HINCKLEY NATIONAL
RAIL FREIGHT INTERCHANGE

Ecology and biodiversity

One of a series of background topic papers prepared by db symmetry in support of a public consultation on proposals for a strategic rail freight interchange in Blaby district, to the north-east of Hinckley in Leicestershire.

INTRODUCTION

1. In 2019 db symmetry will apply to the government for a Development Consent Order (DCO) for a proposed rail freight interchange on a site in Blaby District, to the east of Hinckley in Leicestershire. The project is known as the Hinckley National Rail Freight Interchange (HNRFI).

2. A DCO is a special form of planning permission for large infrastructure projects. It can include a range of additional powers required to implement the proposals, such as powers to acquire land, undertake works to streets, trees and hedgerows and divert utility services.

3. The Environmental Dimension Partnership Limited (EDP) has been commissioned by db symmetry ('the applicant') to undertake an ecology and biodiversity assessment of the proposals, to inform planning proposals and accompany a DCO application for the project.

4. EDP is an independent environmental planning consultancy with offices in Cirencester, Shrewsbury and Cardiff. The practice provides advice to private and public sector clients throughout the UK in the fields of landscape, ecology, archaeology, cultural heritage, arboriculture, rights of way and master planning. Details of the practice can be obtained at our website (www.edp-uk.co.uk).

5. Ecology and biodiversity effects are those relating to protected and notable habitats and species, both within a site and in the wider environment. Effects can either be direct, such as loss of habitat, damage, injury and physical harm; or indirect such as secondary effects from air quality, lighting, pollution and potential recreation impacts, as a result of a project being delivered, and effecting the quality or ability of species to survive.

LAW, POLICY AND GUIDANCE

Legislative framework

6. Animal and plant species that are considered to be threatened as a result of their rarity, vulnerability or persecution are afforded protection through European and UK law. The Conservation of Habitats and Species Regulations 2017 (commonly known as the Habitat Regulations) protect a number of rare and vulnerable animal and plant species listed for protection in Europe, whilst the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act, 2000 and Natural Environment and Rural Communities Act 2006) affords protection to wild bird species requiring protection in Europe and to other rare or vulnerable native species of animals and plants not protected under the Conservation of Habitats and Species Regulations 2017.

7. In addition, the Animal Welfare Act 2006 protects wild animals from unnecessary suffering when under the control of humans. The Wild Mammals (Protection) Act 1996 protects wild mammals from intentional cruelty and the Protection of Badgers Act 1992 affords protection specifically for badgers.

8. The Habitat Regulations protect European Sites which are recommended for designation by the Joint Nature Conservation Committee (JNCC), including:

- ***Special Protection Areas (SPA)*** - a designation under the European Union Directive on the Conservation of Wild Birds;
- ***Special Areas of Conservation (SAC)*** - a designation under the European Union Directive for conservation of habitat types and species, considered to be most in need of conservation at a European level (excluding birds);
- ***Ramsar sites*** - wetlands of international importance designated under the Ramsar Convention

9. Sites of Special Scientific Interest (SSSIs) are of national importance, designated by Natural England under the Wildlife and Countryside Act 1981 (as amended) and protected from any development that might destroy or adversely affect such sites, either directly or indirectly.

10. Some hedgerows are also protected from removal or destruction by the Hedgerow Regulations 1997.

Planning policy

National Policy Statement for National Networks (2014)

11. The National Networks NPS provides guidance on how decisions will be made relating to development consent orders for Nationally Significant Infrastructure Projects (NSIPs). The

NPS recognises that some developments will have some adverse local impacts on noise, emissions, landscape/visual amenity, biodiversity, cultural heritage and water resources. The significance of these effects and the effectiveness of mitigation is uncertain at the strategic and non-locationally specific level of this NPS. Therefore, whilst applicants should deliver developments in accordance with government policy and in an environmentally sensitive way, including considering opportunities to deliver environmental benefits, some adverse local effects of development might remain.

12. Pages 51-55 of the National Networks NPS concern biodiversity and ecological conservation. Paras. 5.25 to 5.26 of the NPS state:

'As a general principle, and subject to the specific policies below, development should avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives. The applicant may also wish to make use of biodiversity offsetting in devising compensation proposals to counteract any impacts on biodiversity which cannot be avoided or mitigated. Where significant harm cannot be avoided or mitigated, as a last resort, appropriate compensation measures should be sought.

'In taking decisions, the Secretary of State should ensure that appropriate weight is attached to designated sites of international, national and local importance, protected species, habitats and other species of principal importance for the conservation of biodiversity, and to biodiversity and geological interests within the wider environment.'

National Planning Policy Framework (2018) and other advice

13. At the heart of the National Planning Policy Framework (NPPF) is a presumption in favour of sustainable development, this being the golden thread running throughout the document. Chapter 15 of the National Planning Policy Framework (NPPF) advocates a presumption by Local Planning Authorities in favour of sustainable development that enhances the natural environment by avoiding, adequately mitigating or compensating for 'significant harm to biodiversity', and which delivers net gains for biodiversity (Paragraphs 8, 170, 174). The NPPF therefore affords indirect policy protection to ecological features of value (statutory and non-statutory designated sites, certain habitats and protected/notable species).

14. The government's Circular 06/2005 *'Biodiversity and Geological Conservation'* contains further guidance in respect of biodiversity conservation and its impact within the planning system. This document covers areas including internationally and nationally designated sites, habitats and species outside of designated sites, and protected species.

15. In addition to the requirements of the NPPF and Circular 06/2005, Natural England, as the statutory nature conservation organisation for England, provides specific 'standing advice' regarding various protected species as 'material considerations' (Natural England, 2016)[1].

[1] Available at: https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications

This advice contains details on likely significant impacts and recommended survey effort to support planning applications.

Local planning policy

16. The statutory development plan relevant to the HNRFI project comprises the Blaby District Local Plan 1999 (saved policies 2007) and the Blaby District Core Strategy (adopted February 2013). A review of the local planning policy, including relevant supplementary planning documents, evidence base documents and associated guidelines relevant to this assessment, is contained below.

Blaby District Local Plan 1999 (saved policies 2007)

17. Saved policies of relevance to ecology and biodiversity in the current local plan comprise the following.

- Policy CE19: *Other Nature Conservation Site Protection*, which protects local wildlife sites, local nature reserves and regional geological sites from adverse effects from proposals unless the benefits of the proposals exceed the decrease in conservation value.

- Policy CE21: *Existing Trees and Woodland*, which protects trees with preservation orders and areas of woodland with significant amenity value unless the need for development overrides the amenity value.

Blaby District Core Strategy (adopted February 2013)

18. Policies of relevance to ecology and biodiversity in the Blaby District Local Plan Core Strategy (adopted 2013) comprise the following:

- Policy CS19: *Bio-diversity and geo-diversity*, which aims to protect the districts natural environment and increase its biodiversity through appropriate design of forthcoming proposals.

Other local planning policy

19. The Hinckley and Bosworth Borough Council (HBBC) administrative area is close to the westernmost extent of the draft DCO boundary and makes up a proportion of the proposals' potential zone of influence in which potential impacts might occur.

20. The statutory development plan for HBBC comprises the Hinckley and Bosworth Local Plan 2006 – 2026 which comprises a series of documents. Those of relevance include:

- Core Strategy (adopted 2009);

- Site Allocations and Development Management Policies (adopted 2016).

21. A review of the local planning policy circumstances, including relevant supplementary planning documents, evidence base documents and associated guidelines relevant to this assessment, is contained below. A detailed review of planning policy will be undertaken in the Planning Statement accompanying the DCO application.

Hinckley and Bosworth Core Strategy (adopted 2009)

22. Spatial Objective 10 of the HBBC Core Strategy Development Plan Document (DPD) is of relevance to ecology and biodiversity:

'Spatial Objective 10: Natural Environment and Cultural Assets *To deliver a linked network of green infrastructure, enhancing and protecting the borough's distinctive landscapes, woodlands, geology, archaeological heritage and biodiversity and encourage its understanding, appreciation, maintenance and development.'*

23. Core Policy 20: *Green Infrastructure* also contains a section that is relevant to the proposals:

- '….. **Burbage Common and Woods** - Increase the size of the site to increase both the community value and biodiversity holding capacity and improve access to the site, particularly for pedestrians and cyclists'.

Hinckley and Bosworth Site Allocations and Development Management Policies (adopted 2016)

24. Policies in the Site Allocations and Development Management Policies DPD of relevance to landscape and visual amenity include the following:

- Policy DM6: *Enhancement of biodiversity and geological interest*; and

- Policy DM9 *Safeguarding natural and semi-natural open spaces*.

25. Although the above policies do not apply to land within the draft DCO boundary, they refer to biological networks and natural open spaces that might have ecological connectivity to land within the draft DCO boundary.

THE SITE

Ecological baseline

Desk study

26. Land within the draft DCO boundary is not covered by any national or international statutory nature conservation designations. Located to the west of the site (see Figure 1: Ecological Designations) is the Burbage Common and Woods Local Nature Reserve (LNR), much of which overlaps with the Burbage Wood and Aston Firs Site of Special Scientific Interest (SSSI) adjacent to the site's western boundary. This SSSI is designated for its ash-oak-maple woodland, one of the best remaining examples in Leicestershire.

27. Three additional SSSIs exist to the north-east of the site, as follows:

- Croft Pasture SSSI (2.8 km from the nearest point of the draft DCO boundary), an area of acidic mixed grassland;
- Croft and Huncote Quarry SSSI (3.1 km from the nearest point of the draft DCO boundary), designated for geological reasons;
- Croft Hill SSSI (3.2 km from the nearest point of the draft DCO boundary), an area of tussocky acid grassland, the largest of its kind in Leicestershire.

28. There is one SAC within 15km of the site, namely Ensor's Pond, located 11km to the south-west. It is designated for its large population (50,000 individuals) of white-clawed crayfish, which is isolated from other Midlands populations that have become infected by a fungal disease known as *Aphanomyces astaci*.

29. In terms of non-statutory designated sites, Leicestershire and Rutland use a system of Local Wildlife Sites (LWS), candidate Local Wildlife Sites (cLWS) and potential Local Wildlife Sites (pLWS). LWS are designated sites, cLWS are sites that meet the criteria of being a LWS but have not yet been designated, and pLWS are sites that might meet the criteria but have not yet been assessed.

30. Within 2.5 km of the draft DCO boundary are thirteen LWS, three of which lie partly within the Site (Burbage Common and Woods, Field Rose Hedgerow, Elmesthorpe Plantation Hedgerow); thirteen cLWS, none of which lies within the site; and sixty pLWS, seven of which lie within the site (Freeholt Meadow, Castlewood Grassland, Burbage Common Road Hedgerows, Burbage Common Road Railway Bridge, Junction 2 Grassland, B4669 Road Verge and Elmsthorpe Boundary Hedgerows).

31. The Leicestershire and Rutland Environmental Records Centre has provided a list of parish, district and county wildlife sites, which were designated as a result of a large-scale habitat assessment in the late 1980s and early 1990s. This system has since been superseded by LWS, but many of the sites still hold biodiversity value. Six of these are found within the

site (see Figure 1: Ecological Designations), comprising two parish level ponds, three parish level hedgerows (two of which also form one of the pLWS) and one district level hedgerow.

32. All of the designated habitats identified above are shown in figure 1.

Habitat survey

33. The habitats have been recorded during a walkover survey. The survey is based on mapping different habitats with a description of plant species present and is known as a Phase 1 survey following the standard guidance for Phase 1 habitat surveys [2]. The majority of the land within the draft DCO boundary comprises arable land used for winter wheat, barley, rape and grass ley. There are also some areas of improved grassland. These areas are intensively managed and hold relatively little ecological value.

34. Areas of habitat that hold greater ecological value within the draft DCO boundary are the stream corridor, a number of ponds, semi-improved grassland and the hedgerows that surround the majority of the fields.

35. All the habitats are shown on the Phase 1 habitat plan in figure 2.

36. Overall the majority of the habitats present within the draft DCO boundary are considered to be of low ecological value but capable of supporting birds, badgers, bats, otter, water vole, amphibians and potentially reptiles.

Protected and notable species surveys

37. A suite of surveys has been undertaken to determine the presence of protected and notable species. A summary of the findings is provided below.

Birds

38. The desk study returned a number of bird records from within 3km of the draft DCO boundary. One record of the nationally protected barn owl (*Tyto alba*) was returned, in addition to one record of the red listed mistle thrush (*Turdus viscivorus*). The birds identified in the data search are typical of an urban edge farmland site with areas of woodland in central England.

39. The winter bird survey recorded a number of species such as skylark, yellowhammer and reed bunting that favour arable fields for foraging. However, these were not present in particularly large numbers and the wintering bird assemblage is judged to be of Local ecological importance.

40. The breeding bird survey recorded a number of farmland species, including skylark,

[2] Joint Nature Conservation Council (2010) *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit* (reprinted with minor corrections for original Nature Conservancy Council publication).

yellowhammer, reed bunting, lapwing, grey partridge, lesser whitethroat and linnet. Based on the presence of lapwing and the numbers of skylark recorded, it is considered that the breeding bird assemblage is of Local to District level importance.

Bats

41. The data search did not return any records of Annex II (rare) bat species within 6 km of the draft DCO boundary.

42. A number of bat records were returned within a 2 km radius of the draft DCO boundary, namely pipistrelle species (*Pipistrellus sp.*), brown long-eared (*Plecotus auritus*), *Myotis* species (*Myotis sp.*) and noctule (*Nyctalus noctula*). None of the records was located within the draft DCO boundary, although there are three records of bats within 100 metres of the draft DCO boundary to the south-west.

Bat roosting

43. Several buildings were recorded as having bat roost potential within the site. Further surveys have been undertaken of these buildings and have recorded a small colony of common pipistrelle and brown long-eared bats living in one of the farm houses in the centre of the HNRFI site.

44. A number of trees have been recorded that have high, medium and low potential for roosting bats. These trees will be retained where possible, and any tree likely to be lost to the proposals will undergo further investigation through climbing or emergence surveys as appropriate.

Bat activity

45. Surveys of bat activity have been undertaken using walked transect surveys and automated static detectors, which record bat sounds. The results are currently being analysed.

46. In summary, the activity survey recorded moderate levels of commuting and foraging bat activity, associated principally with the hedgerows and waterbodies across the site. The vast majority of activity recorded on both the transect and automated detector surveys was by common and widespread species with common pipistrelle bats (*Pipistrellus pipistrellus* and Soprano pipistrelle (*P. pygmaeus*), with both noctule (*Nyctalus noctula*), and *Myotis* species (*Myotis sp.*) also recorded. This is relatively typical for an urban edge farmland site in central England with common and widespread generalist species accounting for the vast majority of foraging and commuting activity.

Reptiles

47. The desk study returned records of adder (*Vepera berus*) and grass snake (*Natrix natrix*) close to the draft DCO boundary. The site supports habitats suitable for reptiles, namely rough grassland, woodland edge, scrub and hedgerows.

48. Reptile surveys are in progress, but to date a low to medium population of grass snake has been identified within the draft DCO boundary with a peak count of four adult grass snakes recorded. Based on the information recorded to date, the grass snake population present is judged to be of Local ecological importance.

Amphibians (great crested newts)

49. Records of great crested newt, common frog (*Rana temporaria*), smooth newt (*Lissotriton vulgaris*) and common toad (*Bufo bufo*) were returned within 3km of the draft DCO boundary as part of the desk study.

50. The site contains nine ponds, of which seven contained water during the 2018 newt survey season and the other two were dry. There are a number of off-site ponds within 500m of the draft DCO boundary and access was granted to survey two of these, located on Burbage Common.

51. Water sampling surveys have indicated that great crested newts are present on site, although in very small numbers as traditional surveys of the ponds did not record any evidence of breeding.

52. Given the low numbers and lack of evidence of breeding during the traditional surveys it is considered that any population present is of no more than of site-level importance.

Badgers and hedgehogs

53. A number of records of badger (*Meles meles*) were returned by the desk study. There are also records of hedgehog within 3 km of the draft DCO boundary.

54. Field surveys undertaken to date have found no evidence of active badger setts within the draft DCO boundary. A single latrine has been recorded on the footbridge over the M69 to the north-east of the site. The habitats on site are considered to provide foraging and commuting opportunities for badger, with sett building opportunities also present, such that the future presence of badger within the site is reasonably likely. However, given that the badger is a common and widespread species and no active setts are currently present, any population potentially present is of no greater than site-level importance.

Otter and water vole

55. A number of records of water vole (*Arvicola amphibius*) returned by the desk study mainly from the Burbage Common area and a single otter (*Lutra lutra*) record was recorded by the desk study in the village of Elmesthorpe.

56. The stream that flows through the HNRFI site is of limited/low suitability for water vole and otter. However, as a precaution two surveys are being undertaken over the 2018 season, with a single survey in June 2018 completed to date. This survey found no evidence of otter or water vole along the stream corridor or in the larger water bodies present within the site. As such, these species are considered to be currently absent from the site.

Invertebrates

57. A number of invertebrate records were identified as part of the desk study. Therefore, a preliminary survey for invertebrates was undertaken in May 2018 to assess the quality of habitats for invertebrates and record any readily identifiable species, to determine if further surveys are required.

58. The survey found no invertebrates of particular interest within the draft DCO boundary during the assessment. However, given the identification of white-letter hairstreak (*Satyrium w-album*) in the desk study and the presence of suitable hedgerows containing elm (*Ulmus* sp.) within the draft DCO boundary it is proposed that further survey and/or habitat suitability assessment are undertaken, and these have been programmed in accordingly.

OUR APPROACH TO ASSESSMENT

Baseline data collection

59. In compiling the assessment, EDP has undertaken a desk study exercise, an extended Phase 1 habitat survey and detailed Phase 2 surveys for a range of protected and notable species, undertaken during the appropriate survey seasons.

60. A desk study was undertaken in February 2016, with records of designated sites and notable/protected species sourced from the Leicestershire and Rutland Environmental Records Centre (LRERC).

61. The Phase 1 habitat survey of the land within the draft DCO boundary was undertaken during surveys in 2017 and 2018.

62. The level of survey involves identifying and mapping the principal habitat types and identifying the dominant plant species present in each principal habitat type. In addition,

any actual or potential protected species or species of principal importance are identified and appropriate surveys scoped.

Assessment of impacts

63. The full assessment will follow the methodology provided in the *Guidance for Ecological Impact Assessment* (Chartered Institute of Ecology and Environmental Management (CIEEM), 2016). Existing data held by the Environmental Record Centre, Natural England and the Environment Agency will be examined. The results of the Phase 1 habitat survey have been used to identify any protected species surveys required. Findings from the ecological assessment will inform the master planning and mitigation strategy. Should any significant effects remain after mitigation/enhancement, these will be considered against legislation and policy.

Geographical scope

64. CIEEM guidelines require ecological receptors to be valued (or to have the potential to be valued) according to a geographical scale. These are assigned based on biodiversity value of the flora, fauna and habitats by the ecologist taking into account their location and conservation status. They are based at the lowest level (site level: only being of interest within the site to having international importance).

Temporal scope

65. CIEEM guidelines aim to establish a standard in the assessment of the effects of potential development on wildlife receptors, which is then informed by the interpretation of contextual information and professional judgment. The assessment of significance is based on a number of features including the value and sensitivity of the receptor; the magnitude or size of the effect, the frequency of the effect and whether it is permanent or temporary and the likelihood of it actually occurring.

66. Assessment of potential ecological effects resulting from the development proposals is based on predicting ecologically significant changes to the baseline conditions that are likely to occur as a result of the development. An impact is significant or not based upon its effect on the 'integrity' of a nature conservation site or 'conservation status' of habitats and species.

67. CIEEM guidance requires that impacts be assessed with and without mitigation. However, there are a range of standard working practices and avoidance measures (in relation to ecology) that are used during construction phases to avoid statutory offences. These will be set out in a draft Ecological Construction Method Statement (ECMS) to be secured through the Development Consent Order for the project. In addition, a number of measures will be 'designed in' to the scheme as part of the iterative assessment process to avoid or minimise impacts on ecological features. As it is certain these 'embedded' mitigation measures will be applied to the development, pre-mitigation impacts are assessed on the basis these measures would be applied.

THE LIKELY MAIN EFFECTS OF THE PROPOSALS

68. Without mitigation, development would result in the loss of habitats and/or direct/indirect disturbance to species supported by habitats on and off site. Possible beneficial effects include those arising from landscape and planting, habitat management and enhancements and other green infrastructure links within the proposed development.

Construction

69. During this phase, the impacts and effects on ecology without mitigation would result from habitat loss and direct and indirect disturbance/harm to species.

70. Direct impacts would involve the loss of habitats, loss of refuge for species, physical harm from construction process and vehicles, and potential pollution/contamination events from chemicals and materials used.

71. Indirect impacts would potentially involve increased lighting during construction affecting foraging and commuting nocturnal species, noise disturbance, vibration disturbance and potential offsite effects from pollution/contamination such as contaminated run-off into hydrological systems and dust deposition on off-site habitats.

Operational

72. Operational effects without mitigation include the potential disturbance to habitats and species from increased human activity in the HNRFI site. This can result in damage to habitats through trampling and disturbance to species in retained habitats through physical presence.

73. Other potential impacts include increased lighting, noise and traffic that might adversely affect the foraging and commuting resources within the retained and created habitats. It also increases the potential of road traffic collisions with species.

74. There is the potential of benefits during the operational phase through the provision of habitats of greater biodiversity than those currently present inside the draft DCO boundary and the implementation of appropriate management of the retained and created habitats to maximise their biodiversity potential.

PROPOSED APPROACH TO MITIGATION

Designated sites

75. To avoid and/or minimise impacts on the surrounding designated sites the emerging Parameters Plan for the development incorporates a development buffer of a minimum of 25m in width from the SSSI and LNR.

76. These buffer areas should be securely fenced during construction to ensure no accidental encroachment occurs and clearly marked as Ecological Protection Zones (EPZ). During construction standard environmental protection methods, such as wheel washes, dust suppression techniques and silt traps should be implemented to reduce the risk of pollution incidents occurring. These measures are capable of being delivered through a detailed Ecological Construction Method Statement (ECMS) prepared and submitted alongside the DCO application.

77. The potential for habitat degradation through reduced air quality and disturbance from increased lighting and noise levels is currently being modelled with input from the project engineers and a detailed mitigation strategy to ensure that these potential impacts are avoided or mitigated. However, at this stage it is considered likely that these operational impacts could be addressed through the provision of significant structural planting, potentially established upon a protective earth bund, within the development buffer.

78. Through appropriate species selection, any planting within the development buffer could provide complementary habitat of ecological value that would be beneficial to the SSSI and LNR (and associated fauna) in the long-term. The detailed design and the establishment and long-term management of the buffer are capable of being delivered through a detailed soft landscape scheme and Ecological Management Plan (EMP) secured through suitably worded DCO Requirements.

Non-statutory designations

79. The most sensitive non-statutory designated sites in relation to any future development are Burbage Common and Woods, Field Rose Hedgerow and Elmesthorpe Plantation Hedgerow LWS, as these are of recognised importance at a County level and are located within or adjacent to the draft DCO boundary. These designated habitats are retained and buffered in the emerging Parameters Plan in a similar manner to that described above regarding the nearby statutory designations, and there is scope to enhance these LWS habitats through appropriate long-term management and provision of complementary habitats adjacent to them.

80. The Freeholt Meadow, Castlewood Grassland, Burbage Common Road Hedgerows, Burbage Common Road Railway Bridge, Junction 2 Grassland, B4669 Road Verge and Elmsthorpe Boundary Hedgerows cLWS and pLWS are located in or partly within the draft DCO boundary and are at risk of damage, disturbance or direct loss as a result of the development. The significance of such impacts is uncertain, as the ecological importance of these cLWSs and pLWSs has yet to be determined. These habitats are currently being assessed against the *Guidelines for the Selection of Local Wildlife Sites in Leicester, Leicestershire and Rutland* (Leicestershire County Council, 2011) to provide further information regarding their importance, which will inform the development design, the impact assessment and the mitigation strategy. In the event that those sites regarded as being of Local importance or higher cannot be retained within the proposed development, these may be translocated or compensatory habitat provided within the green

infrastructure/landscaping scheme associated with development.

81. Freeholt Wood pLWS, which is located adjacent to the south-west of the HNRFI site, is also designated as ancient semi-natural woodland. Accordingly, given the importance of such irreplaceable habitat, the emerging Parameters Plan incorporates a development buffer of a minimum of 25m in width to avoid or mitigate potential construction and/or operational impacts in a similar manner to that described above.

Habitats

82. A proportion of the existing locally important habitats will be retained on the peripheries of the HNRFI site. These will be protected during construction through their inclusion in EPZs, as described above, to be defined in the ECMS.

83. However, it is unavoidable that a large proportion of the existing locally important habitats, including stream corridor, water bodies, important hedgerows, semi-improved grassland and mature trees, will be directly lost and/or fragmented during construction of the proposed development. In order to mitigate or compensate for these local adverse impacts, certain habitats may be translocated to alternative locations within the DCO boundary, and/or compensatory habitat will be provided within the green infrastructure/landscaping scheme associated with development. It is proposed that habitat connectivity across the HNRFI site will be provided by measures including retained hedgerows along Burbage Common Road and linear habitat corridors along water courses and the landscape buffer around the proposed development.

84. The retained habitats, and those created within the green spaces around the development, will be designed and managed to maximise their ecological benefits. This will be delivered through a detailed soft landscape scheme and Ecological Management Plan (EMP) secured through suitably worded DCO Requirements.

Protected and/or Notable Species

85. Baseline investigations have identified potential species implications for wintering and breeding birds, foraging and roosting bats, reptiles, great crested newts and badgers, which are discussed in turn below.

Birds

86. The unavoidable loss of arable farmland will reduce the breeding and foraging habitats available to the farmland bird populations recorded both during the winter bird surveys and the breeding bird surveys. It is likely that much of the existing population will be displaced into and accommodated by the surrounding extensive arable habitats that are present around the site. However, there might be a need to provide off site compensatory

measures for certain species such as skylark plots and arable margin provision.

87. A range of common bird species was also recorded breeding within the draft DCO boundary. Given the protection afforded to breeding birds, vegetation removal and construction should ideally commence in the period between September and February inclusive. Alternatively, if undertaken during the bird breeding season (March to August inclusive) then inspection for active nests by a suitably experienced ecologist, and appropriate deterrent measures (e.g. flash tape on sticks within the fields) will be required. This can be secured through the ECMS.

88. The green infrastructure strategy will also provide habitats that are suitable for a range of breeding birds, and bird boxes will be provided as mitigation for loss of breeding habitat.

Bats

89. There are roosting opportunities within the draft DCO boundary, notably in trees and buildings. In addition, the waterbodies and hedgerow network provides a foraging resource with connectivity to the wider landscape.

90. The building with the identified roost will be lost to the development proposals. Further surveys are underway to determine the roost status and significance within this building and others identified as having potential. A number of trees have also been identified as having roosting potential and further surveys will be required of those trees to be lost as a result of the development proposals to determine if any further roosting features will be lost.

91. The loss of the known roost feature and any further identified roosts will require an appropriate strategy to be devised and agreed under licence with Natural England to ensure that there is no contravention of the legal protection afforded to bats. This will require alternative roosting provision suitable for the status and significance of the roosts to be lost.

92. Habitat retention, creation and enhancement measures will be implemented to offset adverse effects on the roosting, foraging and commuting resources within the draft DCO boundary. It is also proposed that a wildlife-sensitive lighting scheme will be designed to avoid or minimise light spill thereby creating ‘dark zones’ along the key retained/created linear foraging habitats.

Great crested newts

93. No great crested newts were recorded in the ponds in or near to the draft DCO boundary during six traditional surveys undertaken during the peak breeding season. However, the potential presence of newts was indicated to varying degrees by two environmental DNA surveys, in which water sample are taken and tested for presence of newt DNA. Therefore, taking a precautionary approach, it has been assumed that great crested newts are present within the draft DCO boundary at low levels, and could potentially be present in

ponds or nearby terrestrial habitats.

94. All of the existing ponds within the footprint of the proposed strategic rail freight interchange, and a large proportion of the potentially suitable terrestrial habitats surrounding the ponds, will be lost as a result of the development. Based on current information regarding the great crested newt population, in particular the lack of evidence of breeding during the traditional surveys suggesting very limited or occasional presence of the species, the risk of an offence being caused under the Conservation of Habitats and Species Regulations 2010 (as amended) is very low.

95. There is a low risk that individual newts could be harmed during construction and it is therefore proposed that a non-licensed method statement for great created newts is prepared (and incorporated into the ECMS) to ensure that suitable precautions are taken during the clearance of potentially suitable habitats. If a population of newts is discovered during the sensitive habitat clearance works, it may be necessary to cease works until further advice and/or an EPS Licence has been obtained from NE.

96. Following construction, new aquatic habitats will be created and provided in the green infrastructure strategy to replace the aquatic habitats being lost. These will be integrated with a mixture of grassland habitats and scrub and structural planting that will provide terrestrial habitats for great crested newts and other amphibians on the site.

Reptiles

97. Based on current information the land within the draft DCO boundary supports a low-medium population of grass snake. There is therefore a risk of death or injury to grass snakes during site clearance. However, owing to the highly mobile nature of the species and the large extent of the site over which individuals may be dispersed, the risk is relatively low. It is therefore proposed that harm to grass snakes can be avoided through the precautionary clearance methods that are proposed above for great crested newts, rather than a full capture and translocation exercise.

98. Habitat creation in the form of attenuation features, replacement water bodies and surrounding grasslands and scrub will provide suitable habitat for grass snakes and other reptiles and will be managed to ensure their suitability for these species.

Badger

99. To date, no active badger setts have been recorded within the draft DCO boundary, although, as noted above, a latrine has been recorded within the site and there are suitable foraging and sett building opportunities within the site. It is therefore proposed that the ECMS for the site will include the following precautionary measures:

- update badger surveys undertaken prior to the removal of any hedgerow, woodland and scrub habitat;

- should active setts be found within 20 metres of proposed ground works, badgers would be excluded under a Natural England badger licence by a suitably experienced badger ecologist. Exclusion can typically only occur between the period 1 July to 30 November to avoid the breeding season;

- good practice construction measures to ensure badgers are either unable to enter the construction site or cannot become trapped in excavations (e.g. through covering up at night or inserting an 'escape ramp').

100. Habitat creation and enhancement measures as part of the green infrastructure strategy would maintain the foraging opportunities for badgers within the development.

NEXT STEPS

101. Further survey work is programmed to expand the detail of the baseline for the purposes of the ecology and biodiversity assessment.

102. The results of the full surveys of the land within the draft DCO boundary will be used to inform the site's ecological and biodiversity potential at a geographical scale. This in turn will enable an assessment of the potential impacts on those notable habitats and species, and recommendations made to remove or minimise these impacts from the proposed scheme.

103. Recommendations will be made for the green infrastructure strategy to ensure that habitats are retained and protected where possible and that habitat translocation, creation and management are implemented to ensure biodiversity is safeguarded and enhanced where possible.

104. The ecology and biodiversity value of the site and within the surrounding study area will be subject to a full impact assessment, following the finalisation of the Parameter Plans for the development proposals.

EDP ◆ October 2018