

PRELIMINARY ECOLOGICAL APPRAISAL

EUROTUNNEL EXHIBITION CENTRE

CHERITON PARC

FOLKESTONE

REF: 4982-LLB-RP-EC-0001

STATUS: INFORMATION

DOCUMENT ISSUED: 18/12/2020

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1. EXECUTIVE SUMMARY

S.1 The application site supports one building (exhibition centre) located in the middle of the site, surrounded by hardstanding which is being used for car and lorry parking. The east of the site supports a small semi-improved grassland paddock with species-poor hedgerow. The rest of the site supports disturbed ground, grassland, hedgerow, young deciduous woodland and scrub habitat.

S.2 The main findings of this Preliminary Ecological Appraisal are: -

- On-site grassland provides suitable habitat for reptiles. This grassland will be retained and will need to be protected during site works;
- On-site scrub, hedgerows and woodland provide foraging and nesting opportunities for birds. These hedgerows will be retained will need to be protected during site works;
- On-site hedgerows and woodland provide suitable habitat for hazel dormouse. These habitats will be retained will need to be protected during site works;
- On-site habitat provides suitable foraging and burrowing habitat for badgers. Most of these habitats are not within the works footprint and will need to be protected during site works. One area was not accessible and will require further survey;
- The site supports suitable foraging and commuting habitat for bats and has good connectivity to off-site habitats suitable for foraging and commuting bats; and
- Traffic and air quality modelling work undertaken in relation to the Seabrook Stream SSSI indicates that the proposed development is unlikely to result in significant adverse effects upon nitrogen-sensitive habitats within the SSSI. The proposed development will result in a low number of development-specific vehicle movements (11 lorry trips per day). A small (15m-wide) band of unknown habitat within the SSSI is located within the very outer limit of the 200m radius from the road that will carry these development-specific lorry journeys. Publicly available information from Natural England, Defra and the Air Pollution Information System do not confirm presence of nitrogen-sensitive habitats within this location. The publicly available habitat information for this location is however incomplete and the risk of presence of nitrogen-sensitive habitats in this small area of the SSSI cannot be completely ruled out.

S.3 The key recommendations of this Preliminary Ecological Appraisal are: -

- On-site hedgerow and boundary woodland will need to be protected during the construction stage of the proposed scheme. This can be achieved through the erection of Heras fencing, located beyond the Root Protection Areas of these habitats and fitted with debris netting;
- A badger walkover survey is required to identify whether there are any badger setts present on site. It is recommended that this survey is undertaken in winter, when vegetation cover is low;
- A bat activity survey will need to be completed to assess if / how the site is used by foraging and/or commuting bats, and therefore whether the loss of suitable bat foraging and commuting habitat and the proposed illumination of the site will significantly adversely affect the local bat population. The bat activity survey will need to comprise one activity transect visit per month, across the period April to October (inclusive). This survey can be split across survey years. Two bat activity survey visits have been undertaken to date. One of these survey visits was in September 2019 and the other in October 2019. Very low levels of bat activity - occasional passes by noctule and serotine bats, were recorded during these survey visits. The survey will

need to be completed in 2021, with one survey visit per month across the period April to August (inclusive);

- The proposed development will likely result in a significant increase in artificial lighting across the site. As a result, a bat-sensitive lighting scheme will need to be delivered on the application site, especially adjacent to site boundary habitats. Dark corridors should be retained along the northern, southern and western boundaries. A bat *Lighting Constraints Plan* has been provided to the project team to guide the lighting design for the permanent, fixed position lighting for the project, and assist in minimising light-related impacts upon the highest quality bat foraging and commuting habitats (woody site boundary habitats). This plan will be used by the appointed lighting designer, at the detailed design stage, to ensure that illumination of site boundary habitats, which are likely to be of the greatest value to foraging and commuting bats, is minimised by design. Due to the nature of the proposal, increased levels of light for at least part of the night and/or on an intermittent basis throughout the night may result from the regular presence of vehicle headlights, which may result in some functional degradation of bat foraging and/or commuting habitats. This will be at partially mitigated by the additional boundary habitat plantings that will be delivered on site;
- As a precaution, a botanical walkover survey of the 15m wide band of the SSSI that falls within the 200m radius from the road assessed will need to be undertaken by a suitably experienced ecologist to confirm whether or not it supports lowland acid grassland, which is a nitrogen-sensitive habitat and a Natural England monitoring feature for the SSSI; and
- No vegetation or ground clearance works should be undertaken until the results of the additional ecological surveys, as recommended in this report, are known.

S.4 This report contains additional details of ecological survey requirements, and avoidance, mitigation, compensation and enhancement measures. As such, this report should be read in full.

2. INTRODUCTION

SCOPE OF WORKS

- 2.1 Lloyd Bore was instructed to conduct a Preliminary Ecological Appraisal (PEA) of land at Cheriton Parc, Folkestone CT19 4QJ (approximate centre: TR 1871 3695).
- 2.2 This assessment was informed by a site visit and a biological records search.
- 2.3 An evaluation of recent and historic aerial images and Ordnance Survey maps, and available information regarding designated sites, was also undertaken as part of the desk study.
- 2.4 In accordance with the report writing guidance produced by the Chartered Institute of Ecology and Environmental Management (CIEEM) (CIEEM, 2017a), this PEA report has been produced to inform the project team of potential ecological constraints, considerations and opportunities and the potential need for additional ecological survey work.
- 2.5 The scope of works did not include any additional protected species surveys, associated reports or production of mitigation documents.
- 2.6 Once the additional ecological survey work recommended in this report has been completed and the development proposals have been finalised, an Ecological Impact Assessment (EclA) report should be produced for submission to planning.

ASSESSMENT OBJECTIVES

- 2.7 The objectives of this assessment and report are to: -
- Record the existing habitats present on site;
 - Identify habitats and/or structures suitable for legally protected species;
 - Where possible, assess the risk of legally protected species being present on site;
 - Provide recommendations, if required, for additional ecological surveys;
 - Determine the ecological importance of the site, where it is possible to do so;
 - Identify statutory and non-statutory designated sites within the Zone of Influence (Zol) of the proposed development;
 - Provide recommendations for impact avoidance, mitigation and/or compensation measures, where it is possible to do so; and
 - Identify potential enhancement measures that could improve the ecological value of the site for priority habitats and species.

3. SITE LOCATION

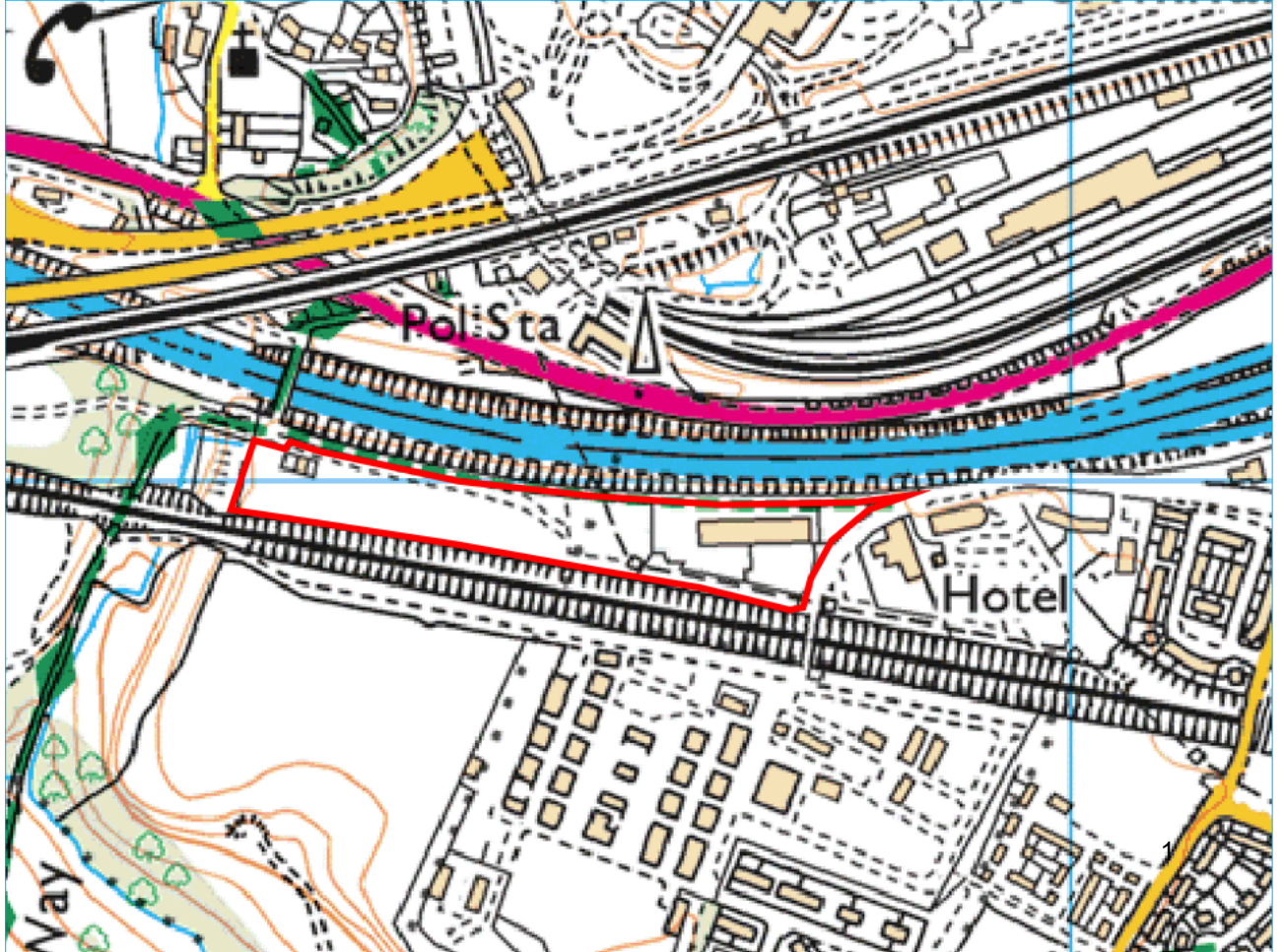


Figure 1 Site location plan. Location of application site indicated by red boundary line (red line is approximate). Image courtesy of (c) Getmapping PLC. © Crown Copyright, all rights reserved. 2018 Licence number 0100031673.

4. METHOD

DESK STUDY

- 4.1 Recent and historic aerial images and Ordnance Survey maps were used to search for waterbodies located within 250m of the application site, and to assess the connectivity of on-site habitats to wider, off-site habitat networks.
- 4.2 A biological records search was undertaken by Kent and Medway Biological Records Centre (KMBRC) on 8th March 2019. The data obtained through this search includes records of: -
- Legally protected species;
 - Species of Principal Importance;
 - Habitats of Principal Importance;
 - Ancient woodland; and
 - Non-statutory designated sites.
- 4.3 The search radius was 1km, measured from the application site boundary. This search radius was extended to 5km for bats. Records obtained within the ten-year period prior to the date of the record search are considered 'recent.' Records older than this are considered 'historic.'
- 4.4 The Multi Agency Geographic Information for the Countryside (MAGIC) website was used to obtain information about: -
- 4.5 Statutory designated sites of international, national and local importance;
- 4.6 Proposed, possible and potential statutory designated sites of international importance;
- 4.7 Impact Risk Zones (IRZs) associated with Sites of Special Scientific Interest (SSSIs) and statutory designated sites of international importance; and
- 4.8 Granted European Protected Species Mitigation (EPSM) licences.
- 4.9 The search radius for statutory designated sites of local importance was 1km, measured from the indicative application site boundary (as shown on the site location plan). This search radius was extended to 2km for statutory designated sites of national importance and 6km for statutory designated sites of international importance.
- 4.10 The search radius for granted EPSM licences was 5km for bats and hazel dormouse (*Muscardinus avellanarius*) and 1km for great crested newt (*Triturus cristatus*).

SITE VISIT

- 4.11 The initial site visit was undertaken by Emily Cummins BSc (Hons), Pg.Dip GradCIEEM, Laragh Smyth BSc (Hons) and Nina Rygh BSc (Hons) MRes on 14th March 2019.
- 4.12 Emily is a graduate member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and has over five years of experience of habitat survey and ecological appraisal.
- 4.13 Due to amendments in the proposed scheme layout and the time that has elapsed since the original site visit, a second site visit was undertaken to provide an updated ecological baseline. The update site visit was completed by Samuel Durham BSc (Hons) MCIEEM on 11th October 2020.
- 4.14 Samuel is a full member of CIEEM and has over 11 years of experience of habitat survey and ecological appraisal.

- 4.15 Vegetation was classified based on standardised habitat descriptions (JNCC, 2010). Where appropriate, habitat descriptions were adapted to better describe the habitats present on site.
- 4.16 Any Habitats of Principal Importance, or habitats that may support rare or scarce plant communities and/or invertebrate assemblages, were recorded during the initial site visit.
- 4.17 The suitability of the site for legally protected species and Species of Principal Importance was assessed during this initial site visit.
- 4.18 Habitat criteria listed in best practice guidelines for individual species or species groups, such as ARG UK (2010) and BCT (2016) were used during this initial in-field assessment.
- 4.19 Any evidence of plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) was recorded during the visit.

ASSESSMENT AND EVALUATION

- 4.20 This PEA has been produced in broad accordance with CIEEM's *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017b) and *Guidelines for Ecological Report Writing* (CIEEM, 2017a).
- 4.21 Where possible, the evaluation of ecological features and the potential ecological impacts of the proposals has followed CIEEM's *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018).
- 4.22 Habitat suitability criteria, as detailed in relevant best practice guidelines for individual species or species groups - such as Oldham *et al.*, (2000), ARG UK (2010) and/or BCT (2016), have been used to assess the suitability of habitats for protected and/or priority species.
- 4.23 Where waterbodies were present on or adjacent to the site and access was possible, the suitability of aquatic habitats for great crested newts has been assessed based on criteria set out in Oldham *et al.*, (2000) and ARG UK (2010). The suitability of terrestrial habitats for great crested newts has been assessed based on information relating to terrestrial habitat requirements, as set out in Chapter 3 of Langton *et al.*, (2001).
- 4.24 Where best practice guidelines are unavailable or unclear, experienced ecologists have used their judgement to assess and categorise the suitability of habitats for protected and/or priority species.
- 4.25 The need and scope for additional species surveys has been determined based on the suitability of the habitats for legally protected and/or priority species, the potential impacts of the proposed development and the nature of the legal protection afforded to the species most likely to be present.
- 4.26 The need and scope for any additional habitat, botanical and/or invertebrate survey work has been determined based on the broad habitat types recorded during the site visit, the potential ecological importance of these habitats and, where appropriate, the results of the desk study.
- 4.27 Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 has been used to identify habitats and species that are considered a national conservation priority. These are also called Habitats or Species of Principal Importance. The value of these habitats and species are recognised in the National Planning Policy Framework (NPPF).
- 4.28 Although it does not afford any legal protection, *The Birds of Conservation Concern 4* (Eaton *et al.*, 2015) provides guidance on the conservation status of UK bird species. Thus, it can be used to inform judgements on the ecological importance of bird populations and the habitats that they rely on, particularly at a local level. Red status species are those species of highest conservation concern and green status species are those of low or no conservation concern. Amber status species are those of some conservation concern.

- 4.29 A summary of relevant wildlife legislation and national planning policies can be found in Appendix 1.

ZONE OF INFLUENCE

- 4.30 The potential impacts of a development are not always limited to the boundaries of the site concerned. The area over which a development may impact ecologically important features is known as the Zone of Influence (Zol).
- 4.31 The Zol is determined by the source / type of impact, the presence of any potential pathways for that impact and the location and sensitivity of any ecologically important off-site features.
- 4.32 In the absence of mitigation, potential impacts associated with the proposed development include damage and/or direct loss of on-site hedgerows, woodland and grassland, pollution of off-site waterbodies and the damage and/or destruction of habitats suitable for reptiles, hazel dormouse, birds and foraging and commuting bats.
- 4.33 In the absence of mitigation, the proposed development will likely result in increased lighting of off-site boundary habitat and potentially the damage, destruction and/ or disturbance of wooded railway bank along the southern boundary of the application site. These habitats are suitable for hazel dormice and foraging and commuting bats and these species are adversely affected by illumination.
- 4.34 If the recommendations of this report are adopted and implemented, the Zol for the proposed development is likely to be limited to the red line boundary of the application site and those areas just beyond. However, the results of additional ecological survey work, as recommended in this report, will allow a better-informed assessment of the likely Zol of the proposed development.

LIMITATIONS

- 4.35 Due to health and safety concerns the railway bank along the southern boundary could not be accessed and therefore off-site badger field signs may have been missed.
- 4.36 In addition, areas in the south-western corner could not be surveyed in detail due to dense blackthorn (*Prunus spinosa*) cover.
- 4.37 A detailed badger walkover survey in winter, when vegetation cover is less dense, has been recommended in this report to identify any badger field signs and search for badger setts. Precautionary supervision of the clearance of dense vegetation (if required) has also been required. These recommendations address the above limitations.
- 4.38 For the reasons cited above, there are no material constraints to the survey or ecological appraisal. The survey and ecological appraisal are therefore suitable to fulfil the aims of this report.

LIFESPAN OF THIS APPRAISAL

- 4.39 The structure, extent, arrangement, composition and/or management of habitats, and the suitability of habitats for legally protected species and/or Species of Principal Importance can change over time. Therefore, the ecological importance of a site and the potential ecological impacts of a proposed development can also change over time.
- 4.40 In addition, ecology-related legislation, standing advice, best practice and/or guidance may change over time.
- 4.41 For these reasons, if the commencement of site works is delayed beyond two years from the date of issue of this report, an update site walkover should be undertaken by a suitably experienced ecologist. Following the update walkover, the ecologist will need to determine whether there have

been any material changes to the ecological baseline, the potential impacts of the proposed development and/or the ecology-related legal risks associated with the proposed development.

- 4.42 The ecologist will need to advise the project team of any such changes.
- 4.43 If there have been any material changes in baseline ecological conditions, the potential ecological impacts of the proposed development and/or associated legal risks, or any material changes to relevant ecology-related legislation, standing advice, best practice and/or guidance, an updated PEA report should be produced by a suitably experienced ecologist.
- 4.44 The updated PEA report should be issued to the project team - to ensure that the project has an up-to-date understanding of the potential ecological impacts and/or legal risks associated with the proposed development.

5. RESULTS

DESIGNATED SITES

STATUTORY DESIGNATED SITES

- 5.1 There is one statutory designated site of international importance located within 6km of the application site. Detail is provided in Table 1.

Statutory designated sites of international importance located within 6km of application site.

International site	Distance and direction from application site	Summary of Qualifying features
Folkestone to Etchinghill Escarpment Special Area of Conservation (SAC)	c.1km north at closest point	Qualifying Features: - Semi-natural dry grasslands and scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>) (important orchid sites); Dry grasslands and scrublands on chalk or limestone (important orchid sites).

- 5.2 The Natura 2000 Standard Data Form for this designated site provides detail of threats, pressures and activities with potential to impact upon the SAC. These are: -

- Biocenotic evolution, succession;
- Air pollution, air-borne pollutants; and
- Grazing.

- 5.3 There are two statutory designated sites of national importance located within 2km of the application site. Detail is provided in Table 2.

Statutory designated sites of national importance located within 2km of the application site.

National site	Distance and direction from application site	Reasons for notification
Seabrook Stream SSSI	c.200m south west at closest point	Reasons for notification include: - - The site supports invertebrate assemblages - Meadowsweet (<i>Filipendula ulmaria</i>) and wild angelica (<i>Angelica sylvestris</i>) dominant mire. - Sheep's fescue (<i>Festuca ovina</i>), common bent (<i>Agrostis capillaris</i>) and sheep's sorrel (<i>Rumex acetosella</i>) dominate acid grassland. - Alder (<i>Alnus glutinosa</i>) woodland. Lowland dry acid grassland is listed as a monitoring feature for the SSSI on Natural England's site-specific information page and on the APIS site. The citation for the SSSI does not include this habitat type but, given that Natural England monitor this habitat type on the SSSI, it is confirmed as present on the SSSI.
Folkestone to Etchinghill Escarpment SSSI	c.700m north west at closest point	Reasons for notification include: - - Largest remaining area of unimproved chalk downland in Kent. - Nationally rare late spider orchid (<i>Ophrys fuciflora</i>), early spider orchid (<i>O. sphegodes</i>) and bedstraw broomrape (<i>Ornbanche caryophyllacea</i>) occur within the site. - On-site wood supports diverse breeding bird community. - The site supports a diverse invertebrate assemblage including a number of nationally rare flies, moths and butterflies.

5.4 The application site is located within the outer IRZ for the Folkestone to Etchinghill Escarpment SAC and SSSI.

5.5 The Air Pollution Information System (APIS) website states that Folkestone to Etchinghill Escarpment SAC and SSSI has an average Nitrogen deposition of 14.6 kg N/ha/yr. The critical load for the site is between 15-25 kg N/ha/yr. This indicates that Folkestone to Etchinghill Escarpment SAC and SSSI is not at Nitrogen critical load.

5.6 The Nitrogen critical load for Seabrook SSSI stream lowland dry acid grassland habitat is 8-15 kg N/ha/yr. The Nitrogen deposition average is 14.6 kg N/ha/yr. This indicates that the lowland dry acid grassland habitats present within the Seabrook Stream SSSI are very close to critical load for Nitrogen. The SSSI unit layers and priority habitat layers available on the MAGIC search tool do

not confirm any presence of acid grassland on the SSSI. However, it is listed as a monitoring feature and is therefore confirmed as present on the SSSI.

- 5.7 Seabrook stream SSSI also supports alder woodland. The critical Nitrogen load for this habitat is between 10-20 kg n/ha/yr. The average Nitrogen disposition for this habitat is 25.5 kg N/ha/yr. This indicates that woodland within Seabrook stream SSSI is above critical load for Nitrogen.
- 5.8 The MAGIC IRZ search tool states that '*Any transport proposals including road, rail and by water (routine maintenance)*' and '*any development that could cause air pollution (including industrial / commercial processes, livestock and poultry units, slurry lagoons / manure stores)*' require assessment to determine their potential for impacts upon the SSSI and SAC.
- 5.9 There are no statutory designated sites of local importance located within 1km of the application site.

NON-STATUTORY DESIGNATED SITES

- 5.10 Based on the results of the KMBRC data search, there are three non-statutory designated sites located within 1km of the application site. These are: -
- Asholt Wood Pasture and Pond Local Wildlife Site (LWS), located c.130m north of the application site at its closest point;
 - Paraker Wood and Seabrook Stream LWS, located c.500m south of the application site at its closest point; and
 - A20 Newington Village Roadside Nature Reserve (RNR), located c.590m north west of the application site at its closest point.

ANCIENT WOODLAND

- 5.11 The application site does not support '*Ancient and Semi-Natural Woodland*' or '*Ancient Replanted Woodland*.'
- 5.12 There are three Ancient Woodlands within 1km of the application site. These are Bargrove Wood, c.950m west of the application site, Asholt Wood, c.670m north west of the application site and Paraker Wood which is c.750m south of the application site.

HABITATS OF PRINCIPAL IMPORTANCE

- 5.13 The application site supports four hedgerow sections, the locations of which are shown in Figure 2.
- 5.14 For a hedgerow section to be considered a Habitat of Principal Importance it must be over 20m long and less than 5m wide and comprise of at least one woody UK native species. Following these criteria, two on-site hedgerow sections (HR1 and HR2) qualify as Habitats of Principal Importance.
- 5.15 Hedgerow section HR1 runs along the northern boundary at the eastern corner of the application site and is adjacent to a public footpath. The hedgerow comprises hawthorn (*Crataegus monogyna*) and has a sparse understorey. The hawthorn forms a dense canopy that interlinks with adjacent off-site woodland.
- 5.16 Hedgerow section HR2 runs along the northern boundary of the application site, adjacent to the public footpath. This hedgerow section comprises planted hawthorn. The hedgerow section has a very sparse understorey.
- 5.17 The application site supports a small stand of c.0.1ha of young deciduous woodland comprising young sycamore (*Acer pseudoplatanus*) and sweet chestnut (*Castanea sativa*). Sycamore and

sweet chestnut are non-native species and this young woodland is therefore not classified as a Habitat of Principal Importance.

- 5.18 The site supports open mosaic habitat comprising c.2ha of disturbed land. The open mosaic habitat supports tall ruderal forbs of common and widespread species such as teasel (*Dipsacus fullonum*) and common nettle (*Urtica dioica*), along with non-native species such as buddleia (*Buddleja sp.*).
- 5.19 Open Mosaic Habitat is a Habitat of Principal Importance.

OTHER HABITATS AND FLORA

- 5.20 There is one building within the application site. This building is being used as managed office suites and leisure facilities. The building occupies a c.0.2ha footprint and is constructed from corrugated steel sheeting with a flat metal roof. The building is surrounded by c.1ha of hardstanding which is used as parking for cars and lorries. There is a separate access road which leads to the lorry park.
- 5.21 There is a small c.0.16ha grass paddock located at the eastern corner of the application site. This paddock comprises semi-improved grassland and supports common and widespread forb species such as ribwort plantain (*Plantago lanceolata*), clover (*Trifolium repens*), yarrow (*Achillea millefolium*) and common daisy (*Bellis perennis*).
- 5.22 The semi-improved grassland comprises a tussocky sward, with several piles of rubble and patches of dense bramble (*Rubus fruticosus agg.*) and blackthorn.
- 5.23 The MAGIC website states that the soil type in the area is freely draining slightly acid loamy soil. Acid grassland habitat is within the local area including Seabrook stream SSSI which is c.120m south of the application site. For these reasons, the potential presence of acid grassland within the application site cannot be ruled out.
- 5.24 Lowland dry acid grassland is a Habitat of Principal Importance.
- 5.25 The southern boundary of the application site adjoins an off-site railway line bank dominated by pedunculate oak (*Quercus robur*). Several oak tree canopies overhang the red-line boundary of the application site.
- 5.26 Hedgerow HR3 runs along the southern boundary of the site. This hedgerow section comprises ornamental planting and occasional hawthorn.
- 5.27 Hedgerow HR4 runs adjacent to HR3. This hedgerow comprises a well-maintained non-native privet (*Ligustrum sp.*) hedge.
- 5.28 HR3 and HR4 do not qualify as Habitats of Principal Importance.
- 5.29 Photographs of on-site habitats are provided below.

WATERBODIES

- 5.30 There are no waterbodies on site and no waterbodies were identified within 250m of the application site.

INVASIVE FLORA

DESK STUDY

- 5.31 The KMBRC data search returned recent records of Japanese knotweed (*Fallopia japonica*) (2010) and Himalayan balsam (*Impatiens glandulifera*) (2017) within 1km of the application site.

SITE VISIT

- 5.32 No evidence of Japanese knotweed, or any other plant species listed on Schedule 9 of the Wildlife and Countryside Act, was observed during the survey.

INVERTEBRATES (INCLUDING WHITE-CLAWED CRAYFISH)

DESK STUDY

- 5.33 The KMBRC data search returned recent and historic records of white-clawed crayfish (*Austropotamobius pallipes*) (2017) within 1km of the application site. White-clawed crayfish is a Species of Principal Importance.
- 5.34 The KMBRC data search returned recent records of small heath butterfly (*Coenonympha pamphilus*) (2014) within 1km of the application site. This species is a Species of Principal Importance.

HABITAT ASSESSMENT

- 5.35 Scrub habitat, disturbed land with tall ruderal forbs, semi-improved grassland and lowland mixed deciduous woodland all provide suitable foraging and refuge opportunities for common and widespread invertebrates.
- 5.36 Habitats such as open mosaic habitat, scrub, disturbed ground, grassland and woodland can be exceptionally important for invertebrates (Buglife, undated). Therefore, the application site supports habitat that may support assemblages of rare or scarce invertebrate species.
- 5.37 The site and immediately adjacent land do not provide habitat suitable for white-clawed crayfish.

GREAT CRESTED NEWT AND OTHER AMPHIBIANS

DESK STUDY

- 5.38 The KMBRC data search returned recent and historic records of great crested newt located within 1km of the application site (1990-2012).
- 5.39 The KMBRC data search returned recent and historic records of common toad (*Bufo bufo*) located within 1km of the application site (1986 - 2012).
- 5.40 The KMBRC data search returned recent and historic records of palmate newt (*Lissotriton helveticus*) (1990), smooth newt (*Lissotriton vulgaris*) (2013) and common frog (*Rana temporaria*) (2004) located within 1km of the application site.
- 5.41 A search of Natural England's MAGIC website returned one record of a granted great crested newt EPSM licence within 1km of the application site. This record was located c.0.9km north-west of the application site.
- 5.42 A search of aerial imagery and Ordnance Survey maps indicates that there are no off-site waterbodies located within 250m of the application site. Great crested newts are unlikely to be present on site due to the absence of any breeding sites (waterbodies) within 250m of the application site.

HABITAT ASSESSMENT

- 5.43 Great crested newts are most commonly found within 250m of the waterbodies in which they breed (English Nature, 2001; English Nature, 2004). They are less likely to be found in habitats located beyond 250m from these waterbodies.

- 5.44 The likelihood of great crested newts being present in terrestrial habitat decreases as the distance from a breeding 'pond' increases beyond 100m, and some work indicates that newts are rarely found in terrestrial habitat located beyond 150m from a breeding 'pond' (Jehle and Arntzen, 2000).
- 5.45 The on-site scrub habitat is assessed as being of 'high' quality for great crested newts. The semi-improved grassland is assessed as being of 'moderate' quality for great crested newts.
- 5.46 The scrub habitat and semi-improved grassland within the application site support suitable terrestrial habitat for great crested newts.
- 5.47 However, there are no waterbodies located within 250m of the application site and therefore great crested newts are unlikely to be present on the application site.

REPTILES

DESK STUDY

- 5.48 The KMBRC data search returned recent records of common lizard (*Zootoca vivipara*) (2013), slow worm (*Anguis fragilis*) (2013) and adder (*Vipera berus*) (2017) located within 1km of the application site.

HABITAT ASSESSMENT

- 5.49 The on-site semi-improved grassland provides suitable habitat for reptiles. The rubble piles and dense scrub habitat within the application site provide suitable hibernation and refuge opportunities for reptiles.

BIRDS

- 5.50 The dense scrub habitat at the western end of the application site, on-site hedgerows and lowland mixed deciduous woodland provide abundant foraging and nesting opportunities for birds.

WATER VOLE

DESK STUDY

- 5.51 The KMBRC data search did not return recent or historic records of water vole (*Arvicola amphibius*) located within 1km of the application site.

HABITAT ASSESSMENT

- 5.52 The application site does not support any habitats suitable for water vole.

HAZEL DORMOUSE

DESK STUDY

- 5.53 The KMBRC data search did not return any recent or historic records of hazel dormouse located within 1km of the application site.
- 5.54 A search of Natural England's MAGIC website did not return any records of granted hazel dormouse EPSM licences within 5km of the application site.
- 5.55 An assessment of aerial imagery confirmed that on-site habitats are connected to a wider network of tree lines and woodland areas.

HABITAT ASSESSMENT

- 5.56 Hedgerow HR1 forms a dense canopy which connects with the adjacent off-site wooded area north of the application site. This hedgerow provides good connectivity to suitable off-site habitat.
- 5.57 Hawthorn is abundant across the site. Hawthorn flowers are an important food source for hazel dormice in spring with hawthorn fruit also occasionally eaten by hazel dormouse.
- 5.58 For the reasons stated above, the on-site scrub, hedgerow and woodland habitats are suitable for hazel dormouse.
- 5.59 These habitats are connected to a wider network of habitats suitable for this species.

BADGER

DESK STUDY

- 5.60 The KMBRC data search returned recent (2012) records of badger (*Meles meles*) located within 1km of the application site.

HABITAT ASSESSMENT AND FIELD SIGNS

- 5.61 On-site habitats provide abundant foraging opportunities for badgers.
- 5.62 Several mammal runs were recorded leading to the railway line and into the dense on-site scrub cover. In addition, part of a badger skull was found on the application site, close to the dense inaccessible scrub.
- 5.63 No other evidence of badger presence, such as setts, latrines, snuffle holes, paw prints or hair was recorded on site, however, dense scrub areas could not be accessed, and badger field signs may have been missed in these areas.

OTTER

DESK STUDY

- 5.64 The KMBRC data search did not return any recent or historic records of otter (*Lutra lutra*) located within 1km of the application site.

HABITAT ASSESSMENT

- 5.65 The application site does not support suitable habitat for otter.

BATS

DESK STUDY

- 5.66 The KMBRC data search returned recent records of Daubenton's bat (*Myotis daubentonii*), Natterer's bat (*M. nattereri*), noctule (*Nyctalus noctula*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*P. pygmaeus*), Nathusius' pipistrelle (*P. nathusii*), serotine (*Eptesicus serotinus*) and brown long-eared bat (*Plecotus auritus*) and historic records of whiskered bat (*M. mystacinus*) and Leisler's bat (*N. leisleri*).
- 5.67 The KMBRC data search indicates that the closest recorded maternity roost was a recent record (2013) of a common pipistrelle maternity roost c.2.2km south-east of the application site.
- 5.68 The closest recorded hibernation roost was a 2009 record of a Natterer's bat, located c.2.7km south-west of the application site.

- 5.69 A search of Natural England's MAGIC website returned three records of granted bat EPSM licences within 5km of the application site. One of these records evidences the presence of a Daubenton's bat and whiskered bat roost c.2km south west of the application site in 2014.
- 5.70 The other granted EPSM licences were for a brown long-eared bat and common pipistrelle roost c.0.8km south-east of the application site in 2016, and a common pipistrelle and Nathusius' pipistrelle roost c.3.6km south west of the application site in 2010.

HABITAT ASSESSMENT

- 5.71 The on-site building does not support any potential bat roost features. The corrugated steel sheeting construction of the building does not provide any suitable roosting opportunities for bats. Similarly, the flat roof does not provide any cavities or structures that bats could roost within.
- 5.72 The building and associated carpark is well lit by floodlighting, and the building and associated hardstanding do not support suitable foraging or commuting habitat for bats.
- 5.73 The hedgerow section along the northern boundary of the application site provides suitable bat foraging and commuting habitat and is well connected to suitable off-site habitat.
- 5.74 The disturbed land, semi-improved grassland scrub and woodland habitats on the application site provide bat foraging and commuting habitat of 'moderate' suitability. Off-site bat foraging and commuting habitat is of 'high' suitability.
- 5.75 All on-site trees were assessed to determine their suitability for roosting bats.
- 5.76 One sycamore tree within the lowland mixed deciduous woodland has raised bark and a ripped limb which may provide a cavity for a bat to roost. However, the ripped limb is exposed to the weather conditions. This tree is of 'low' suitability for roosting bats.
- 5.77 Hedgerow HR1 provides good connectivity to the neighbouring off-site woodland. In addition, scrub habitat along the western boundary provides good connectivity to the off-site wooded bank adjacent to the railway line. Both the railway line and wooded area adjacent to the northern boundary of the site provide connectivity to suitable habitat within the wider landscape.

OTHER MAMMALS

DESK STUDY

- 5.78 The KMBRC data search returned recent records of hedgehog (*Erinaceus europaeus*) (2017).
- 5.79 Hedgehog is a Species of Principal Importance.

HABITAT ASSESSMENT

- 5.80 On-site hedgerow and scrub habitats provide suitable foraging and refuge opportunities for hedgehog. These habitats also provide good connectivity to off-site habitat for this species.

6. PHOTOGRAPHS



Photo 1 Building and grass paddock at the north east corner of the site (within works footprint).



Photo 2 Area of hardstanding used as a lorry park (within works footprint).



Photo 3 Hedgerow HR1. Hedgerow provides suitable commuting and foraging habitat for bats and hazel dormouse (outside of works footprint).



Photo 4 Semi-improved grassland. Provides suitable habitat for reptiles and suitable foraging and commuting opportunities for bats (outside of works footprint).



Photo 5 Scrub habitat and rubble pile. Suitable habitat for reptiles (outside of works footprint).

7. AERIAL IMAGE



Figure 2 Plan showing location and arrangement of on-site habitats. Red line boundary shown on this plan is approximate.

Target notes

- TN1- Semi-improved grassland - suitable habitat for reptiles
- TN2- Dense blackthorn scrub habitat
- TN3- Location of badger skull
- TN4- Disturbed land with tall ruderals
- TN5- Lowland mixed deciduous woodland - One sycamore tree within the woodland has 'low' suitability for roosting bats

Key

	Building- Eurotunnel Exhibition Centre
	Hedgerow- Habitat of Principal Importance
	Hedgerow -Not classified as an HPI.

8. PROPOSED DEVELOPMENT



Figure 3 Plan showing the proposed development showing the new units and proposed lorry park. Plan provided by Motis Estates on 1st October 2020.

9. GENERAL DESIGN AND PLANNING GUIDANCE

THE ECOLOGICAL MITIGATION HIERARCHY

- 9.1 Paragraph 175(a) of the 2019 National Planning Policy Framework (NPPF) states that: *'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.'*
- 9.2 In accordance with this paragraph of the NPPF, the potential ecological impacts of any development project should be avoided and minimised by design wherever possible.
- 9.3 Impacts upon important habitats or habitats utilised by legally protected species can trigger a requirement for additional ecological survey work and can introduce legal, planning and timeline risks. To help minimise these risks and in accordance with Paragraph 175(a) of the 2019 NPPF, the ecological mitigation hierarchy should be followed for all proposed development projects.
- 9.4 The ecological mitigation hierarchy comprises a staged process that starts with the avoidance of ecological impacts. The mitigation hierarchy be summarised as follows: -
- **Step 1: Avoidance:** Significant ecological impacts should be avoided in the first instance - through prioritising the development on sites of low ecological importance and/or through careful design work at the site level;
 - **Step 2: Mitigation:** Where significant ecological impacts cannot be totally avoided, measures should be introduced to reduce the significance of these predicted impacts; and
 - **Step 3: Compensation:** Where significant ecological impacts cannot be avoided or adequately mitigated, as a last resort, compensatory habitats should be delivered.

EUROPEAN PROTECTED SPECIES IN RELATION TO PROJECT DESIGN AND PLANNING

- 9.5 In addition to the above, where a project results in impacts upon habitats utilised by European Protected Species (EPS) - such as great crested newts, hazel dormice, bats and otters, the local planning authority must *'have regard to the requirements of the Habitats Directive, so far as they may be affected by the exercise of those functions'* (Natural England, 2010).
- 9.6 In plain English, and in accordance with Natural England guidance (Natural England, 2010), this means that the local planning authority has a duty to consider the likelihood of a licence being granted by Natural England for any actions affecting EPS. Natural England advise that the local planning authority considers three specific legal tests when determining any planning application that has the potential to result in significant adverse effects upon an EPS. These three tests are: -
- **Test 1: The Alternatives Test:** In accordance with Regulation 53(9)(a) of the Habitats Directive, *'the appropriate authority shall not grant a licence unless they are satisfied that there is no satisfactory alternative'* to the proposed impacts of the project. Typically, this test requires the local planning authority to consider whether the proposed development could be located on an alternative site, and/or could adopt a layout and/or design, that would result in less significant impacts upon the relevant EPS. When applying this test, the local planning authority will need to consider whether the proposed development is required to meet a defined need (e.g. provision of housing in line with a defined Local Plan housing policy);
 - **Test 2: The Favourable Conservation Status (FCS) Test:** In accordance with Regulation 53(9)(b) of the Habitats Directive, *'the appropriate authority shall not grant a licence unless they are satisfied that the action authorised will not be detrimental to the maintenance of the*

population of the species concerned at a favourable conservation status in their natural range.'

In practical terms, this means that the local planning authority needs to objectively consider whether the proposed impacts of the project upon EPS is likely to result in significant adverse effects upon the long-term viability of the local population(s) of the relevant EPS; and

- **Test 3: The Imperative Reasons of Overriding Public Interest (IROPI) Test:** In accordance with Regulation 53(2)(e) of the Habitats Directive, a licence can be granted for the purposes of '*preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.*' In practical terms, this means that, if significant impacts upon the relevant EPS cannot be avoided, effectively mitigated and/or compensated for, the local planning authority should consider whether the predicted harm to EPS can be justified based on a clearly identified Imperative Reason of Overriding Public Interest.

9.7 If presence of an EPS is identified on site and/or within the Zol of a proposed project, the local planning authority will be minded to consider the above three legal Tests when determining the associated planning application.

9.8 For this reason, we strongly advise that all project options minimise impacts upon habitats suitable for EPS by design - to reduce the likelihood of adverse impacts upon EPS, minimise the need for additional EPS survey work, and reduce potential planning and licensing risks.

PROJECT-SPECIFIC AVOIDANCE

9.9 For the proposed development, we advise that the project minimises by design any potential impacts upon: -

- On-site and off-site boundary hedgerow / woodland;
- Semi-improved grassland; and
- Scrub habitat.

9.10 These habitats are suitable for: -

- Hazel dormice (EPS species) (hedgerows / woodland);
- Bats (EPS species') (foraging and commuting) (scrub / boundary hedgerow / woodland);
- Reptiles (semi-improved grassland / scrub); and
- Birds (scrub/ boundary hedgerow / woodland).

9.11 This advice has already been factored into the project proposals. The proposals have been modified, based on the advice of the report author, to avoid and minimise impacts upon habitats suitable for hazel dormice (avoided), reptiles (avoided) and foraging and commuting bats (impacts reduced; direct physical impacts upon boundary hedgerows and treelines avoided).

9.12 Additional recommendations in relation to these species, and on-site habitats suitable for these species, are provided in the *Evaluation and Recommendations* section of this report, below.

10. EVALUATION AND RECOMMENDATIONS

DESIGNATED SITES

STATUTORY DESIGNATED SITES

- 10.1 Seabrook stream SSSI is located c.200m south west of the application site. The lowland dry acid grassland habitat within Seabrook Stream SSSI is at critical capacity for Nitrogen. The proposed development will be used as a lorry park and will likely result in the increase in airborne nitrogen in proximity to the SSSI during the operation and potentially the construction of the lorry park.
- 10.2 The application site is located within the outer IRZ for the SSSI. The MAGIC IRZ search tool states that '*development that could cause air pollution*' will require assessment to determine their potential for impacts upon the SSSI.
- 10.3 To assess the risk of potential impacts to Seabrook Stream SSSI, Redmore Environmental have produced an *Ecological Air Quality Screening Assessment* (Redmore Environmental, 2020).
- 10.4 The *Ecological Air Quality Screening Assessment* does not assess the impacts of the proposed development within the redline boundary (lorry park and associated access) as the development site is not situated within 200m of Seabrook Stream SSSI. The assessment, instead, assesses possible impacts of the road link that will likely have increased traffic due to the proposed development. This road link is c.185m north west of Seabrook Stream SSSI.
- 10.5 A transport assessment undertaken by Stantec confirms that this road section will only carry 11 development-specific lorry journeys per day (Stantec, 2020).
- 10.6 Lowland dry acid grassland habitat is sensitive to Nitrogen deposition. However, the desk-based study did not identify any lowland dry acid grassland within 200m of the road link.
- 10.7 There are no publicly available habitat plans or habitat mapping layers for the north-western section of the Seabrook Stream SSSI and therefore the exact location of sensitive acid grassland habitat within the Seabrook SSSI cannot be determined. Therefore, the presence of lowland dry acid grassland within the 15m-wide section of the SSSI that falls within the very outer extents of the 200m radius of the link road that will carry the 11 development-specific lorry trips per day cannot be completely ruled out.
- 10.8 As a precaution, a botanical walkover survey of grassland habitats within this small section of the SSSI will need to be undertaken to determine whether it supports lowland dry acid grassland. If no presence of acid grassland is identified within this extreme north-western boundary of the SSSI, then no further assessment will be required. In the event that presence of acid grassland in this area is confirmed, further air quality assessment work may be required to determine whether the 11 development-specific lorry trips will result in any ecologically significant nitrogen deposition within this area of the SSSI.

NON-STATUTORY DESIGNATED SITES

- 10.9 Asholt Wood Pasture and Pond Local Wildlife Site, and the A20 Newington village Roadside Nature Reserve are north on the application site. The M20 runs between the application site and these non-statutory designated sites acting as a significant barrier between these local wildlife sites and the application site.
- 10.10 There is unlikely to be an increase of visitor numbers to these wildlife sites as the proposed development is for commercial purposes.

- 10.11 As a result, the proposed development is unlikely to result in any significant adverse ecological impacts upon these non-statutory designated wildlife sites.
- 10.12 Paraker Wood and Seabrook Stream Local Wildlife Site is located south of the application site and is easily accessible to site via public rights of way.
- 10.13 Hardstanding and road surfaces will also increase the risk of pollution and surface runoff from the application site.
- 10.14 Effective pollution prevention and control measures will need to be implemented to ensure the proposed development does not increase pollution into the wider landscape during the construction and operational stages of the proposed development. This should include effective drainage management and fitting appropriate pollution interceptors

ANCIENT WOODLAND

- 10.15 There is no Ancient Woodland on site. There are three Ancient Woodland sites within 1km of the application site. Two of these sites are Asholt Wood and Paraker Wood, which have been identified and considered in the section above.
- 10.16 In addition, Bargrove Wood is c.950m west of the application site. For the same reasons set out in relation to Paraker Wood and Asholt Wood, the proposed development is unlikely to result in any significant adverse ecological impacts upon Bargrove Wood.

HABITATS OF PRINCIPAL IMPORTANCE

- 10.17 The proposed development will not impact on-site hedgerow along the site boundary or on-site grassland at the west and no further assessment or mitigation is required for these habitats.
- 10.18 The proposed development will result in the loss of open mosaic habitat on-site. The loss of this habitat will need to be compensated for within the layout of the proposed scheme. Green roofs or living walls can be installed onto new or existing on-site buildings. In addition, vegetation borders and log piles can also help to create an open mosaic habitat.

OTHER HABITATS AND FLORA

- 10.19 There are several overhanging off-site trees along the southern boundary that are likely to be cut back. These trees are likely to be impacted by the proposed development. Heras fencing with debris netting should be erected along the southern boundary to protect off-site habitat during the construction phase.
- 10.20 The *Habitat Creation* section of this report contains further recommendations for habitat enhancement and creation.

INVASIVE FLORA

- 10.21 No non-native invasive plants were identified during the initial site visit.
- 10.22 If Japanese knotweed, or any other plant listed on Schedule 9 of the Wildlife and Countryside Act, is discovered on site prior to or during works, all works within 7m of the plant(s) should cease immediately and a suitably experienced specialist should be contacted for advice.

INVERTEBRATES (INCLUDING WHITE-CLAWED CRAYFISH)

- 10.23 The application site may support rare and scarce invertebrate assemblages, however scrub, semi-improved grassland and hedgerows will not be impacted by the proposed scheme and therefore no further assessment or mitigation is required.
- 10.24 Where possible, new native species hedgerow and/or scrub planting should be incorporated within the redline boundary to enhance the site for invertebrates. Details of native species planting can be found in the *Habitat Creation* section of this report.

GREAT CRESTED NEWT AND OTHER AMPHIBIANS

- 10.25 No further survey, assessment or mitigation is required with regards to amphibians.
- 10.26 In the unlikely event a great crested newt is found on site prior to or during works, all site works must cease immediately because of the nature of the legal protection afforded to this species and a suitably qualified ecologist should be contacted for advice.

REPTILES

- 10.27 All native UK reptile species are afforded legal protection from intentional or reckless killing or injury by the Wildlife and Countryside Act 1981 (as amended).
- 10.28 Suitable reptile habitat will not be impacted by the proposed scheme and no further assessment or mitigation will be required.
- 10.29 It is recommended that Heras fencing fitted with debris netting is erected between the development site and the retained habitat suitable for reptiles (located at the west of the site) during the site clearance and construction stages. In addition, permanent fencing should be installed post construction to discourage use of this area when the lorry park is in operation.
- 10.30 In the unlikely event a reptile is found within the works footprint, all site works must cease immediately because of the nature of the legal protection afforded to this species and a suitably qualified ecologist should be contacted for advice.

BIRDS

- 10.31 Nesting birds, and their nests, eggs and chicks are afforded legal protection by the Wildlife and Countryside Act 1981 (as amended).
- 10.32 Vegetation clearance and tree pruning should be undertaken in the period mid-September to February (inclusive). This is outside of the typical bird nesting season. Vegetation clearance should not be undertaken until the results of the additional ecological surveys, as recommended in this report, are known. If any vegetation clearance is required before surveys are completed, a suitably experienced ecologist should be consulted for advice.
- 10.33 If vegetation clearance is required within the period March to mid-September (inclusive), a check for nesting birds must be conducted before clearance commences. The check should be undertaken by a suitably experienced ecologist. Any active nests will need to be retained and protected *in situ* until birds have stopped using them.
- 10.34 No vegetation or ground clearance works should be commenced until the results of the recommended bat (tree inspection) are known, and a suitably experienced ecologist has provided advice on an appropriate course of forward action.

- 10.35 Opportunities to deliver new nesting and foraging habitats for birds should be maximised. Plantings of native shrub, scrub and tree species such as hawthorn and blackthorn are recommended. These species provide cover and foraging opportunities for a range of bird species.

WATER VOLE

- 10.36 Water voles are afforded 'full' legal protection by the Wildlife and Countryside Act 1981 (as amended).
- 10.37 No further survey, assessment or mitigation is required with regards to water vole.

HAZEL DORMOUSE

- 10.38 Hazel dormice are afforded legal protection by the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended)
- 10.39 In addition to the legal protection afforded to individual hazel dormice, the resting places and breeding sites of this species are legally protected. This effectively means that any habitat occupied by hazel dormouse is afforded legal protection.
- 10.40 A European Protected Species Mitigation licence from Natural England is normally required to facilitate any impacts upon occupied hazel dormouse habitat.
- 10.41 On-site boundary hedgerow will not be impacted and therefore, no further hazel dormouse assessment is required.
- 10.42 Hedgerow and on-site woodland will need to be protected throughout the duration of the construction stage of the proposed scheme. Heras fencing fitted with debris netting should be erected in front of all on-site hedgerow, woodland and boundary trees to prevent pollution and debris and potential damage from construction traffic.
- 10.43 To minimise the risk of light-related impacts upon hazel dormouse (if present), which is typically a nocturnal species, dark corridors should be retained along site boundaries and hedgerow. This can be done by controlling levels of illumination emitted from within the development footprint, during both the construction and operational stages. Details of recommended levels of illumination can be found within the 'bat' section below.

BADGER

- 10.44 Badgers are afforded legal protection by the Protection of Badgers Act 1992 (as amended).
- 10.45 The site provides suitable habitat for foraging badgers and the establishment of badger setts. In addition, a badger skull was found within close to the scrub habitat at the west of the application site. However, this area will not be impacted by the proposed development.
- 10.46 No badger field signs were found at the east and centre of the application site. No badger setts were found within this area. However, dense vegetation on-site may have concealed badger setts and other badger field signs. A detailed badger walkover survey will be required to establish if badgers are present within 30m of the works footprint. It is recommended that this survey is undertaken in the winter / early spring when vegetation is reduced and, therefore, badger field signs are easier to identify.
- 10.47 In the event a badger sett is found on site or within 30m of the works footprint - prior to or during works, all works within 30m of the potential badger sett must cease immediately because of the nature of the legal protection afforded to this species. In this instance, a suitably experienced ecologist should be contacted for advice.

- 10.48 If any large mammal burrows are identified on site, and the site team are unsure whether these burrows comprise a badger sett, as a precaution, works within 30m of the relevant burrow should cease immediately and a suitably experienced ecologist should be contacted for advice.

OTTER

- 10.49 Otters are afforded legal protection by the Conservation of Habitat and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended).
- 10.50 No further survey, assessment or mitigation is required with regards to otter.

BATS

- 10.51 Bats are afforded legal protection by the Conservation of Habitat and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended).
- 10.52 A bat activity survey will need to be undertaken to assess how the loss of suitable bat habitat will affect the foraging and commuting behaviour and resources of local bat populations. The bat activity survey will comprise of one activity transect undertaken once a month from April to October.
- 10.53 This survey can be split across years in necessary. Two survey visits have been undertaken to date. One of these survey visits was undertaken in September 2019 and the other in October 2019. Very low levels of bat activity - occasional passes by noctule (*Nyctalus noctula*) and serotine (*Eptesicus serotinus*) were recorded during these survey visits.
- 10.54 Additional bat activity survey visits should be completed across the period April to August 2021 (inclusive) to ensure that a full baseline data set and impact assessment is considered in relation to bats, and to inform final detail of lighting and scheme design.
- 10.55 The proposed development will likely result in a significant increase in artificial lighting across the site. As a result, bat-sensitive lighting scheme close to suitable bat foraging and / or commuting habitat will need to be delivered on the application site. An ecological *Lighting Constraints Plan* has been produced (see Appendix 2). This plan will be used by the appointed lighting designer, at the detailed design stage, to ensure that illumination of site boundary habitats, which are likely to be of the greatest value to foraging and commuting bats, is minimised by design.
- 10.56 External lighting should be minimised across the entire site, particularly adjacent to the north eastern, southern, western and southern boundaries. This is subject to relevant highways and public health and safety considerations.
- 10.57 A dark corridor will need to be maintained adjacent to the southern and western boundaries, because these boundaries are likely to support high quality bat foraging and commuting habitat.
- 10.58 To help achieve this, an unlit landscape buffer zone, located outside of works footprint, should be provided adjacent to the western and southern boundaries.
- 10.59 Only the minimum level of lighting required for site security / health and safety should be installed on site. Use of narrow spectrum lighting with no UV content, or 'warm white' LED lighting (ideally <2700 Kelvin, with peak wavelengths higher than 550nm) is recommended.
- 10.60 All lighting should be directed to ground and light spill should be minimised through use of hoods, shields and/or cowls to maintain an upward light ratio of 0%.
- 10.61 Subject to health and safety and safe-by-design considerations, motion sensors and/or timers should be used to limit the duration of nocturnal lighting (ideally to short illuminance periods of 1

minute or less). Tall lighting columns should generally be avoided. Low-level external lighting (if any is required) would help to minimise site illumination.

- 10.62 In general, lighting should follow the principles outlined in Section 3 of the Bat Conservation Trust and Institution of Lighting Professionals *Guidance Note 08/18: Bats and artificial lighting in the UK* (BCT and ILP, 2018), and should only be used where necessary.
- 10.63 A bat *Lighting Constraints Plan* has been provided to the project team to guide the lighting design for the permanent, fixed position lighting for the project, and assist in minimising light-related impacts upon the highest quality bat foraging and commuting habitats (woody site boundary habitats).
- 10.64 Due to the nature of the proposal, increased levels of light for at least part of the night and/or on an intermittent basis throughout the night may result from the regular presence of vehicle headlights, which may result in some functional degradation of bat foraging and/or commuting habitats. This will be at partially mitigated by the additional boundary habitat plantings that will be delivered on site
- 10.65 As a precaution, an experienced ecologist should review the detailed lighting proposals for the scheme and will provide advice on minimising light spill and illumination of boundary habitats.
- 10.66 A precautionary method of works should be undertaken for the removal or pruning of the tree that has been assessed as having 'low' suitability for roosting bats (TN5). This will involve a suitably licenced and experienced bat ecologist being present during the removal or pruning of on-site trees.
- 10.67 As a precaution, a bat box should be installed on a pole within retained boundary habitat prior to tree felling.
- 10.68 An endoscope survey should be undertaken on the tree by a suitably licenced ecologist prior to the felling. If a bat is found roosting within the tree a bat EPS mitigation licence will need to be applied for from Natural England. The EPS mitigation licence will need to be approved by Natural England before any works on the tree can be undertaken. In this instance, the tree will need to be protected with a suitable buffer zone to prevent any damage to the tree.

OTHER MAMMALS

- 10.69 All wild mammals are afforded some legal protection under the Wild Mammals (Protection) Act 1996 (as amended). This Act includes offences of crushing and asphyxiation of any wild mammal with intent to inflict unnecessary suffering.
- 10.70 If any animal burrows (excluding badger setts) are identified on site and need to be removed to facilitate development, these will need to be carefully excavated in a manner that allows animals (e.g. rabbits or foxes) to safely escape before works commence. Implementation of this approach should be sufficient to avoid an offence.
- 10.71 If site contractors are not confident undertaking these excavation works, direct ecological supervision can be provided.
- 10.72 In the event a hedgehog is found during works, it should be moved to an alternative, nearby area of dense, retained scrub or woodland cover away from the construction zone and roads.
- 10.73 To reduce the risk of harm to animals that may enter the site, the following is recommended: -
- 10.74 Any holes that are excavated on site are covered overnight to prevent animals from falling in;
- 10.75 Alternatively, a broad wooden plank or similar can be placed in the excavation to allow animals to escape. A scaffolding board pitched at a maximum 45° angle would be ideal; and

- 10.76 Excavations should be checked first thing each morning, prior to the start of works that day. Any animals found within excavations should be allowed to escape and move off, or carefully removed and placed within suitable habitat cover, before site works commence.
- 10.77 Fencing around the site boundary (if required) should be hedgehog friendly, with 13cm x 13cm holes in or under boundary and garden fencing or walls for them to pass through. 'Hedgehog highway' labels should be placed above the holes to avoid them being blocked in the future.

11. HABITAT CREATION MEASURES

- 11.1 Paragraph 170d of the 2019 NPPF states that: *'The planning system should contribute to and enhance the natural and local environment by, amongst other things... minimising impacts on and providing net gains for biodiversity...'*
- 11.2 In addition, Paragraph 175d of the 2019 NPPF states that: *'opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.'*
- 11.3 In line with the 2019 NPPF, opportunities to increase the ecological value of the post-development application site for Species of Principal Importance should be maximised.
- 11.4 Native hedgerow should be planted along the western, northern and southern boundaries. This native hedgerow planting will deliver new habitats for a range of species and, if incorporated into the development proposals, will deliver a substantial net increase in the length of this Habitat of Principal Importance hedgerow present on the application site.
- 11.5 Recommended native species include field maple (*Acer campestre*), oak (*Quercus robur*), hornbeam (*Carpinus betulus*), small-leaved lime (*Tilia cordata*), wild cherry (*Prunus avium*), alder (*Alnus glutinosa*), rowan (*Sorbus aucuparia*), holly (*Ilex aquifolium*), wild privet (*Ligustrum vulgare*) and beech (*Fagus sylvatica*).
- 11.6 This measure will create a Habitat of Principal Importance (hedgerow) on site and will, in turn, benefit any locally occurring Species of Principal Importance by providing nesting and/or foraging habitat suitable for a range of species, including hedgehog, dunnock (*Prunella modularis*) and song thrush (*Turdus philomelos*).
- 11.7 Opportunities to increase the ecological importance of the application site for Species of Principal Importance, above and beyond the planting recommendations provided, should be maximised within the proposed development.
- 11.8 At least six bat boxes should be incorporated into, or affixed to, the external walls of new buildings close to the site boundaries or mounted on poles within retained, dark boundary vegetation.
- 11.9 Bat boxes should be positioned out of reach from windows and doors, at least 4m above ground level, with at least a 3m clear 'drop' below each brick / box.
- 11.10 Bat boxes should be positioned in dark locations, away from sources of light. Dark flight routes should be present between the roost feature and the site boundary habitats, to ensure that bats can locate and access the new roost features.
- 11.11 The installation of bat boxes should be supervised by a suitably experienced bat ecologist.
- 11.12 Dead wood piles could be provided within sunny and shady locations on the edge of retained boundary habitats. These could be created using brash and logs arising from site clearance.

12. SUMMARY OF RECOMMENDATIONS

Ecological feature	Likelihood of presence within Zol	Recommendation	Driver
Designated sites	SAC, SSSIs and LWSs present within 1km	The proposed development has the potential to result in the increase in air pollution which may adversely impact the Seabrook stream SSSI. Further assessment will be required to assess the impact of air pollution on this SSSI.	Legislation and national planning policy
Ancient Woodland	Not present within application site or within 1km of the application site	No further survey, assessment or mitigation required.	n/a
Habitats of Principal Importance	Hedgerow and Open Mosaic Habitat present within application site	Hedgerows should be protected during the construction phase of the development. Any hedgerow or open mosaic habitat that is removed should be replaced with compensatory habitat, such as native species planting and green roofs.	Legislation and national planning policy
Invasive plants	Risk of presence	Site workers should be briefed on how to identify Japanese knotweed and other common non-native invasive plants. If Japanese knotweed or other non-native plant is discovered on site prior to or during works, all works within 7m of the plant(s) should cease immediately and a suitably experienced specialist should be contacted for advice.	Legislation
White-clawed crayfish	Likely absent	No further survey, assessment or mitigation required.	n/a
Important assemblages of terrestrial invertebrates	Potential for presence	The site supports habitat suitable for rare and scarce invertebrate assemblages however, this habitat will not be impacted by the proposed development	National planning policy
Common and widespread invertebrates	Likely present	The planting of native hedgerow along the site boundary will enhance the site for invertebrates and provide foraging and refuge opportunities.	n/a
Great crested newt and other amphibians	Likely absent	No further survey, assessment or mitigation required.	n/a
Reptiles	High risk of presence within on-site grassland	The application site supports habitat suitable for reptiles. However, this habitat will be retained and therefore, no further assessment and mitigation is required.	Legislation and national planning policy

Ecological feature	Likelihood of presence within Zol	Recommendation	Driver
Nesting birds	Likely present	Vegetation clearance should be undertaken in the period mid-September to February (inclusive). This is outside of the typical bird nesting season. Vegetation clearance should not be undertaken until the results of the additional ecological surveys, as recommended in this report, are known. If vegetation clearance is required within the period March to mid-September (inclusive), a check for nesting birds must be conducted before clearance commences. Opportunities to deliver new foraging and nesting habitats for birds should be maximised. Planting shrub species such as hawthorn and blackthorn is recommended.	Legislation
Water vole	Likely absent	No further survey, assessment or mitigation required.	n/a
Hazel dormouse	Risk of presence within on-site boundary hedgerow	Hedgerows and on-site woodland will not be impacted by the proposed scheme.	Legislation and national planning policy
Badger	Risk of presence	To assess the risk to badger, a detailed badger walkover will be required within the south western section of the application site.	Legislation
Otter	Likely absent	No further survey, assessment or mitigation required.	n/a
Bats (roosting)	Low risk of presence within one tree	Precautionary method of works should be undertaken when removing on-site tree that has been identified as having 'low' suitability for roosting bats.	Legislation and national planning policy
Bats (foraging)	Likely present	A bat activity survey will be required to establish how bats are using the site for foraging and commuting (April to October).	Legislation and national planning policy
Other mammals	Risk of presence on application site	If any animal burrows (excluding badger setts) are identified on site and need to be removed to facilitate development, these will need to be carefully excavated in a manner that allows animals (e.g. rabbits or foxes) to safely escape before works commence. Implementation of this approach should be sufficient to avoid an offence.	Legislation

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14. APPENDIX 1: SUMMARY OF WILDLIFE LEGISLATION AND NATIONAL PLANNING POLICY

- 14.1 The level of protection afforded to protected species varies dependent on the associated legislation. A full list of protected species and their specific legal protection is provided within the Schedules and/or Sections of the associated legislation. Case law may further clarify the nature of the legal protection afforded to species.
- 14.2 The legal protection afforded to protected species overrides all planning decisions.
- EUROPEAN PROTECTED SPECIES (EPS) - AND THE CONSERVATION OF HABITATS AND SPECIES REGULATIONS 2017*
- 14.3 European Protected Species (EPS) are afforded the highest level of protection through the Conservation of Habitats and Species Regulations 2017. EPS are also afforded legal protection by parts of the Wildlife and Countryside Act 1981 (as amended).
- 14.4 There are a number of relatively common and widespread EPS. These include great crested newt, all species of UK bat, dormice and otter.
- 14.5 There are other species of plant and animal that are also EPS, but generally these are scarcer / rare and are restricted to narrow geographies or specific habitat types. Examples of this latter group include natterjack toad (*Epidalea calamita*), sand lizard (*Lacerta agilis*) and smooth snake (*Coronella austriaca*).
- 14.6 In general, any person and/or activity that: -
- Damages or destroys a breeding or resting place of an EPS. (This is sometimes referred to as the strict liability or absolute offence);
 - Deliberately captures, injures or kills an EPS (including their eggs);
 - Deliberately disturbs an EPS, and in particular disturbance likely to impair animals ability to survive, breed or nurture young, their ability to hibernate and migrate and disturbance likely to have a significant effect on local distribution and abundance;
 - Intentionally or recklessly disturbs an EPS while occupying a structure or place used for shelter and/or protection (Wildlife and Countryside Act 1981 (as amended)); and
 - Intentionally or recklessly obstructs access to any structure or place that an EPS uses for shelter or protection (Wildlife and Countryside Act 1981 (as amended)).
- ...may be guilty of an offence.
- 14.7 The legislation applies to the egg, larval and adult life stages of great crested newts and to bat roosts even when they are not occupied.
- 14.8 Actions affecting multiple animals can be construed as separate offences and therefore penalties can be applied per animal impacted.
- 14.9 Under certain circumstances licences can be granted by the Statutory Nature Conservation Organisation (Natural England in England) to permit actions that would otherwise be unlawful.
- 14.10 There are some very specific defences associated with the Conservation of Habitats and Species Regulations 2017. However, these are unlikely to apply to construction related projects. The Sections of the Regulations provide further details of these defences.
- 14.11 The Wildlife and Countryside Act (1981) includes defence for those aspects of the legislation that apply to an EPS. These defences are unlikely to apply to construction related projects and do not

apply to those acts included in the Conservation of Habitats and Species Regulations 2017. The Schedules of the Act provide further details of defences.

- 14.12 Local authorities have obligations under sections 40 and 41 of the Natural Environment and Rural Communities Act (NERC) 2006 to have regard to the purpose of conserving biodiversity in carrying out their duties. The majority of EPS are listed on Section 41 the NERC Act.

WILDLIFE AND COUNTRYSIDE ACT 1981 (AS AMENDED)

- 14.13 The level of protection afforded to species listed on the Wildlife and Countryside Act 1981 (as amended) varies considerably.
- 14.14 'Fully protected species', such as water vole, are afforded the highest level of protection. Any person who intentionally kills, injures, or takes 'fully protected species', or who intentionally or recklessly damages or destroys a structure or place used for shelter and/or protection, disturbs the animal whilst occupying a structure and/or place used for shelter and protection, or obstructs access to any structure and/or place used for shelter or protection is likely to have committed an offence.
- 14.15 Other species, such as common reptiles, are afforded less protection and for these species it may only be an offence to intentionally or recklessly kill or injure animals.
- 14.16 All active bird nests, eggs and young are protected from intentional destruction. Schedule 1 listed birds are also protected from intentional and reckless disturbance whilst breeding.
- 14.17 Schedule 9 of The Wildlife and Countryside Act lists plant species for which it is an offence for a person to plant, or otherwise cause to grow in the wild. Schedule 9 also lists animals for which it is an offence to release into the wild.

THE PROTECTION OF BADGERS ACT 1992 (AS AMENDED)

- 14.18 The Protection of Badgers Act (1992) makes it an offence to wilfully kill, injure, take or ill-treat a badger and to interfere with a sett, including damage, disturbance and obstruction.

THE PROTECTION OF MAMMALS ACT 1996 (AS AMENDED)

- 14.19 The Protection of Mammals Act (1996) provides protection for all wild mammals against certain cruel acts with the intention of causing unnecessary suffering, including crushing and asphyxiation.

THE NATURAL ENVIRONMENT AND RURAL COMMUNITIES ACT 2006 (AS AMENDED)

- 14.20 Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act (2006) requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers, including local and regional authorities, in implementing their duty under Section 40 of the act to have regard to the conservation of biodiversity in England when carrying out their normal functions.
- 14.21 S41 lists 56 habitats and 943 Species of Principal Importance.
- 14.22 Section 42 of the NERC Act relates to Wales.

ENVIRONMENT PROTECTION ACT 1990 (AS AMENDED)

- 14.23 Japanese Knotweed is classed as 'controlled waste' and if taken off-site it must be disposed of safely at a licensed landfill site. Soil containing rhizome material should also be regarded as contaminated and treated accordingly.

STATUTORY DESIGNATED SITES

- 14.24 Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) are afforded protection under the Conservation of Habitats and Species Regulations 2017. Ramsar sites, which are designated under the Convention on Wetlands of International Importance (1971), are afforded the same level of protection as SPAs and SACs via national planning policy.
- 14.25 The Conservation of Habitats and Species and Planning (Various Amendments) (England and Wales) Regulations 2018 came into force on 28 December 2018. The regulations allow neighbourhood plans and development orders in areas where there could be likely significant effects on a European protected site to be subject to an 'Appropriate Assessment' to demonstrate how impacts will be mitigated, in the same way as would happen for a draft Local Plan or planning application. The Regulations provide the UK Government's legislative response to the April 2018 European Court of Justice judgement in the case *People Over Wind & Sweetman v Coillte Teoranta* ("People over Wind"). These Regulations are of limited relevance for most planning applications. However, the UK Government is yet to issue any formal planning practice guidelines on the application of this new legislation.
- 14.26 Sites of Species Scientific Interest (SSSI) are afforded protection by the Wildlife and Countryside Act 1981 (as amended).
- 14.27 National Nature Reserves (NNRs) are declared by the statutory country conservation agencies under the National Parks and Access to the Countryside Act 1949 (as amended) and the Wildlife and Countryside Act 1981 (as amended). They are managed to conserve their habitats or to provide special opportunities for scientific study of the habitats communities and species represented within them. In addition, they may be managed to provide public recreation that is compatible with their natural heritage interests (JNCC website).
- 14.28 Local Nature Reserves (LNRs) are declared by local authorities after consultation with the relevant statutory nature conservation agency under the National Parks and Access to the Countryside Act 1949 (as amended). LNRs are declared and managed for nature conservation, and provide opportunities for research and education, or simply enjoying and having contact with nature (JNCC website).

NON-STATUTORY DESIGNATED SITES

- 14.29 Non-statutory sites may be given various titles, including Local Wildlife Sites (LWS), Sites of Importance for Nature Conservation (SINCs), Sites of Nature Conservation Importance (SNCIs) and County Wildlife Sites (CWS).
- 14.30 These sites are not normally legally protected but are recognised in the planning system and are afforded some protection through planning policy.

NATIONAL PLANNING POLICY FRAMEWORK (NPPF)

- 14.31 In addition to primary legislation, the government published the National Planning Policy Framework on 19th February 2019.
- 14.32 Within the NPPF, Chapter 15 is headed *Conserving and enhancing the natural environment* (Paragraphs 170 to 183).
- 14.33 Of relevance are the following statements: -

'Planning policies and decisions should contribute to and enhance the natural and local environment by... minimising impacts on and providing net gains for biodiversity, including by

establishing coherent ecological networks that are more resilient to current and future pressures (Paragraph 170d); and

14.34 To protect and enhance biodiversity and geodiversity, plans should: -

'a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including: the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation (Paragraph 174a); and

b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.' (Paragraph 174b).

14.35 When determining planning applications, local planning authorities should apply the following principles (Paragraph 175): -

'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 incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.'

14.36 In addition to the above, Paragraph 176 confirms that the following should be afforded the same protection as sites that are included within the definition at Regulation 8 of the Conservation of Habitats and Species Regulations 2017 (Special Areas of Conservation, Sites of Community Importance, Special Protection Areas and any relevant Marine Sites): -

a) possible Special Protection Areas and possible Special Areas of Conservation;

b) listed or proposed Ramsar sites; and

c) sites identified, or required, as compensatory measures for adverse effects on Special Areas of Conservation, Special Protection Areas, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

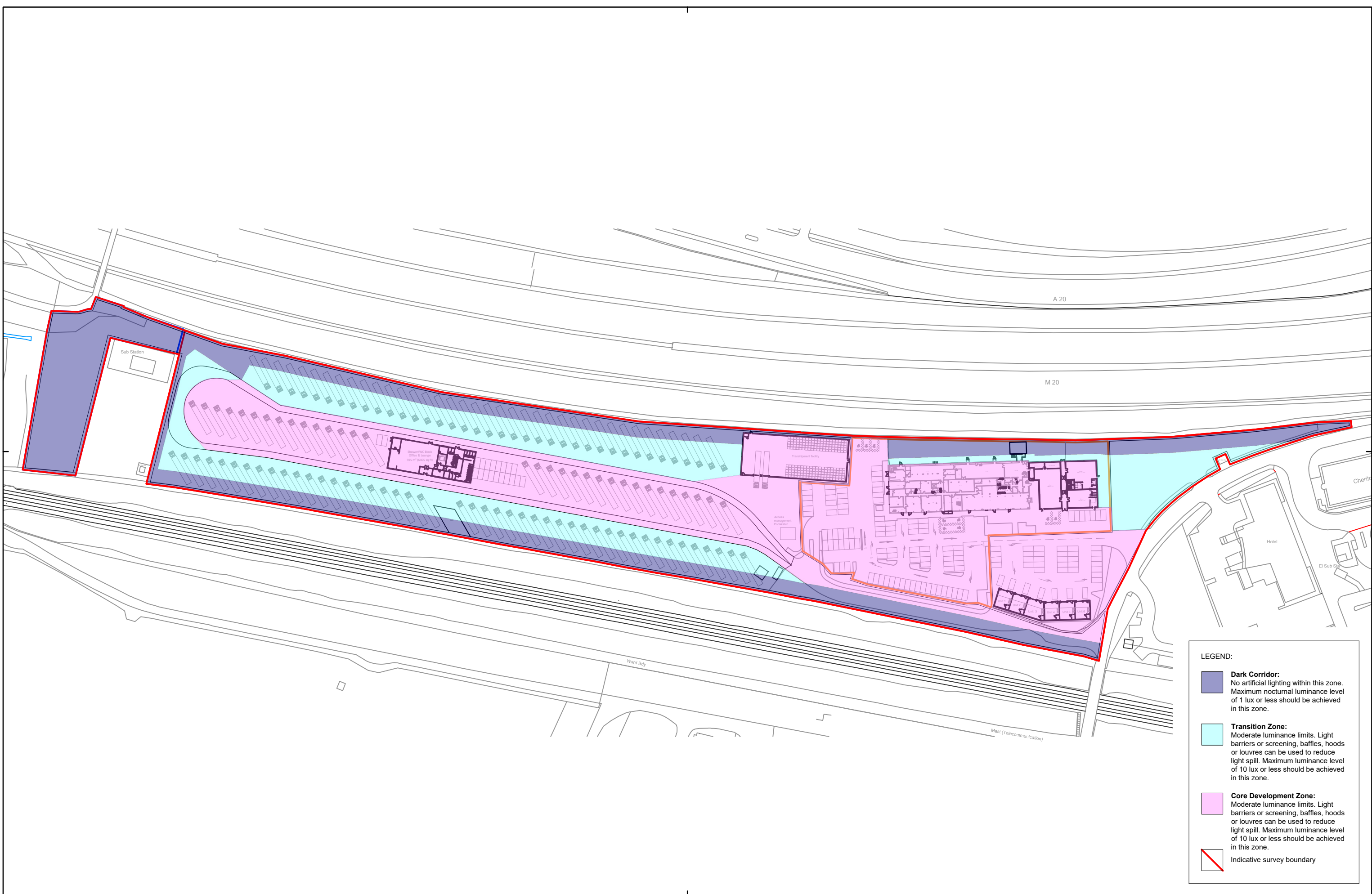
14.37 Paragraph 177 states that: -

'The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.'

- 14.38** This statement applies to the assessment of effects in relation to all designated sites of international importance, as identified in paragraph 14.36 of this Appendix (above).

15. APPENDIX 2: ECOLOGICAL LIGHTING CONSTRAINTS PLAN

[SEE OVERLEAF]



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rev. rev. date auth. rev. note
P01 23.10.20 SD Initial issue.

rev. rev. date auth. rev. note

client. **Motis Ireland Ltd**
project. **Eurotunnel Exhibition Centre**
Cheriton Parc
Folkestone

drawing no. **4982-LLB-XX-XX-DR-Ec-0001** rev. **P01**
drawing title. **Lighting Constraints Plan** suit. **S4**

rev. date. **23/10/2020**
scale. **N.T.S.**
sheet. **A3**
drawn. **DM**
checked. **SD**

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