash trees that are declining due to Chalara dieback (ash dieback). This includes the trees identified to hold veteran status under the published biodiversity net gain related definition. Young ash trees rapidly succumb to the effects of ash dieback, while mature specimens may survive for 20-30 years subsequent to infection[xxvii]. As such the longevity of the already infected ash trees is severely limited, and they would be expected to continue to decline, and eventually fail or be removed by management.

9.4.22. Habitats in the **Highways Works** and **EMG1 Works** areas would be expected to continue to be managed to maintain their condition. The areas of woodland whip planting would mature succeeding the grassland habitat in which it is sited.

9.5. Potential Impacts

Assessment of Likely Significant Effects

9.5.1. The likely significant ecological effects arising as a result of the **Scheme** have been assessed with regard to the works set out in **Chapter 3**.

9.5.2. Likely significant effects are considered below for IEFs classified to have local or greater sensitivity as detailed in the above section. These include:

- Direct or indirect effects;
- Short or long-term effects;
- Intermittent, periodic or permanent effects; and
- Cumulative effects.

9.5.3. Potential effects prior to mitigation include:

- Direct loss of habitats and associated flora and fauna, interruption of wildlife corridors, decrease in value to wildlife through reduction in species and / or habitats;
- Indirect effects on retained vegetation within and bordering the **Scheme**, through increase disturbance and through local changes in soils, drainage and hydrology;
- Potential effects upon protected and scarce species through disturbance;
- Operational effects such as pollution incidents from chemical spills, pollution of streams and fragile habitats from runoff and incorrect storage of materials; and
- Long-term beneficial effects arising as a result of the favourable enhancement of parts of the **Scheme** to beneficial after-use.

9.5.4. Throughout, the potential effects below are initially based on the scenario of the **Scheme** taking place in the absence of additional mitigation (however embedded mitigation is included as explained below). That is followed by an assessment of residual impact having regard to all the proposed mitigation.

Embedded Mitigation

9.5.5. From the outset and following review of the ecological baseline the likely significant effects arising as a result of the design of the **Scheme** have been reviewed in order that, where possible, potential adverse effects can be avoided through an alteration in design.

9.5.6. The North West Leicestershire Local Plan (2011-2031) Policy EN1 states that:

> *Proposals for development will be supported which conserve, restore or enhance the biodiversity in the district.*
>
> and that
>
> *New development will be expected to maintain existing ecological networks, hotspots and landscape features (such as water courses and waterways, disused railway lines, trees and hedgerows) for biodiversity, as well as for other green infrastructure and recreational uses.*

9.5.7. Relevant ecological mitigation measures that are embedded into the design of the EMG2 Main Site and which are identified on the Parameters Plan (Document 2.5, provided as **Figure xx**) include:

- the retention of habitats such as trees, hedgerows, and ponds;
- buffering of sensitive offsite habitats and designated sites;
- proposed new green space including grassland and scrub habitats, ponds, hedgerows and trees;
- enhancement of green and blue corridors;
- strategic drainage infrastructure; and
- sensitive lighting strategy.

9.5.8. The design of lighting will minimise light-spill onto retained habitats. This will be achieved by ensuring that the design of lighting is based upon guidance published by the Institution of Lighting Professionals & Bat Conservation Trust [xxviii]. In general, the sensitive design of lighting with regard to bats will be achieved through a combination of the following measures:

- Avoiding unnecessary lighting;
- All luminaires should lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used;
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability;
- A warm white light source (2700Kelvin or lower) should be adopted to reduce blue light component;
- Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats;
- Internal luminaires can be recessed (as opposed to using a pendant fitting) - where installed in proximity to windows to reduce glare and light spill;
- Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges;
- Column heights should be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards;
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered;
- Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt;
- Where appropriate, external security lighting should be set on motion-sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate;
- Use of a Central Management System (CMS) with additional web-enabled devices to light on demand. Use of motion sensors for local authority street lighting may not be feasible unless the authority has the potential for smart metering through a CMS;
- The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should only be considered in specific cases where the lighting professional and project manager are able to resolve these issues; and
- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern

LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely

9.5.9. Given the nature of the proposals for the **Highways Works** and **EMG1 Works**, no specific embedded mitigation has been adopted for these areas.

Design- EMG2 Main Site Layout

9.5.10. The **EMG2 Main Site** layout has been designed to create a substantial area of green infrastructure following the western boundary. This will provide a significant buffer for the Diseworth Brook Tributary, and in doing so enhance both the green and blue corridor running north-south across the **EMG2 Main Site**.

9.5.11. Further east-west green corridors will follow both Hyam's Lane, and the southern boundary. The Hyam's Lane green corridor will be crossed by an estate road, however sensitive designs of this crossing point in combination with the provision of wider green corridor relative to the current extent will mean that this will provide functional connectivity for a range of mobile species. The southern green corridor will include new grassland and SuDS features, providing an uplift in habitat diversity relative to the current offering.

9.5.12. The two cLWS at Donington Park Services (the ash trees, and the grassland and scrub habitats) which both sit adjacent to the eastern boundary of the **EMG2 Main Site** will be buffered from the development area through the retention of boundary hedgerows, and additional planting areas will create a further stand-off.

Design- EMG2 Main Site Habitat Retention

9.5.13. The following habitats have been retained within the **EMG2 Main Site**:

- The single veteran tree which meets the NPPF definition criteria, and five further veteran trees as defined more broadly under the Biodiversity Gain regulations.
- Pond P3 which was classified as potential-historic LWS (11975), and the associated vegetation surrounding it.
- Hedgerows and associated trees around the periphery and along the majority of Hyam's Lane, with the exception of sections along the A453 where site access is required.

Design - EMG2 Main Site Habitat Creation

9.5.14. The Green Infrastructure (GI) proposals will provide a network of multi-functional green space, incorporating the above retained habitats which is capable of delivering a wide range of environmental and biodiversity gains. This includes enhancements to existing areas, new habitat creation, including a sustainable drainage system (SuDS). Habitat creation has focussed on locally appropriate habitats, prioritising a mixture of grassland, scrub and woodland. A variety of planting/seed mixes will be used within each habitat type to create additional species diversity and tailor species to local conditions. Targeted creation and management prescriptions based on the criteria required to achieve a net gain in biodiversity will ensure that the condition of habitats meets those defined within the Biodiversity Net Gain Assessment (**Appendix 9i**) in the

short medium and long term (30 years) with monitoring and remediation mechanisms incorporated, ensuring that the biodiversity gains are achieved.

9.5.15. The proposals will enable the delivery of areas of species-rich and biodiverse grassland, located widely throughout the GI. Grassland seed mixes of native provenance will be prioritised or if the opportunity arises a green hay would be locally sourced. Mixes will be tailored with damper areas using a wet meadow mixture, and more shade tolerant woodland meadow mixes used in association with scrub and woodland habitats. Where high quality, ecologically valuable grasslands are targeted, topsoils would be removed or mixed with subsoils to provide a substrate more conducive to the establishment of a more species-rich sward. A variation in topography would be provided with shallow scrapes and undulations left to provide a high level of variation in micro-topography. Selected areas of species-rich grassland areas will be less formally managed to allow vigorous growth and the development of a structurally diverse habitat suitable for the colonisation of a range of species.

9.5.16. More formal urbanised settings will use species and management appropriate to their setting. Flowering lawn mixes will be used to enhance amenity areas and green roofs will use specific mixes tailored for this setting.

9.5.17. New native woodland and scrub habitat will be created within the GI in the form of small blocks and linear belts to enhance habitat connectivity. The planting mix will be representative of local native woodlands. Management will encourage the development of structurally diverse woodland.

9.5.18. New native hedgerows will be created along selected unit boundaries and roads and softening the transition between developed areas and the wider GI, as well as providing inherent habitat value. Together with retained hedgerows they will provide sheltered corridors for wildlife to move along, encouraging dispersal. Retained hedgerows will include be subject to a more sympathetic management regime to add additional biodiversity value, increasing species and structural diversity.

Construction Impacts

9.5.19. Effects during construction may include:

- direct habitat loss and degradation including damage such as root compaction and physical damage to branches;
- harm or disturbance to species including through fragmentation and isolation, and disruption during sensitive periods such as breeding or hibernation seasons;
- pollution events which may result in localised damage or more diffuse effects through spillages into wetland features, including potential for silt-laden construction Site run-off; and
- dust deposition as a result of an increase in airborne dust, particularly during periods of dry weather, when soil-stripping or earth moving is being undertaken (The Institute of Air Quality Management's Guidance on the Assessment of Dust from Demolition and Construction[xxix] identifies a maximum 50m zone from the site boundary and vehicle routes, and a 250m zone from site entrances should be considered for ecological Impacts).

9.5.20. Locations discussed below are provided in **Appendix 9a**.

Statutory Designated Sites

9.5.21. [Section holder awaiting further consultation].

Non-statutory sites

9.5.22. Pond P3 which is the on-site potential-historic LWS (11975) within the **EMG2 Main Site** is to be retained along with the majority of surrounding vegetation. Based on the phase 1 survey data, this pond did not meet the requirements to be selected as a LWS published in Leicester, Leicestershire and Rutland Guidance. To the north, earthworks will create a plateau for a HGV parking, with the site spine road running to the north-west. A footpath/cycle way passing in proximity to the south of the pond, connecting Hyam's Lane to the bus terminal and wider pedestrian/cycle network. There is a potential direct adverse impact from vehicle tracking and material storage outside the construction footprint. Indirect temporary adverse impacts are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities. In the absence of mitigation, there is a risk of degradation to the quality of the pond which constitutes a moderate magnitude of adverse impact.

9.5.23. The Donington Park Services Ash Trees (92034) candidate LWS, form part of hedgerow H6, and are referred to as trees T4 and T5. The arboricultural assessment as detailed in the Tree Schedule (FPCR 2022) lists these trees as being of low quality with an estimated remaining life expectancy of at least 10 years. This boundary habitat to the adjoining service station is to be retained. Earthworks to the south will ultimately form part of the green infrastructure which will also include the provision of a new footpath. Beyond this will be combined warehousing and offices, with associated infrastructure. There is a potential direct adverse impact from vehicle tracking and material storage outside the construction footprint resulting in soil compaction and accidental damage. Indirect temporary adverse impacts are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities. In the absence of mitigation, there is a risk of damage of the trees which constitutes a moderate magnitude of adverse impact.

9.5.24. [The Donington Park Services Grassland and Scrub (92033) candidate LWS - Section holder awaiting outcome of adjacent planning application (Application Reference. 23/01712/FULM)]

9.5.25. The Paddock (11965) potential-historic LWS is found approximately 50m south-west of the **EMG2 Main Site** on the far side of Long Holden. Defra's Priority Habitats Inventory (England) lists the area as mainly traditional orchard, with some deciduous woodland. No recent survey data was available, however from aerial imagery the site appears to be a largely managed grassland area. Given the separation, direct impacts are considered unlikely, however indirect temporary impacts include dust and littering arising from construction activities. In the absence of mitigation, there is a risk of a temporary, short-term change in the quality or vulnerability of the site which constitutes a negligible magnitude of adverse impact.

9.5.26. Castle Donington, Charnock Hill grassland potential-historic LWS (11840) overlaps the boundary of the A453/The Green improvements, which are a component of the **Highways Works** . The habitat listing for this designation identifies grassland as the main habitat type, but no further details were provided. Aerial imagery shows a grassland field compartment containing a small area of dense scrub-like vegetation and bounded by hedgerows. The

mapped boundary extends beyond the hedgerows, covering the road verges and the A453 carriageway. The area of overlap with the **Highway Works** boundary is restricted to the carriageway, road verges and partial overlap of hedgerows, with the main grassland compartment falling outside the redline. There is a direct adverse impact from habitat loss (albeit not to the grassland compartment itself), and potential for further impacts from vehicle tracking and material storage resulting in soil compaction and accidental damage. Indirect temporary adverse impacts are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities. Partial habitat loss of periphery features is expected and in the absence of mitigation, there is a risk of damage of the retained hedgerows and grassland. This constitutes a moderate magnitude of adverse impact.

9.5.27. Castle Donington, Swan River verge potential-historic LWS (11836) lies just north of the boundary of the A453/The Green improvements, which are a component of the **Highway Works**. No habitat information was available for this site, however the name indicates an association with the minor watercourse in this area. The site record lists the time of last survey as approximately sometime between 1980 and 1990. From publicly available historical satellite imagery the site would have run parallel to a road that extended northwards from the A453 which was still present until at least 1999. The road has since been removed and the vegetation has succeeded to closed canopy broadleaved woodland. Given the significant change in land use and vegetation cover it is quite possible that the unidentified feature of interest may no longer be present. The broadleaved woodland within the site is a HPI and wetland features still exist within this. There is a potential direct adverse impact from vehicle tracking and material storage outside the works footprint resulting in soil compaction and accidental damage. Indirect temporary adverse impacts are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities. In the absence of mitigation, there is a risk of damage of the trees, the watercourse and ponds which constitutes a moderate magnitude of adverse impact.

9.5.28. Lockington (EMG) Oak 143 candidate LWS (90888) is recorded as a mature oak of 1370mm DBH in poor condition. The tree sits within a hedgerow that bounds the A50 and would be retained within the A50 West Bound Merge component of the **Highway Works**. There is a potential direct adverse impact from vehicle tracking and material storage outside the works footprint resulting in soil compaction and accidental damage. Indirect temporary adverse impacts are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities. In the absence of mitigation, there is a risk of damage of the trees which constitutes a moderate magnitude of adverse impact.

9.5.29. King Street Plantation potential-historic LWS (11950) is located adjacent to the boundary of the **EMG1 Works,** within the existing EMG1 development. It is listed as woodland last surveyed approximately sometime between 1980 and 1990 and as an area as deciduous woodland on Defra's Priority Habitats Inventory (England) lists. There is a potential direct adverse impact from vehicle tracking and material storage outside in proximity to the trees resulting in soil compaction and accidental damage. Indirect temporary adverse impacts are considered to include contaminated runoff and chemical spills, as well as dust and littering arising from construction activities. In the absence of mitigation, there is a risk of damage of the trees, the watercourse and ponds which constitutes a moderate magnitude of adverse impact.

9.5.30. Lockington Park potential-historic LWS (11952) is found approximately 20m north of the **EMG1 Works** and 40m west of the A50 West Bound Merge component of the **Highways Works**. It is

listed as woodland last surveyed approximately sometime between 1980 and 1990 and is partially recorded as deciduous woodland on Defra's Priority Habitats Inventory (England) lists. Given the separation, direct impacts are considered unlikely, however indirect temporary impacts include dust and littering arising from construction activities. In the absence of mitigation, there is a risk of a temporary, short-term change in the quality or vulnerability of the site which constitutes a negligible magnitude of adverse impact.

Other Sites

9.5.31. The remaining local sites identified above are more than 50m from the construction activities and no additional sites were identified within 250m of the main site access from the A453. Any detrimental impacts on these more distant sites, for example as a temporary bi-product of site traffic, would be very minor and constitute a negligible magnitude of adverse impact.

Semi-natural Habitats

9.5.32. Semi-natural habitats of significant nature conservation value are rare within the **Scheme** due to the past predominance of intensive agriculture, and existing highways. As a result, the vast majority of 'development' within the **EMG2 Main Site** will occur on former arable or species-poor grassland of negligible nature conservation value. The **EMG1 Works** and **Highways Works** are primarily on land that has previously been developed or subject to clearance.

9.5.33. In the context of the Scheme, the following habitats were considered of below local importance and have not been considered further:

- Mixed Scrub
- Other neutral grassland
- Modified Grassland
- Bare ground
- Derelict land
- Cereal crops
- SuDS
- Tall forbs
- Ditches

9.5.34. Construction phase effects on habitats with at least a local level of sensitivity have been discussed in **Table 9.11**.

Table 9.11: Potential construction effects on habitats

Habitat Type	Sensitivity	Evaluation
Individual Trees (excluding veterans)	Local importance (Low)	**EMG2 Main Site** Tree loss will be required to facilitate the main site development. Impacts to retained trees include the potential for direct, irreversible, permanent adverse effects from vehicle tracking and material storage outside the works footprint resulting in soil compaction and accidental damage. Indirect temporary adverse impacts are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities.
		Highways Works Tree loss will be required to facilitate the modification of the highways network. Impacts to retained trees include the potential for direct, irreversible, permanent adverse effects from vehicle tracking and material storage outside the works footprint resulting in soil compaction and accidental damage. Indirect temporary adverse impacts are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities.
		EMG1 Works No tree loss is envisaged in association with these works. Retained trees are located within an area of managed GI adjacent to the SEGRO offices and so the potential for indirect effects is considered negligible.
		Scheme The biodiversity net gain provision will require compensatory tree planting. A mixture of new individual tree planting and orchard planting will compensate for losses in terms of biodiversity units. However, there will be a delay in equivalent provision as new planting establishes. As such losses to the overall tree resource are considered a temporary adverse effect in the medium-term, and reversable in the long-term. In the absence of mitigation, there is a risk of damage and/or loss of retained trees which constitutes a moderate magnitude of adverse impact.
Veteran Trees	Local importance (Low)	**EMG2 Main Site** Nine veteran trees defined under the Biodiversity Gain regulations are to be lost. Compensation for veteran trees is not covered by the BNG framework. This represents a permanent, irreversible adverse effect. Impacts to retained trees include the potential for direct, irreversible, permanent adverse effects from vehicle tracking and material storage outside the works footprint resulting in soil compaction and accidental damage. Indirect temporary adverse impacts are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities.

		Highways Works No veteran trees have been identified within this area.
		EMG1 Works No veteran trees have been identified within this area.
		Scheme In the absence of mitigation, there is a partial loss of veteran tree resources and a risk of damage/loss of retained trees which constitutes a moderate magnitude of adverse impact to the Scheme wide veteran tree resource.
Broadleaved woodland	Local importance (Low)	**EMG2 Main Site** No direct losses of woodlands are anticipated. Impacts to retained woodlands include the potential for direct, irreversible, permanent adverse effects from vehicle tracking and material storage outside the works footprint resulting in soil compaction and accidental damage. Indirect temporary adverse impacts are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities.
		Highways Works Some areas of partial woodland loss is expected to facilitate the proposed woks. Ground-truthed mapping as reported in Appendix 9a illustrates the extent of woodland habitats, with minor differences from the extents of HPI woodland as listed on Defra's Priority Habitats Inventory (England). All HPI woodland is located offsite, with some areas adjacent to the Site boundaries. Impacts to retained woodlands include the potential for direct, irreversible, permanent adverse effects from vehicle tracking and material storage outside the works footprint resulting in soil compaction and accidental damage. Indirect temporary adverse impacts are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities.
		EMG1 Works No direct losses of woodlands are anticipated. Impacts to retained woodlands include the potential for direct, irreversible, permanent adverse effects from vehicle tracking and material storage outside the works footprint resulting in soil compaction and accidental damage. Indirect temporary adverse impacts are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities.
		Scheme The biodiversity net gain provision will require compensatory woodland planting. However, there will be a delay in equivalent provision as new planting establishes. As such losses to the overall tree resource are considered a temporary adverse effect in the medium-term, and reversable in the long-term. In the absence of mitigation, there is a risk of damage to woodlands which constitutes a low magnitude of adverse impact.

Ponds (excluding pond P3).	Local importance (Low)	**EMG2 Main Site** Both ponds P1 and P2 will be lost to facilitate the development. Pond P3, which is considered separately under the designated sites assessment, is to be retained.
		Highways Works No ponds have been identified within this area.
		EMG1 Works No ponds have been identified within this area.
		Scheme The biodiversity net gain provision will require compensatory pond creation. However, there will be a delay in equivalent provision as new planting establishes. As such losses to the overall pond resource are considered a temporary adverse effect in the short-term, and reversable in the long-term. In the absence of mitigation, this constitutes a moderate magnitude of adverse impact to the site wide pond resource.
Hedgerows	Local importance (Low)	**EMG2 Main Site** Hedgerow loss will be required across much of the site to facilitate the proposed development. Impacts to retained hedgerows include the potential for direct, irreversible, permanent adverse effects from vehicle tracking and material storage outside the works footprint resulting in soil compaction and accidental damage. Indirect temporary adverse impacts are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities.
		Highways Works some hedgerow loss will be required to facilitate the proposals.
		EMG1 Works No hedgerow loss is anticipated in this area.
		Scheme The biodiversity net gain provision will require compensatory hedgerow planting. However, there will be a delay in equivalent provision as new planting establishes. As such losses to the overall hedgerow resource are considered a temporary adverse effect in the short-term, and reversable in the long-term. In the absence of mitigation, this constitutes a moderate magnitude of adverse impact.
Diseworth brook tributary	Local importance (low)	**EMG2 Main Site** The Diseworth brook tributary runs parallel to the northern extent of the western site boundary. The riparian zone (10m buffer) extends onto site in this area. The proposals will enhance the bank top habitats in this area, and construction work is significantly set back away from the site boundary. Potential indirect temporary, reversable adverse effects are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities.

		Highways Works The highways works extend along the existing crossing point on the A453. No direct effects are anticipated. Potential indirect temporary, reversable adverse effects are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities.
		EMG1 Works No impacts are anticipated.
		Scheme In the absence of mitigation, this constitutes a low magnitude of adverse impact to the Diseworth brook tributary.

Construction Phase - Species Level

9.5.35. Construction phase effects on species with at least a local level of sensitivity have been discussed in **Table 9.12**.

Table 9.12: Potential construction effects of species

Species	Sensitivity	Evaluation
Amphibians (including GCN)	Local importance	**EMG2 Main Site** Some loss of aquatic habitats (ponds p1 and p2, and ditch D1) will be required to facilitate the development. Habitats loss will be compensated through embedded mitigation with new on-site habitat creation as part of BNG requirements, but also with specific regard to GCN through a District Level Licencing (DLL) scheme. However, there will be a delay in equivalent provision as new habitat establishes. According to research published by Natural England[xxx], GCN are unlikely to travel in excess of 200-250m from a breeding pond and if the habitats adjacent to the pond are of good quality, the distance travelled from the pond is likely to be reduced. The report states: *"By far the most captures were recorded within 50 m of ponds and few animals were captured at distances greater than 100 m"* *"Captures on fences (and by other methods) at distances between 100 m and 200 – 250 m from breeding ponds tended to be so low as to raise serious doubts about the efficacy of this as an approach, although a small number of projects did report captures on significant linear features at distances approximately 150 – 200 m from ponds."* Jehle[xxxi] determined a terrestrial zone of 63m, within which 95% of summer refuges were located. In addition, following the breeding season, Jehle and Arntzen[xxxii] recorded 64% of newts within 20m of the pond edge". For the purpose of mitigation licences Natural England classify core terrestrial habitats as those within 50m of a breeding pond, habitats between 50m and 250m are classified as intermediate, and beyond this habitats are classified as distant.

		Loss of suitable terrestrial habitats will restricted to hedgerows, with the majority of the area around ponds being utilised for crop production. Retained on-site scrub habitat surrounding pond P3 and offsite woodland and grassland habitats associated with the Donington Park Services Grassland and Scrub (92033) candidate LWS provide more optimal habitats and has numerous records of GCN. Impacts to retained habitats include the potential for direct, irreversible, permanent adverse effects from vehicle tracking and material storage outside the works footprint resulting in soil compaction and accidental damage. Indirect temporary adverse impacts are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities. New habitat creation will buffer retained Pond P3, and offsite habitats. New SuDS features providing temporary damp areas (sensitive to aerodrome safeguarding). There is the potential for direct harm or mortality to amphibians resulting from construction activity.
		Highways Works No impacts are anticipated.
		EMG1 Works No impacts are anticipated.
		Scheme In the absence of mitigation, there is a risk of habitat loss and degradation, combined with direct harm to amphibians. Impacts to the amphibian populations are considered a temporary adverse effect in the short-term, and reversable in the long-term. The effects are at a scale unlikely to affect the overall FCS of the wider population of GCN. Given the degree of embedded mitigation identified, the cumulative effects discussed above constitute a low magnitude of adverse impact.
Bats	Local importance	**EMG2 Main Site** The removal of habitats as part of the proposed works will lead to some loss of foraging and commuting habitat, largely in connection with hedgerows. Survey work within the Site has shown that bat activity is relatively low and the proposals retain periphery habitats that are associated with bat foraging and commuting activity. Nevertheless the proposals will lead to the temporary reduction of hedgerow habitats that are used by bats and there will therefore be some alteration in the pattern of use of the site by bats. The magnitude of any impact is also likely to be highly reduced by the wide availability of similar, suitable foraging habitat in the surrounding area. The temporary loss of habitat is likely to lead to some minor effect, although is unlikely to significantly affect any local population of any species identified. Current plans indicate 17 of the 27 trees on Site with potential roost features will be lost to facilitate the development. The loss of trees will reduce the available

		local roost resource. With specific regards to tree roosts, the BCT guidance[x] states that: *"…it is arguable that all trees with bat roosting potential should be considered part of a resource that will be used at one time or another by tree roosting bats in order to determine the extent of impacts. Survey work on individual trees may confirm presence but is unlikely to conclusively confirm absence. Precautionary measures are likely to still be essential during works even where surveys have not identified occupancy."* The use of high intensity lighting can impact on bats during the construction stage, particularly where lighting is close to retained habitat that is used for foraging and as corridors of movement by some of the slower flying species such as the Myotis and brown long-eared bat species. While this is unlikely to significantly affect the viability of any local population, it could lead to their displacement from some areas or decline in foraging efficiency in the short-term during construction. Other species, including Noctule and Pipistrellus, the most numerous species recorded, are likely to benefit from the increase in floodlighting as they feed on the insects attracted to the light.
		Highways Works The removal of habitats as part of the proposed works will lead to some loss of foraging and commuting habitat, largely in connection with hedgerows. The use of high intensity lighting can impact on bats during the construction stage, particularly where lighting is close to retained habitat that is used for foraging and as corridors of movement by some of the slower flying species such as the Myotis and brown long-eared bat species. While this is unlikely to significantly affect the viability of any local population, it could lead to their displacement from some areas or decline in foraging efficiency in the short-term during construction. Other species, including Noctule and Pipistrellus, the most numerous species recorded, are likely to benefit from the increase in floodlighting as they feed on the insects attracted to the light.
		EMG1 Works No direct impacts are anticipated. The use of high intensity lighting can impact on bats during the construction stage, particularly where lighting is close to retained habitat that is used for foraging and as corridors of movement by some of the slower flying species such as the Myotis and brown long-eared bat species. While this is unlikely to significantly affect the viability of any local population, it could lead to their displacement from some areas or decline in foraging efficiency in the short-term during construction. Other species, including Noctule and Pipistrellus, the most numerous species recorded, are likely to benefit from the increase in floodlighting as they feed on the insects attracted to the light.
		Scheme In the absence of mitigation, the magnitude of habitat loss is unlikely to significantly impact the favourable conservation status of local bat populations. The cumulative effects of partial loss of roosting and foraging resources and

		the potential for disturbance constitutes a moderate magnitude of adverse impact.
Birds	Local importance	**EMG2 Main Site** The potential impact of the loss or change of habitat upon breeding bird species arising from the effects of development is based upon an understanding of each species' ecological requirements, the type of development, number of birds recorded within the survey area, their nature conservation criteria based on legislation and current guidance, their county status according to the county bird report and professional judgement. The permanent loss of agricultural habitats through the footprint of the proposed buildings and associated infrastructure will impact on the species typically associated with arable farmland (including BoCC red and amber listed species). Given the low numbers of species breeding on Site, their abundance in the county, and the availability of similar habitat immediately adjacent to the site boundary, it is anticipated that these species will be displaced to similar habitats in proximity to the Site. The loss of this arable habitat is unlikely to represent a significant effect in terms of the conservation status of species assemblages. Similarly, the temporary reduction of hedgerow and scrub will result in minor displacement impacts to the birds which rely on these features. However, the loss of these areas is unlikely to result in the total loss of the majority species from the Site or adverse effects to any local bird population and the resulting impact is negligible. The individual species recorded on site that are arguably the most vulnerable to impacts from the habitat loss include the 18 notable species that are either specially protected, appear on the BoCC Red or Amber lists and/or are listed as a NERC priority species and were recorded in at least locally important numbers. Of these species, skylark and yellow wagtail will be most greatly impacted with a complete and permanent loss of suitable on-site habitat. These are both declining species specialised for arable habitats and confirmed as breeding on-site. Yellow wagtails are uncommon as a breeding species within the county. Construction operations have the potential to disturb birds using the development area of the site for roosting, foraging, and breeding. Operations likely to disturb breeding birds include noise and displacement during vegetation clearance, initial ground works and some construction activities. During the breeding season (March to August, inclusive) disturbance may lead to nest desertion or the avoidance of the area and reduce the suitability of retained nesting areas, such as the retained hedgerows or woodland edge. There is some potential for direct harm to nesting birds and their young, and for breeding success to be reduced, this is expected to have a minor impact on the local conservation status of most of the bird species using the survey area for breeding.

		New habitat creation within the green infrastructure will in the long term create new opportunities for generalist and urban species assemblages.
		Highways Works The temporary reduction of hedgerow and scrub will result in minor displacement impacts to the birds which rely on these features. However, the loss of these areas is unlikely to result in the total loss of the majority species from the Site or adverse effects to any local bird population and the resulting impact is negligible. Construction operations have the potential to disturb birds using the development area of the site for roosting, foraging, and breeding. Operations likely to disturb breeding birds include noise and displacement during vegetation clearance, initial ground works and some construction activities. During the breeding season (March to August, inclusive) disturbance may lead to nest desertion or the avoidance of the area and reduce the suitability of retained nesting areas, such as the retained hedgerows or woodland edge. There is some potential for direct harm to nesting birds and their young, and for breeding success to be reduced, this is expected to have a minor impact on the local conservation status of most of the bird species using the survey area for breeding.
		EMG1 Works Construction operations have the potential to disturb birds using the development area of the site for roosting, foraging, and breeding. Operations likely to disturb breeding birds include noise and displacement during vegetation clearance, initial ground works and some construction activities. During the breeding season (March to August, inclusive) disturbance may lead to nest desertion or the avoidance of the area and reduce the suitability of retained nesting areas, such as the retained hedgerows and trees, and the offsite woodland edge. There is some potential for direct harm to nesting birds and their young, and for breeding success to be reduced, this is expected to have a minor impact on the local conservation status of most of the bird species using the survey area for breeding.

		Scheme The displacement of farmland specialists; skylark and yellow wagtails, relies on the potential carrying capacity of surrounding habitats, which without detailed survey effort can only be surmised. While arable land is widespread in the local area, the existing population levels and quality of foraging and breeding habitat is unknown. In the absence of mitigation, the loss of foraging and breeding habitat for skylark and yellow wagtail constitutes a moderate magnitude of adverse impact. Considering the wider bird assemblages, the development is unlikely to lead to a significant reduction in the overall local species richness. In the absence of mitigation, the temporary loss of foraging resources and potential for disturbance constitutes a low magnitude of adverse impact.
Invertebrates	Local importance	**EMG2 Main Site** The majority of the habitats within the footprint of the core development areas will be lost or at least modified to a significant extent. Some habitats will be retained, in particular the north-west marginal stream along with associated hedges and trees will be retained with an adjacent buffer strip. The loss of the arable land will be of little consequence to the invertebrate fauna. The loss of most of grassland, scrub, pond and hedgerow habitats will be compensated for within the green infrastructure as part of the biodiversity net gain requirements. The loss of the overmature trees and their associated wood decay habitats constitutes the largest impact of invertebrate assemblages. Impacts to retained habitats include the potential for direct, irreversible, permanent adverse effects from vehicle tracking and material storage outside the works footprint resulting in soil compaction and accidental damage. Indirect temporary adverse impacts are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities.
		Highways Works Minor habitat losses which will ultimately be compensated for within the green infrastructure as part of the biodiversity net gain requirements. are unlikely to significantly effect the invertebrate fauna. Impacts to retained habitats include the potential for direct, irreversible, permanent adverse effects from vehicle tracking and material storage outside the works footprint resulting in soil compaction and accidental damage. Indirect temporary adverse impacts are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities.
		EMG1 Works Minor habitat losses which will ultimately be compensated for within the green infrastructure as part of the biodiversity net gain requirements. are unlikely to significantly effect the invertebrate fauna.

		Impacts to retained habitats include the potential for direct, irreversible, permanent adverse effects from vehicle tracking and material storage outside the works footprint resulting in soil compaction and accidental damage. Indirect temporary adverse impacts are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities.
		Scheme In the absence of mitigation, the loss of habitat and potential for degradation to retained habitats constitutes a moderate magnitude of adverse impact.
Otter	Local importance	**EMG2 Main Site** The Diseworth Brook Tributary is offsite and will not be directly impacted. The proposals will enhance the riparian zone through additional planting and a reduction in land under agricultural use and an artificial log otter holt will be constructed. There is the potential for direct harm or mortality to otter resulting from construction activity. Potential indirect temporary, reversable adverse effects are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities which could reduce habitat quality for otters.
		Highways Works The highways works extend along the existing crossing point of the Diseworth Brook Tributary under the A453. No There is the potential for direct harm or mortality to otter resulting from construction activity. Potential indirect temporary, reversable adverse effects are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities which could reduce habitat quality for otters.
		EMG1 Works No impacts are anticipated.
		Scheme In the absence of mitigation, there is a risk of habitat loss and degradation, combined with direct harm to otters. Impacts are considered a temporary adverse effect in the short-term, and reversable in the long-term. The effects are at a scale unlikely to affect the overall FCS of the wider population of otter. Given the degree of embedded mitigation identified, the cumulative effects discussed above constitute a low magnitude of adverse impact.
Plants	Local importance	**EMG2 Main Site** The habitats to be lost are all common in the local area, and as such losses are not considered to represent a significant impact to local population levels. Impacts to retained habitats include the potential for direct, irreversible, permanent adverse effects from vehicle tracking and material storage outside the works footprint resulting in soil compaction and accidental damage. Indirect

		temporary adverse impacts are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities. New habitat creation will provide increased botanical interest on Site, and it is likely that species identified will recolonise the Site from surrounding areas.
		Highways Works The habitats to be lost are all common in the local area, and as such losses are not considered to represent a significant impact to local population levels. Impacts to retained habitats include the potential for direct, irreversible, permanent adverse effects from vehicle tracking and material storage outside the works footprint resulting in soil compaction and accidental damage. Indirect temporary adverse impacts are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities.
		EMG1 Works The habitats to be lost are all common in the local area, and as such losses are not considered to represent a significant impact to local population levels. Impacts to retained habitats include the potential for direct, irreversible, permanent adverse effects from vehicle tracking and material storage outside the works footprint resulting in soil compaction and accidental damage. Indirect temporary adverse impacts are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities.
		Scheme In the absence of mitigation the combined effects are unlikely to lead to a significant reduction in the local population, although a temporary, reversible loss to the on-site populations is expected. The temporary loss of habitats and botanical interest constitutes a low magnitude of adverse impact, with a long-term beneficial effect as a result of new habitat creation.
Other species: black rat, brown hare, hedgehog and polecat.	Local importance	**Scheme** Given the local records of these species, habitat losses may have a temporary impact on populations of these species prior to the green infrastructure establishing. The habitats on Site are characteristic of the area with comparable habitats adjoining and surrounding the site in the wider landscape. Impacts to retained habitats include the potential for direct, irreversible, permanent adverse effects from vehicle tracking and material storage outside the works footprint resulting in soil compaction and accidental damage. Indirect temporary adverse impacts are considered to include contaminated run off and chemical spills, as well as dust and littering arising from construction activities. There is a risk of direct harm and disturbance resulting from construction activity.

		Impacts are considered a temporary adverse effect in the short-term, and reversable in the long-term. In the absence of mitigation, the above effects constitute a low magnitude of adverse impact.

Operational Impacts

9.5.36. On completion of the **Scheme**, the following operations will occur which will potentially affect designated sites, habitats and species as set out below:

- Use of proposed buildings and infrastructure by personnel;
- Increased traffic; and
- Recreational use of the surrounding area.

Statutory Designated Sites

9.5.37. [Section holder awaiting additional consultation].

Non-statutory sites

9.5.38. Pond P3 which is the **EMG2 Main Site** on-site potential-historic LWS (11975) is to be the retained along with the majority of surrounding vegetation. Based on the phase 1 survey data, this pond did not meet the requirements to be selected as a LWS published in Leicester, Leicestershire and Rutland Guidance. To the north, earthworks will create a plateau for a HGV parking, with the **EMG2 Main Site** access road running to the north-west. A footpath/cycle way passing in proximity to the south of the pond, connecting Hyam's Lane to the bus terminal and wider pedestrian/cycle network. Given the sites existing proximity to intensely managed arable land and the Donington Park services, the current adjacent footpath and the existing evidence of fly-tipping within the surrounding habitats, the increased pedestrian/cyclist traffic along formally managed routes is expected to lead to, at most, a low magnitude of adverse impact. The proximity to the HGV parking also carries a risk of contaminated surface water runoff and chemical spills. In the absence of mitigation, there is a risk of temporary degradation to the quality of the pond which constitutes a low magnitude of adverse impact.

9.5.39. The Donington Park Services Ash Trees (92034) candidate LWS, form part of hedgerow H6, and are referred to as trees T4 and T5. A new footpath will run adjacent to hedge H6. The footpath follows the site boundary and will not provide the most direct route for pedestrian commuters traveling to various parts of the proposed development. Its use is therefor likely to be primarily recreational, with users from the proposed development and local area. Increased pedestrian traffic passing in proximity to these trees can cause an increase in littering and potential disturbance to wildlife using the site. Given the sites existing proximity to intensely managed arable land and the Donnington Park services, any impacts from the increased pedestrian/cyclist traffic along formally managed routes are considered negligible.

9.5.40. [The Donington Park Services Grassland and Scrub (92033) candidate LWS - Section holder awaiting outcome of adjacent planning application].

9.5.41. Castle Donington, Charnock Hill Grassland potential-historic LWS (11840) sits just south of the A453. This road will serve as the main access to the proposed development site and is expected that there will be a measurable increase in traffic as a result of the development. The A453

currently serves as the access route for East Midlands Airport and so there is a significant existing level of disturbance from traffic in terms of noise. The site is not considered to be vulnerable to impacts on air quality, nor is there expected to be increased public access. As such, any operations effects are considered negligible.

9.5.42. Castle Donington, Swan River verge potential-historic LWS (11836) lies just north of the redline for junction works between the A453 and The Green (Diseworth village road). As noted above, there is a significant existing level of disturbance from traffic along the A453 in terms of noise. No habitat information was available for this site, however the name indicates an association with the minor watercourse in this area. The site record lists the time of last survey as approximately sometime between 1980 and 1990. From publicly available historical satellite imagery the site would have run parallel to a road that extended northwards from the A453 which was still present until at least 1999. The road has since been removed and the vegetation has succeeded to closed canopy broadleaved woodland. Given the significant change in land use and vegetation cover it is quite possible that the unidentified feature of interest may no longer be present. The broadleaved woodland within the site is a HPI and wetland features still exist within this. There is a potential adverse impact from decreased air quality as a result of increased traffic, which could impact the woodland and wetland habitats. Given that the existing level of traffic the additional impact would not be considered significant.

9.5.43. Lockington (EMG) Oak 143 candidate LWS (90888) is recorded as a mature oak of 1370mm DBH in poor condition. There is a potential adverse impact from decreased air quality as a result of increased traffic, which could impact the trees health. Given that the existing level of traffic the additional impact would not be considered significant.

9.5.44. King Street Plantation potential-historic LWS (11950) is located adjacent to the Site boundary within the existing EMG1 development. It is listed as woodland last surveyed approximately sometime between 1980 and 1990 and as an area as deciduous woodland on Defra's Priority Habitats Inventory (England) lists. There is a potential adverse impact from decreased air quality as a result of increased traffic, which could impact the trees health. There is also a likelihood of increase numbers of pedestrians in proximity to this site. Increased pedestrian traffic passing in proximity to these trees can cause an increase in littering and potential disturbance to wildlife using the site. Given the sites existing proximity to already built elements of the EMG1 scheme, the combined effects identified are considered a low magnitude of adverse impact.

9.5.45. Lockington Park potential-historic LWS (11952) is found approximately 20m north of the EMG1 area and 40m west of the A50 Highways Works. It is listed as woodland last surveyed approximately sometime between 1980 and 1990 and is partially recorded as deciduous woodland on Defra's Priority Habitats Inventory (England) lists. Adverse impacts from decreased air quality as a result of increased traffic can arise on some woodland types, particularly where they are known to support sensitive features, such as important lower plant communities. However, given the nature of the woodland and its location close to existing roads, sensitive features are unlikely to be present and, as a result, any potential effect arising from a decrease in air quality would be of negligible significance.

Other Sites

9.5.46. The remaining local sites are considered to be adequately removed from the site so that any detrimental effect would be only constitute a negligible magnitude of impact.

Semi-natural Habitats

9.5.47. Operational phase effects on habitats with at least a local level of sensitivity have been discussed in **Table 9.13**.

9.5.48. Detailed landscape plans are not yet available and so a conservative approach to potential effects has been adopted. The new green infrastructure will create a larger and more diverse extent of semi-natural habitats than currently present at the Site, leading to an overall increase in biodiversity at the Site (see **Appendix 9i** for full details of the biodiversity net gain assessment). New habitats are considered likely to be of at most local importance.

Table 9.13: Potential operational effects of habitats

Habitat Type	Sensitivity	Evaluation
Individual Trees (excluding veterans)	Local importance (Low)	**EMG2 Main Site** Retained and newly planted individual trees could be degraded by increased pressures from Site users such as littering and damage, and inappropriate management.
		Highway Works Retained and newly planted individual trees could be degraded by increased pressures from Site users such as littering and damage, and inappropriate management.
		EMG1 Works Retained and newly planted individual trees could be degraded by increased pressures from Site users such as littering and damage, and inappropriate management.
		Scheme Operation effects have the potential to be a permanent adverse effect, although reversible in the long term. In the absence of mitigation, there is a risk of degradation of the condition of individual trees which constitutes a low magnitude of adverse impact.
Veteran Trees	Local importance (Low)	**EMG2 Main Site** Retained veteran trees could be degraded by increased pressures from Site users such as littering and damage, and management activities (either necessary for health and safety reasons, or inappropriate).
		Highways Works No veteran trees have been identified within this area.
		EMG1 Works No veteran trees have been identified within this area.
		Scheme Operation effects have the potential to be a permanent adverse effect. In the absence of mitigation, there is a risk of degradation of the condition of veteran trees, and the

		loss of key features which constitutes a moderate magnitude of adverse impact.
Broadleaved woodland (boundaries)	Local importance (Low)	**EMG2 Main Site** There is a potential adverse impact from decreased air quality as a result of increased traffic generated by the site, which could impact woodlands in close proximity to highways. Given that the existing level of traffic the additional impact would not be significant. Adjacent woodland could be degraded by increased pressures from Site users such as littering and damage.
		Highways Works Woodland habitats within and adjacent to the highways area could be degraded by littering, accidental damage, and inappropriate management.
		EMG1 Works There is a potential adverse impact from decreased air quality as a result of increased traffic generated by the site, which could impact woodlands in close proximity to highways. Given that the existing level of traffic the additional impact would not be considered to be significnat. Adjacent woodland could be degraded by increased pressures from Site users such as littering and damage
		Scheme The above have potential to be a permanent adverse effect, although reversible in the long term. In the absence of mitigation, there is a risk of degradation to the condition of woodlands which constitutes a low magnitude of adverse impact.
Ponds (excluding pond P3).	Local importance (Low)	**EMG2 Main Site** Pond P3 is considered separately under the designated sites assessment. Newly created ponds could be degraded by increased pressures from Site users such as littering and damage, and inappropriate management.
		Highways Works No ponds have been identified within this area.
		EMG1 Works No ponds have been identified within this area.
		Scheme The above have potential to be a permanent adverse effect, although reversible in the long term. In the absence of mitigation, there is a risk of degradation to the condition of ponds which constitutes a low magnitude of adverse impact.
Hedgerows	Local importance (Low)	**EMG2 Main Site** Retained and newly created hedgerows could be degraded by increased pressures from Site users such as littering and damage, and inappropriate management.
		Highways Works Retained and newly created hedgerows could be degraded by increased pressures from Site users such as littering and damage, and inappropriate management.

		EMG1 Works Retained and newly created hedgerows could be degraded by increased pressures from Site users such as littering and damage, and inappropriate management.
		Scheme The above have potential to be a permanent adverse effect, although reversible in the long term. In the absence of mitigation, there is a risk of degradation to the condition of hedgerows which constitutes a low magnitude of adverse impact.
Diseworth brook tributary	Local importance (low)	**EMG2 Main Site** The development will reduce pollution from agriculture and rural land management, which the development will reduce. The proposed development will include SuDS designed in accordance with the latest CIRIA SuDS manual and water treatment index to ensure that water quality as well as the water quantity leaving the site is given appropriate consideration. Therefore, this is expected to represent a minor improvement over the current conditions. There could be some increased pressures from Site users such as littering, however, on it's own this is expected to have a negligible impact.
		Highways Works The highways works extend along the existing crossing point on the A453. No direct effects are anticipated. There could be some increased pressures from Site users such as littering, however, on it's own this is expected to have a negligible impact.
		EMG1 Works No impacts are anticipated.
		Scheme The combined effects are considered to constitutes a low magnitude of beneficial impact.

Operational Phase - Species Level

9.5.49. Construction phase effects on species with at least a local level of sensitivity have been discussed in **Table 9.14**.

Table 9.14: Potential operational effects of species

Species	Sensitivity	Evaluation
Amphibians (including GCN)	Local importance	**EMG2 Main Site** As set out above there is potential for habitat degradation from site users which could have a detrimental effect of associated species assemblages. There is the potential for direct harm from traffic and damage to aquatic and terrestrial habitats from littering and inappropriate management.
		Highways Works No impacts are anticipated.
		EMG1 Works No impacts are anticipated.

		Scheme In the absence of mitigation, the combination of the above effects could have a measurable impact to local populations which constitutes a low magnitude of adverse impact.
Bats	Local importance	**EMG2 Main Site** Habitat degradation from littering, damage, and inappropriate management as well as disturbance from site users could have a detrimental effect of roosting bats utilising retained trees with roost features. Lighting around retained and newly created habitats used by bats can lead to a reduction/alteration in foraging commuting and roosting bats. Some species, including barbastelle bats, (of which a very small number was recorded onsite) are particularly sensitive to lighting and will avoid heavily lit areas. The impact can disrupt commuting routes and impact of available foraging resources for such species. Other species, including Noctule and Pipistrellus, the most numerous species recorded at the site, are likely to benefit from the increase in lighting as they feed on the insects attracted to the light. The extent of the GI will enable the provision of dark bat suitable habitats away from built areas.
		Highways Works Lighting around offsite habitats used by bats can lead to a reduction/alteration in foraging commuting and roosting bats. Some species, including barbastelle bats, are particularly sensitive to lighting and will avoid heavily lit areas. The impact can disrupt commuting routes and impact of available foraging resources for such species. Other species, including Noctule and Pipistrellus, are likely to benefit from the increase in lighting as they feed on the insects attracted to the light.
		EMG1 Works Lighting around offsite habitats used by bats can lead to a reduction/alteration in foraging commuting and roosting bats. Some species, including barbastelle bats, are particularly sensitive to lighting and will avoid heavily lit areas. The impact can disrupt commuting routes and impact of available foraging resources for such species. Other species, including Noctule and Pipistrellus, are likely to benefit from the increase in lighting as they feed on the insects attracted to the light.
		Scheme In the absence of mitigation, the combination of the above effects could have a measurable impact to local populations which constitutes a low magnitude of adverse impact.
Birds	Local importance	**EMG2 Main Site** Site maintenance activities involving vegetation clearance have the potential to disturb nesting birds and damage their nests, or kill dependent young. An increase in pedestrian access across the site, will encourage both commuting and recreational users including dog walkers in greater numbers and in closer proximity to nesting habitats relative to the pre-development baseline.

		While there is potential for disturbance, the type of activity is predominantly transient, following footpaths/cycle way networks as opposed to creating hubs of increased disturbance.
		Highways Works Site maintenance activities involving vegetation clearance have the potential to disturb nesting birds and damage their nests, or kill dependent young.
		EMG1 Works Site maintenance activities involving vegetation clearance have the potential to disturb nesting birds and damage their nests, or kill dependent young. An increase in pedestrian access across the site can be expected. While there is potential for disturbance, the type of activity is predominantly transient, following footpaths/cycle way networks as opposed to creating hubs of increased disturbance.
		Scheme In the absence of mitigation, the combination of the above effects could have a measurable impact to local populations which constitutes a low magnitude of adverse impact.
Invertebrates	Local importance	**EMG2 Main Site** Site maintenance activities involving vegetation clearance could have a detrimental effect of associated species assemblages, particularly those found in association with wood decay habitats in retained overmature and veteran trees.
		Highways Works Site maintenance activities involving vegetation clearance could have a detrimental effect of associated species assemblages, particularly those found in association with wood decay habitats in retained overmature and veteran trees.
		EMG1 Works Site maintenance activities involving vegetation clearance could have a detrimental effect of associated species assemblages, particularly those found in association with wood decay habitats in retained overmature and veteran trees.
		Scheme This has potential to be a permanent adverse effect. In the absence of mitigation, there is a risk of degradation of the condition of wood decay habitats, and the loss of key features which constitutes a moderate magnitude of adverse impact.
Otter	Local importance	**EMG2 Main Site** A reduction in farming runoff and the increased green corridor following the Diseworth Brook Tributary could be expected to provide a low magnitude benefit to otter.
		Highways Works There is the potential for direct harm or mortality to otter resulting from operational activity where otters are exposed to increased traffic passing over the Diseworth Brook Tributary.
		EMG1 Works No impacts are anticipated.

		Scheme The overall balance of habitat improvement weighed against some increased risk of injury or mortality from traffic is unlikely to have a significant impact on the local populations, and constitutes a negligible magnitude of adverse impact.
Plants	Local importance	**EMG2 Main Site** The development will result increased access across site, however this will be in association with footpaths/cycle way networks.
		Highways Works No impacts are anticipated.
		EMG1 Works The development will result increased access across site, however this will be in association with footpaths/cycle way networks.
		Scheme This access is unlikely to lead to a significant impact on the local populations, and constitutes a negligible magnitude of adverse impact.
Other species: black rat, brown hare, hedgehog and polecat.	Local importance	**Scheme** As set out above there is potential for habitat degradation from site users which could have a detrimental effect of associated species assemblages. There is the potential for direct harm from site traffic, and temporary disturbance from site users. In the absence of mitigation, the combination of the above effects could have a measurable impact to local populations which constitutes a low magnitude of adverse impact.

Summary of Impacts

9.5.50. **Table 9.15** summarises the IEFs, their sensitivity and the assessed impact at construction and operational phases. The Significance of the effect, taking into account embedded mitigation, is given based on the greatest impact. Where potential impacts are attributed to only part of the Scheme, the relevant component or components are indicated.

Table 9.15: Summary of Impacts [To be completed]

Ecological feature	Sensitivity	Scheme Component	Construction Impacts	Operational Impacts	Significance
River Mease SAC	International (High)	Scheme	tbc	tbc	tbc
Lockington Marshes SSSI	National (High)	Scheme	tbc	tbc	tbc
Attenborough Gravel Pits SSSI	National (High)	Scheme	tbc	tbc	tbc
Pond P3 pLWS.hist (11975)	County (Moderate)	EMG2 Main Site	Moderate Adverse	Low Adverse	Moderate - Minor Adverse
Donington Park	County (Moderate)	EMG2 Main Site	Moderate Adverse	Negligible	Moderate

Services Ash Trees cLWS (92034)					- Minor Adverse
Donington Park Services Grassland and Scrub cLWS (92033)	County (Moderate)	EMG2 Main Site	tbc	tbc	tbc
The Paddock pLWS.hist (11965)	County (Moderate)	EMG2 Main Site	Negligible	Negligible	Negligible
Castle Donington, Charnock Hill grassland pLWS.hist (11840)	County (Moderate)	Highways Works	Moderate Adverse	Negligible	Moderate - Minor Adverse
Castle Donington, Swan River verge pLWS.hist (11836)	County (Moderate)	Scheme	Moderate Adverse	Negligible	Moderate - Minor Adverse
Lockington (EMG) Oak 143 cLWS (90888)	County (Moderate)	Scheme	Moderate Adverse	Negligible	Moderate - Minor Adverse
King Street Plantation pLWS.hist (11950)	County (Moderate)	EMG1 Works	Moderate Adverse	Low Adverse	Moderate - Minor Adverse
Lockington Park pLWS.hist (11952)	County (Moderate)	Scheme	Negligible	Negligible	Minor Adverse
Individual Trees (excluding veterans)	Local importance (Low)	Scheme	Moderate Adverse	Low Adverse	Minor Adverse
Veteran Trees	Local (Low)	EMG2 Main Site	Moderate Adverse	Moderate Adverse	Minor Adverse
Broadleaved woodland	Local (Low)	Scheme	Low Adverse	Low Adverse	Minor-Negligible Adverse
Ponds (excluding pond P3).	Local (Low)	EMG2 Main Site	Moderate Adverse	Low Adverse	Minor Adverse
Hedgerows	Local (Low)	Scheme	Moderate Adverse	Low Adverse	Minor Adverse
Diseworth brook tributary	Local (Low)	EMG2 Main Site and Highways Works	Low Adverse	Low Beneficial	Minor-Negligible Adverse (Short-term) / Beneficial (Long-term)

Amphibians (including GCN)	Local (Low)	EMG2 Main Site	Low Adverse	Low Adverse	Minor-Negligible Adverse
Bats	Local (Low)	Scheme	Moderate Adverse	Low Adverse	Minor Adverse
Birds (excluding skylark and yellow wagtail)	Local (Low)	Scheme	Low Adverse	Low Adverse	Minor-Negligible Adverse
Skylark and yellow wagtail	Local (Low)	EMG2 Main Site	Moderate Adverse	Low Adverse	Minor Adverse
Invertebrates	Local (Low)	Scheme	Moderate Adverse	Moderate Adverse	Minor Adverse
Otter	Local (Low)	EMG2 Main Site and Highways Works	Low Adverse	Negligible	Minor-Negligible Adverse
Plants	Local (Low)	Scheme	Low Adverse / beneficial	Negligible	Minor-Negligible Adverse (Short-term) / Beneficial (Long-term)
Other species: black rat, brown hare, hedgehog and polecat.	Local (Low)	Scheme	Low Adverse	Low Adverse	Minor-Negligible Adverse

9.6. Mitigation Measures

General Principles

9.6.1. The **Scheme** has been carefully designed to avoid significant ecological effects by applying the mitigation hierarchy:

- Avoidance – adopt options that avoid harm to ecological features, e.g. selecting a site of relatively low ecological value, review and realignment to avoid significant ecological receptors e.g. avoidance of Pond 3 (pLWS Historic).
- Mitigation – where effects cannot be avoided, adopt options that reduce and minimise them, e.g. reduction of noise, dust etc. through good construction practice.
- Translocation – where effects on certain IEFs (not all) cannot be avoided in a particular location it may sometimes be possible to move the IEF to a new and safe location (this approach is only possible for specific environmental disciplines, most obviously ecology).
- Compensation – where ecological effects cannot be avoided or fully mitigated and therefore give rise to significant residual adverse effects, appropriate compensatory provisions can be made, such as in the creation of alternative foraging habitat for bats.

- Enhancements – encouraged in various planning policies are measures to provide benefits to biodiversity or ecosystem functioning over and above what is required for avoidance, mitigation or compensation of effects. Opportunities to provide nature conservation enhancement have Mitigation by Design

9.6.2. The proposed scheme includes a range of intrinsic (embedded) ecological avoidance, mitigation and enhancement measures. The provision of the green infrastructure is an integral part of **EMG2 Main Site** and is a primary mitigation measure (i.e. actions undertaken by the EIA process to influence the design and layout of the **Scheme**).

Additional Mitigation

9.6.3. In addition to the above embedded mitigation, the following measures will be adopted to mitigate the identified significant effects. Detailed measures to ensure legal compliance are also provided.

Mitigation of Construction Effects of Development

9.6.4. Measures will be undertaken during the construction phase in-line with industry guidelines in order to minimise disruption and manage the impacts of the development to retained habitats and/or connected features of ecological interest off-Site. A comprehensive Construction Environmental Management Plan (CEMP) will ensure best working practices and standard mitigation measures are adopted during the construction phase. The CEMP will seek to negate impacts on retained habitats, with specific measures employed to avoid harm to protected species which are known to be present on-site or in the vicinity. Guidance from the Arboricultural Impact Assessment (Appendix 9j) will be adhered to.

Designated Sites / Habitats

9.6.5. In addition to standard buffers of retained vegetation, specific consideration will be given to the protection of:

- Pond P3 pLWS.hist (11975)
- Donington Park Services Ash Trees cLWS (92034)
- Donington Park Services Grassland and Scrub cLWS (92033)
- Castle Donington, Charnock Hill grassland pLWS.hist (11840)
- Castle Donington, Swan River verge pLWS.hist (11836)
- Lockington (EMG) Oak 143 cLWS (90888)
- King Street Plantation pLWS.hist (11950)
- The Diseworth brook tributary
- Retained trees, including veterans
- Newly created mitigation areas

9.6.6. Buffers will be designed to consider both topography and the nature of works in proximity to the receptor. Where buffers alone are not adequate to prevent potential for direct damage,

degradation or disturbance additional measures will be adopted. These could include but are not limited to the use of filter strips, swales and cut off ditches, combined with settlement ponds or settlement tanks, boundary screening, and adopting working practices that reduce disturbance through adapting methodology or timing. An emergency response plan to deal with pollution incidents will be provided where necessary.

9.6.7. New hedgerows should be used to screen the edges of the development footprint and provide connectivity throughout. To maximise ecological value, new hedgerow creation should prioritise high distinctiveness compositions using native species-rich (at least 5 native species / 30m) planting with associated ditches and tree standards (1 tree / 20m). Retained hedgerows can be enhanced where feasible to align with these targets.

9.6.8. The mitigation approach outlined below for saproxylic invertebrate assemblages in mature and overmature trees aligns with mitigation approach for the loss of veteran trees.

Mitigation for Flora / Fauna

Amphibians

9.6.9. As part of the mitigation for the **Scheme** the Applicant will enter into a District level Licensing agreement with Natural England to ensure that appropriate compensation is provided for impacts on GCN. BNG requirements will provide compensatory pond habitat for the loss on Ponds P2 and P3.

9.6.10. Additional mitigation specifications focus on tailoring newly created habitats for amphibians, and minimising impacts from construction activities.

9.6.11. The new ponds created on site will have their designs tailored to include stepped shallow areas, as well as deeper central areas to provide suitable amphibian habitat. A mixture of native emergent, submerged and floating plants will be selected to support amphibians. Pond edges with be planted to provide cover and encourage invertebrates. Hibernacula and log pile features will be created in association with new ponds to provide further benefit for amphibians.

9.6.12. The inclusion of topographical ditch features in association with new native hedgerows will provide a seasonally inundated habitat network to support amphibians and increase connectivity.

9.6.13. Removal of habitat suitable for supporting amphibians within 50m of ponds should be supervised by an Ecological Clerk of Works (ECoW), with any amphibians discovered relocated to suitable retained habitats.

Bats

9.6.14. Embedded mitigation includes the retention and buffering of periphery habitats allowing continued connectivity across the **EMG2 Main Site,** and the provision of a range of habitats within the green infrastructure that will providing foraging opportunities. The design of lighting throughout the **Scheme** will minimise light-spill onto retained or potential foraging or commuting habitats.

9.6.15. Additional mitigation measures aim to compensate for impacts to the overall roost resource and minimise impacts from construction activities.

9.6.16. A range of bat boxes should be erected on retained trees across the **EMG2 Main Site** to provide provision of roosting opportunities. This provision should be of a comparable level to the number of potential bat roosting features identified as lost within the bat report (**Appendix 9.3**). These should be installed as early in the works program as possible, and prior to tree removal works to ensure continuity of resources.

9.6.17. In order to minimise any potential impact to commuting and foraging routes, in the event that any hedgerows are to be broken, such as to incorporate proposed accesses, the retained hedgerows should be reinforced with native species planting to create hop-overs to aid crossing of these breaks for bats.

9.6.18. Several hedgerows, associated trees and areas of scrub will be removed from the **Scheme**. These provide connective corridors through the site and, in order to maintain this function, the retained features in the site periphery will be reinforced with native species planting as part of the habitat creation.

Birds

9.6.19. Embedded mitigation includes the retention and buffering of periphery habitats, and the provision of a range of habitats within the green infrastructure that will providing foraging and nesting opportunities. Specific measures for bird species will be limited due to the site location within proximity to East Midlands Airport, and the associated safeguarding requirements to minimise bird strike risk.

9.6.20. Additional mitigation will include the erection of a mixture of nest box types. Tree mounted boxes should be installed as early in the **EMG2 Main Site** works program as possible, and prior to tree removal works to ensure continuity of resources. Integral and building mounted boxes can be installed at an appropriate stage within the construction phase. The following provides details of suitable nest box types to be erected at appropriate locations:

- The inclusion of integrated swift boxes on office buildings (at a minimum 1:1 ratio) within the development to encourage these species which are able to take advantage of urban sites to breed. Swift boxes should be installed at least 5m high, with an unobstructed flight path. Swifts are gregarious, so installing several boxes in close proximity is beneficial.
- Where opportunities allow, swallow nest cups should be placed close under eaves, although ideally under cover, such as open bin or bike sheds, with at least a 6cm gap above the nest to provide access;
- A mixture of small hole (26mm and 32mm) boxes (≥10) placed on retained trees will provide nesting opportunities for blue tit Cyanistes caeruleus and great tit Parus major. These boxes generally have a high uptake rate;
- Small open fronted nest boxes (≥10) placed throughout the Site especially on trees which support a climber such as ivy which provides a degree of concealment. These boxes typically attract robin and blackbird;

- Large nest boxes (≥10) with large holes (45-50 mm) placed on suitable mature trees to provide breeding sites for starling.
- Erect large (20 x 20 x 40cm) nest boxes (≥2) with large holes (15 cm) for stock dove and kestrel. These need to be placed at least 3 m high on large trees on the woodland edge in areas of low human disturbance. Ideally erected in close proximity.

9.6.21. To avoid disturbance to nesting birds, site clearance works, including the removal of woody vegetation or habitat suitable for ground-nesting species, will be conducted where possible outside the bird breeding season, which runs March – August inclusive. If clearance is planned for the bird breeding season then it will be preceded by a nesting bird survey conducted by an experienced ecologist. This will involve observing any vegetation to identify any wild birds exhibiting nesting behaviour and / or searching for active nests. Should active bird nests be identified then an exclusion zone would need to be retained until the chicks had fledged, as determined by the supervising ecologist.

9.6.22. The loss of arable habitat which supports skylark and yellow wagtail cannot be replaced within the **EMG2 Main Site**. Mitigation for these species therefore relies on increasing the carrying capacity of surrounding habitats, to allow greater populations to be supported than currently present. This can in part be achieved by providing additional foraging resources.

9.6.23. Advice from the Royal Society for Protection of Birds[xxxiii] states that skylark benefit from insects and spiders from April until August. Insects are collected from the ground, and from low-growing plants in crop and pasture. The larger open areas of permanent grassland should be left un-cut over the spring and early summer. Creation of tussocky grass near adjoining arable fields will create over-wintering habitat for beneficial insects, which move into the crops in the spring. Allow some strips or blocks of ryegrass to go to seed and leave uncut through the winter in areas away from hedgerows or woodland.

9.6.24. Advice from the Royal Society for Protection of Birds[xxxiv] states that yellow wagtails benefit from insects and spiders throughout the summer, particularly flying insects in sparse vegetation and open ground. Creation of wet features such as open wet ditches, ponds and scrapes will boost a number of flying insect groups on which yellow wagtails feed. For the greatest benefit to yellow wagtails, these wet areas should be open and free from shading by hedges and trees. Creation of a network of insect-rich habitats around adjoining arable farmland such as annually cultivated strips.

9.6.25. Additional financing of sensitive land management at surrounding farms would bolster the above measures.

Invertebrates

9.6.26. Embedded mitigation includes the retention and buffering of periphery habitats, and the provision of a range of habitats within the green infrastructure that will support a diverse array of invertebrates.

9.6.27. Additional mitigation will aim to go beyond the standard provision of habitats to further increase the value of the **EMG2 Main Site** for invertebrates. Creation of 5m wide belts adjacent to boundaries with offsite arable fields that is annually ploughed will allow a ruderal arable margin flora to develop and provide habitat for associated invertebrate species.

9.6.28. The creation of banks of free-draining sandy soil will further enhance structural complexity and encourage nesting aculeate colonies. These do not necessarily need to be tall, banks of 1-2m can still provide important habitat. These should preferably be south facing and moderately steep so as to maintain open conditions. Creation of banks of a range of substrates, from clay to sand and a range of slopes will provide greatest habitat diversity.

9.6.29. New ponds should be lined with clay to hydrologically separate them from nutrient enriched agricultural soils and allowed to fill with rainwater. New scrapes should be created to provide areas of temporary inundation habitat.

9.6.30. The green infrastructure design will avoid excessive planting of woody vegetation. Care should be taken not to compromise open habitats or excessively shade existing trees or hedges. Open habitats supported the majority of the invertebrate species recorded, including many with a formal conservation status, whilst 45 many of the species associated with existing woody vegetation prefer or require the tree or shrubs to be in open sunny conditions. Planting should use locally appropriate native species such as those listed below:

- Hawthorn (Crataegus monogyna);
- Blackthorn (Prunus spinosa);
- Field Maple (Acer campestre) Elm (Ulmus spp.);
- Grey Willow (Salix cinerea);
- Elder (Sambucus nigra); and
- Wayfaring Tree (Viburnum lantana).

9.6.31. Planting of scrub with gentle transitions to surrounding grassland provides a more natural vegetation structure and tends to give better results for invertebrates. These will support species associated with woody vegetation, and if placed close to one another to give a stepping-stone effect still allow movement of these species through the environment without impeding the movement of open habitat species.

9.6.32. Reasonably sized gaps should be maintained in any planted hedges so that they do not act as an impermeable barrier to the movement of open habitat species.

9.6.33. The loss of overmature trees and their extensive associated wood decay habitats supporting saproxylic invertebrate assemblage cannot be entirely mitigated. Where the removal of mature and over-mature trees is unavoidable the aim should be to conserve as much of the dead and decaying wood in a state as close to its prior condition as possible. The features of the greatest importance for invertebrates are heart rot, hollowing trunks and large dead and decaying limbs. Mitigation will involve two main stages, the preservation of as much deadwood as possible and securing long-term habitat continuity. Preservation of deadwood will involve translocation to the site margins or the Enhancement Area. Specific mitigation will include:

- Move any large diameter dead wood to designated mitigation areas and install it in a range of conditions, e.g. standing trunks, propped/attached aerial large-diameter dead wood, scattered and piled dead wood at tree bases etc. aiming to provide a good approximation of the conditions found on the development site.

- Conserve heart rot features through the development by keeping the main trunks of the large trees intact through removal, or where this is impossible, in as large a pieces as possible. Any opening up of or cutting into heart rot or decay cavities should be avoided as this will seriously compromise the habitat value of the feature.
- The trunks should be moved to the mitigation areas as quickly as possible. The main trunks should be installed as standing deadwood within or immediately adjacent to hedgerows and in semi-shaded conditions to replicate their current environmental conditions as closely as possible.
- Large attached limbs will need to be removed for translocation purposes but should ideally be placed above ground level at the mitigation site, e.g. propped or attached to the standing trunks to maintain similar environmental conditions as fallen dead wood provides a very different habitat for a different assemblage of species to attached dead wood.
- Other dead wood needing to be removed from the development site should be placed around the base of the translocated tree trunks in semi-shaded conditions. Translocation of dead wood should take place in the winter when saproxylic invertebrates are dormant.
- Avoid planting woody vegetation close to the translocated dead wood. Partial shading by existing trees or hedges will be beneficial but heavy shading by planted scrub will lead to a rapid loss of invertebrate interest.
- Translocated dead wood should be situated close to mature Ash trees where possible to provide greater potential for habitat continuity and allow species moving from translocated dead wood to colonise suitable wood decay habitats in living mature Ash trees.
- Veteranisation methods could accelerate the provision of decaying wood habitat features on existing trees through actions such as breaking branches, damaging trunks or using jagged or coronet cuts of limbs to encourage wood decay.
- Planting of Oak or Ash at low density along hedgerows to create future hedgerow standards and in the centre of fields with the aim of creating high-quality open-grown parkland trees would be beneficial in the long term by providing continuity of arboreal and dead wood habitats.

Other species

9.6.34. As part of the embedded mitigation a range of habitats will be created suitable for supporting local flora and fauna. Site design includes green corridors to allow the mobile mammals continued commuting routes and reduce the potential for habitat fragmentation.

9.6.35. Mitigation for specific licensable activities will be designed to meet Natural England requirements. The Site layout and provision of green space ensures that there is the scope to deliver any foreseeable requirements as part of this process.

9.6.36. Consideration will be given to mammals within the CEMP. Precautionary working methods will reduce the risk of entrapment and fatalities by covering any large pipes, pits or trenches that are left open overnight, or where appropriate providing an adequate means of escape, such as a sloping profile or means of escape.

Mitigation of Operational Effects of Development

9.6.37. A Landscape and Ecological Management Plan (LEMP) will be produced for all habitats retained and created for nature conservation purposes within the wider Green Infrastructure where necessary. The LEMP also relates to the long-term management objectives identified within the BNG assessment. This provides a framework of specific habitat condition outcomes with expected time frames to obtain these. Full details of this are provided in the Biodiversity Net Gain Assessment (**Appendix 9i**). Management prescriptions will aim to be adaptive rather than prescriptive. Provision should be made to respond to pressures of climate change. Where possible the long-term management of the **Scheme** will be carried out by or in consultation with an organisation with a proven track record of managing areas to maximise their nature conservation potential, such as through a steering group or other mechanism.

9.6.38. Additional mitigation will aim to address where possible the potential effects identified above.

Designated Sites / Habitats

9.6.39. The on-Site pLWS.hist (11975) (Pond P3) and newly created waterbodies, The Diseworth brook tributary, and the Castle Donington, Swan River verge pLWS.hist (11836) support aquatic habitats vulnerable to incidental contamination. Site operators should hold a pollution incident response plan (PIRP) with specific regard to these locations. In addition, management works in proximity to these features should:

- Use buffer strips along the edge of watercourses to avoid run-off containing pesticides or soil;
- Where possible work across slopes, rather than down them to help to minimise the risk of soil erosion;
- Plan ahead and carry out operations leading to bare or disturbed soil in periods of dry weather; and
- Ensure that grass cuttings and other cut vegetation do not enter the water environment.

9.6.40. Several woodland habitats (including designated sites) near highways were identified to be vulnerable to air quality impacts. While no sensitive features are likely to be present, management that promotes dense edge habitats will help to limit the permeability of woodlands to these continuing effects.

9.6.41. Management of woodland habitats and individual trees; in particular mature and veteran trees, should have particular regard to protecting and retaining decay features and dead wood resources. Whilst removal may be sought for health and safety reasons, consideration should be given to alternatives such as limiting access through exclusion fencing which would allow retention of these features. Where these features must ultimately be removed, an ecologically sensitive approach should be adopted, with reference to the mitigation outlined for invertebrate assemblages associated with decay features. Individual trees should be managed to primarily promote their ecological value, with all management prescriptions undertaken within this framework.

Mitigation for Flora / Fauna

General measures

9.6.42. A range of fauna have potential to be moving across the **Scheme** and be exposed to harm from traffic. The use of targeted control measures such as signage and speed limitations can be used to reduce the risks.

Amphibians

9.6.43. Management within the **EMG2 Main Site** will include appropriate maintenance of newly created hibernacula. Grassland habitat in proximity to ponds will be managed to create a tussocky sward. Any management of these grasslands should be staggered to retain undisturbed sections in any given year.

9.6.44. Management works undertaken in proximity to aquatic habitats including hedgerow ditches, and in proximity to the adjoining Donington Park Services Grassland and Scrub cLWS (92033) should be undertaken following methodologies which consider the potential for amphibians to be utilising these areas.

9.6.45. Arisings from any woody vegetation clearance will be used to create log piles at transitional zones around wetland areas and within woodlands.

Bats

9.6.46. Management will include appropriate maintenance of bat boxes and bat hop-overs.

9.6.47. Any arboricultural works will first require an assessment of potential bat roost features. Where present additional survey work will be undertaken to identify any constraints that these may present.

Birds

9.6.48. Management will include appropriate maintenance of bird boxes.

9.6.49. To avoid disturbance to nesting birds, any removal of woody vegetation or habitat suitable for ground-nesting species, will be conducted where possible outside the bird breeding season, which runs March – August inclusive. If clearance is planned for the bird breeding season then it will be preceded by a nesting bird survey conducted by an experienced ecologist. Should active bird nests be identified then an exclusion zone would need to be retained until the chicks had fledged, as determined by the supervising ecologist.

Invertebrates

9.6.50. The use of insecticides should be avoided.

9.6.51. Management activities of each habitat type should be undertaken on rotation to ensure there are always areas of undisturbed habitats in any given year.

9.6.52. As discussed for the construction phase, where removal of dead wood or decay features is necessary, works should be undertaken sensitively, and removed features should be incorporated into the green infrastructure.

9.7. Residual Effects

9.7.1. The residual effects (**Table 9.16**) consider the potential impacts after the incorporation of additional mitigation measures, beyond those that were considered embedded.

Table 9.16: Summary of Residual Impacts [To be completed]

Ecological feature	Sensitivity	Scheme Component	Additional Mitigation Summary	Residual Construction Impacts	Residual Operational Impacts	Significance
River Mease SAC	International (High)	Scheme	tbc	tbc	tbc	tbc
Lockington Marshes SSSI	National (High)	Scheme	tbc	tbc	tbc	tbc
Attenborough Gravel Pits SSSI	National (High)	Scheme	tbc	tbc	tbc	tbc
Pond P3 pLWS.hist (11975)	County (Moderate)	EMG2 Main Site	Specific prescriptions within CEMP / LEMP	Negligible	Negligible	Negligible
Donington Park Services Ash Trees cLWS (92034)	County (Moderate)	EMG2 Main Site	Specific prescriptions within CEMP	Negligible	Negligible	Negligible
Donington Park Services Grassland and Scrub cLWS (92033)	County (Moderate)	EMG2 Main Site	tbc	tbc	tbc	tbc
The Paddock pLWS.hist (11965)	County (Moderate)	EMG2 Main Site	N/A	Negligible	Negligible	Negligible
Castle Donington, Charnock Hill grassland pLWS.hist (11840)	County (Moderate)	Highways Works	Specific prescriptions within CEMP	Moderate Adverse	Negligible	Moderate-Minor Adverse
Castle Donington, Swan River verge pLWS.hist (11836)	County (Moderate)	Scheme	Specific prescriptions within CEMP / LEMP	Negligible	Negligible	Negligible
Lockington (EMG) Oak 143 cLWS (90888)	County (Moderate)	Scheme	Specific prescriptions within CEMP	Negligible	Negligible	Negligible
King Street Plantation pLWS.hist (11950)	County (Moderate)	EMG1 Works	Specific prescriptions within CEMP / LEMP	Negligible	Negligible	Negligible

Lockington Park pLWS.hist (11952)	County (Moderate)	Scheme	N/A	Negligible	Negligible	Negligible
Individual Trees (excluding veterans)	Local importance (Low)	Scheme	Specific prescriptions within CEMP / LEMP	Low Adverse	Low Beneficial	Minor-Negligible Adverse (Short-term) / Beneficial (Long-term)
Veteran Trees	Local (Low)	EMG2 Main Site	Specific prescriptions within CEMP / LEMP	Moderate Adverse	Negligible	Minor Adverse
Broadleaved woodland	Local (Low)	Scheme	Specific prescriptions within CEMP / LEMP	Negligible	Negligible	Negligible
Ponds (excluding pond P3).	Local (Low)	EMG2 Main Site	Specific prescriptions within CEMP / LEMP	Moderate Adverse	Low Beneficial	Minor Adverse (Short-term) / Minor-Negligible Adverse Beneficial (Long-term)
Hedgerows	Local (Low)	Scheme	Habitat creation objectives, specific prescriptions within LEMP.	Moderate Adverse	Negligible	Minor Adverse
Diseworth brook tributary	Local (Low)	EMG2 Main Site and Highways Works	Specific prescriptions within CEMP / LEMP	Negligible	Low Beneficial	Minor-Negligible Beneficial
Amphibians (including GCN)	Local (Low)	EMG2 Main Site	Habitat creation objectives, specific prescriptions within CEMP / LEMP	Negligible	Negligible	Negligible
Bats	Local (Low)	Scheme	Habitat creation objectives, specific prescriptions within CEMP / LEMP	Negligible	Negligible	Negligible
Birds (excluding skylark and yellow wagtail)	Local (Low)	Scheme	Habitat creation objectives, specific prescriptions within CEMP / LEMP	Negligible	Negligible	Negligible

Skylark and yellow wagtail	Local (Low)	EMG2 Main Site	Habitat creation objectives, specific prescriptions within CEMP / LEMP	Moderate Adverse	Negligible	Minor Adverse
Invertebrates	Local (Low)	Scheme	Habitat creation objectives, specific prescriptions within CEMP / LEMP	Moderate Adverse	Negligible	Minor Adverse
Otter	Local (Low)	EMG2 Main Site and Highways Works	Specific prescriptions within CEMP	Negligible	Negligible	Negligible
Plants	Local (Low)	Scheme	N/A	Low Adverse /beneficial	Negligible	Minor-Negligible Adverse (Short-term) / Beneficial (Long-term)
Other species: black rat, brown hare, hedgehog and polecat.	Local (Low)	Scheme	Specific prescriptions within CEMP / LEMP	Negligible	Negligible	Negligible

9.8. Cumulative Impacts

Inter-project cumulative effects

9.8.1. A list of schemes with potential to contribute to cumulative effects is provided above in T**able 9.1**. Cumulative impacts are considered in relation to any residual effects of identified schemes after mitigation where applicable and taking into account the embedded mitigation measures for the **Scheme**.

Designated Sites

9.8.2. [Section holder awaiting further consultation}.

9.8.3. With regard to locally designated sites the principal cumulative impacts would relate to traffic, and increases in pollution. Habitats which are sensitive to nitrogen pollution include broadleaved and mixed woodlands, and freshwater habitats which are constituent parts of several of the local sites. The potential effect from increased pollution is a decrease in habitat quality. Given the locations of these sites are already within a highly urbanised areas with existing levels of pollution, the potential for in combination effects of these schemes is not considered likely to result in impacts beyond the low magnitude of adverse effect already identified.

Habitats and Species

9.8.4. The new bus terminal will be connected into the existing local footpath/cycle networks. As such it is expected to attract users from the surrounding area, including those proposed

developments identified under the cumulative impacts assessment. There is therefore an expectation of increased pedestrian/cycle traffic passing in proximity to this site, beyond direct users of the **Scheme**. This will increase the expected levels of littering and potential disturbance to wildlife. Given the existing proximity to intensely manage arable land and the Donington Park services, the current adjacent footpath and the existing evidence of fly tipping within the surrounding habitats, the increased pedestrian/cyclist traffic was assessed to lead to, at most, a low magnitude of adverse impact to surrounding habitats. The cumulative effects from further pedestrians and cyclists accessing the bus terminal are not expected to significantly alter this assessment.

9.8.5. The cumulative losses of arable land across the local area will remove potential habitat for farmland specialist birds including skylark and yellow wagtail. Given the abundance of farmland within the locality, the scale of the additional habitat loss is not expected to increase the impact on bird assemblages beyond the moderate adverse effect already acknowledged.

9.8.6. [section to be completed]

9.9. Summary of Effects and Conclusions

9.9.1. Residual effects are limited due to the general dominance of the site by habitats of negligible intrinsic nature conservation value. The compensation of any losses though habitat creation and enhancement and other elements of the Green Infrastructure result in the majority of residual effects being categorised as minor.

9.9.2. A description of residual effects is provided below in **Table 9.17**.

Table 9.17: Summary Description of Residual Impacts

Ecological feature	Sensitivity	Scheme Component	Description	Significance
Castle Donington, Charnock Hill grassland pLWS.hist (11840)	County (Moderate)	Highways Works	Junction works at A453 / The Green Improvements fall within the mapped boundary of this designated site. The precise details of the works are not yet known and there is potential for partial habitat loss of grassland and surrounding hedgerows.	Moderate- Minor Adverse
Individual Trees (excluding veterans)	Local (Low)	Scheme	There will be a temporary loss in resources while new planting establishes. In the long-term sensitive management and increased provision will provide a beneficial effect.	Minor-Negligible Adverse (Short-term) / Beneficial (Long-term)
Veteran Trees	Local (Low)	EMG2 Main Site	There will be a partial loss of this habitat that cannot be mitigated. Impacts have been reduced through incorporating felled wood with decay	Minor Adverse

			features into the GI and sensitive management of retained veteran trees.	
Ponds (excluding pond P3).	Local (Low)	EMG2 Main Site	There will be a temporary loss in resources before new ponds are created and planting establishes. In the long-term sensitive management and removal of agricultural run-off will provide a beneficial effect.	Minor Adverse (Short-term) / Minor-Negligible Adverse Beneficial (Long-term)
Hedgerows	Local (Low)	Scheme	There will be a temporary loss in resources before new planting establishes.	Minor Adverse
Diseworth brook tributary	Local (Low)	EMG2 Main Site	Removal of agricultural run-off will provide a beneficial effect.	Minor-Negligible Beneficial
Skylark and yellow wagtail	Local (Low)	EMG2 Main Site	There will be a loss of habitat that cannot be mitigated. Impacts have been reduced through land management aimed to bolster foraging resources.	Minor Adverse
Invertebrates	Local (Low)	Scheme	There will be a loss of habitat that cannot be mitigated. Impacts have been reduced through incorporating felled wood with decay features into the GI and sensitive management of retained veteran trees.	Minor Adverse
Plants	Local (Low)	Scheme	There will be a temporary loss in resources while new planting establishes. In the long-term sensitive management and increased provision will provide a beneficial effect.	Minor-Negligible Adverse (Short-term) / Beneficial (Long-term)

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