8. Ecology and Nature Conservation

8.1 Introduction

8.1.1 MVV Environment Limited (the Applicant) has submitted a full planning application for a Carbon Capture Retrofit Ready (CCRR) Energy from Waste Combined Heat and Power (EfW CHP) Facility at Canford Resource Park (CRP), off Magna Road, in the northern part of Poole. Together with associated CHP Connection, Distribution Network Connection (DNC) and Temporary Construction Compounds (TCCs), these works are the Proposed Development.

8.1.2 The primary purpose of the Proposed Development is to treat Local Authority Collected Household (LACH) residual waste and similar residual Commercial and Industrial (C&I) waste from Bournemouth, Christchurch, Poole and surrounding areas, that cannot be recycled, reused or composted and that would otherwise be landfilled or exported to alternative EfW facilities further afield, either in the UK or Europe.

8.1.3 The Proposed Development will recover useful energy in the form of electricity and hot water from up to 260,000 tonnes of non-recyclable (residual), non-hazardous municipal, commercial and industrial waste each year. The Proposed Development has a generating capacity of approximately 31 megawatts (MW), exporting around 28.5MW of electricity to the grid. Subject to commercial contracts, the Proposed Development will have the capability to export heat (hot water) and electricity to occupiers of the Magna Business Park and lays the foundations for a future CHP network to connect to customers off Magna Road.

8.1.4 The location and the extent of the Proposed Development is identified by the red line shown on **Figure 1-1**. In total, the Proposed Development covers an area of 10.1hectares (Ha).

8.1.5 A full description of the Proposed Development is provided in **ES Chapter 3: Description of the Proposed Development**. A list of terms and abbreviations can be found in **ES Appendix 1.1**.

8.1.6 This Chapter of the ES has been produced by The Environmental Dimension Partnership Ltd (EDP) to assess the Proposed Development in relation to the effects it would have upon features of ecological and biodiversity value. In particular, it considers the potential effects of the Proposed Development on the Important Ecological Features (IEFs) identified through the **Ecology Baseline Report (ES Appendix 8.1)**.

8.1.7 It has been prepared with reference to The Chartered Institute of Ecology and Environmental Management's (CIEEM) Ecological Impact Assessment (EcIA) Guidelines (CIEEM, 2018 version 1.2 - updated April 2022). The Chapter has been prepared and reviewed by senior ecologists who are full members of CIEEM.

8.1.8 This Chapter provides a brief summary of relevant legislation, planning policy and guidance, and a description of the methodology adopted for the assessment. This is followed by a description of the relevant baseline conditions of the Proposed Development Boundary and the surrounding area, an assessment of the potential effects of the Proposed Development during construction and once operational. Mitigation measures are identified, where appropriate, to avoid, reduce, mitigate or compensate for any adverse effects, following which a summary of the likely significant residual effects of the Proposed Development is provided, having regard to mitigation adopted.

8.1.9 This Chapter is supported by the following figures:

- **Figure 8-1: Phase 1 Habitat Plan**; and

- **Figure 8-2: Statutory Designations**.

8.1.10 This Chapter should be read in conjunction with the following Appendices:

- **ES Appendix 8.1: Ecology Baseline Report**;
- **ES Appendix 8.2: Biodiversity Net Gain Calculations**;
- **ES Appendix 8.3: Shadow Habitat Regulations Assessment**;
- **ES Appendix 8.4: Arboricultural Impact Assessment**;
- **ES Appendix 8.5: Landscape, Ecology and Arboricultural Management Framework;** and
- **ES Appendix 8.6: Outline Biodiversity Net Gain Strategy.**

8.2 Assessment Criteria & Methodology

Legislative Context, Technical Guidance and Best Practice

Legislative Context

8.2.1 The Conservation of Habitats and Species Regulations 2017 (as amended) enacts, within the UK, EU Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora (as amended) and Directive 2009/147/EC on the Conservation of Wild Birds. These Regulations provide for the designation and protection of statutory designated wildlife sites of European value ('European sites'), and the protection of a number of rare and vulnerable species in a European context ('European Protected Species' (EPS)). European sites, including Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar Sites are recommended for designation in the UK by the Joint Nature Conservation Committee (JNCC).

8.2.2 The Environment Act 2021, passed into law in November 2021, seeks to strengthen environmental protection and deliver the UK Government's 25-year environment plan. Of greatest relevance to ecology and biodiversity are provisions within the Act for biodiversity gain to be a condition of planning permission in England. When these provisions come into force, expected within two years of the Act passing into law, the delivery of a net gain in biodiversity of 10% (as measured by a standard biodiversity metric) will become a legal requirement of planning permission for development.

8.2.3 The Wildlife and Countryside Act 1981 (as amended principally by the Countryside and Rights of Way Act 2000 and the Natural Environment and Rural Communities Act 2006) enshrines the protection of statutory designated wildlife sites of national importance (Sites of Special Scientific Interest (SSSIs)) in England and Wales. The Act also sets out varying degrees of protection and offences with regard to native species and their habitats that are rare and vulnerable in a national context. The Act also provides for the control and management of invasive non-native species. Sites of national importance (SSSIs and National Nature Reserves (NNRs)) are designated by Natural England under the Act and are protected from any development that may destroy or adversely affect them, either directly or indirectly.

8.2.4 Section 40 of the Natural Environment & Rural Communities (NERC) Act 2006 places a statutory duty on Local Planning Authorities (LPA) to consider the effects upon biodiversity when exercising their functions in England. In addition, Section 41 of the Act makes for the provision of a list of habitats and species of principal importance for the conservation of biodiversity.

8.2.5 The Animal Welfare Act 2006 further protects wild animals from unnecessary suffering when under the control of man and combines with the Wild Mammals (Protection) Act 1996, which protects wild mammals from intentional cruelty.

8.2.6 The Protection of Badgers Act 1992 (as amended) affords protection specifically to badger (Meles meles) and their setts.

8.2.7 'Important' hedgerows, for which there are specific ecological criteria, are protected from removal (up-rooting or otherwise destroying) by the Hedgerows Regulations 1997.

National Planning Policy Framework

8.2.8 Chapter 15 of the National Planning Policy Framework (NPPF 2021) advocates a presumption by LPAs in favour of sustainable development that enhances the natural environment by avoiding, adequately mitigating, or as a last resort compensating for 'significant harm to biodiversity', and which delivers net gains for biodiversity (NPPF, Paragraphs 10, 174, 180).

8.2.9 The ODPM 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. The NPPF affords indirect policy protection to ecological features of value (statutory and non-statutory designated sites, certain habitats, and protected/notable species).

8.2.10 In addition to the requirements of the NPPF, Natural England, as the statutory nature conservation organisation for England provides specific 'Standing Advice' regarding various protected species as 'material considerations' (Natural England, 2015). This advice contains details on potentially significant impacts and recommended survey effort to support planning applications.

Local Planning Policy

8.2.11 The Poole Local Plan (adopted November 2018) sets out the vision, strategies and development within the area to 2033. The following policies are of particular relevance to the ecological assessment of the Proposed Development:

- Policy PP32: *Poole's nationally, European and internationally important sites* protects these sites from development that would lead to an adverse effect upon their integrity, either alone or in-combination, directly or indirectly; and
- Policy PP33: *Biodiversity and geodiversity* requires proposals for development to avoid, mitigate and seek to enhance biodiversity including any sites containing species and habitats of local importance, Sites of Nature Conservation Interest (SNCIs), Local Nature Reserves (LNRs), ancient woodland, veteran trees and species and habitats of principal importance.

Guidance Best Practice

8.2.12 This assessment has been undertaken with reference to the industry's recognised guidelines published by CIEEM in 2018 (and last updated in 2022). In addition, the following best practice guidance, in relation to survey techniques and mitigation measures, have been considered:

- British Standards Institute (2013) BS 42020 - Biodiversity - Code of Practice for Planning and Development;

- Joint Nature Conservation Committee (2010) Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit;
- Marchant, J.H. (1983) Common Birds Census instructions, British Trust for Ornithology, Tring;
- Bat Conservation Trust (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition). Bat Conservation Trust, London;
- Stone, E.L. (2013) Bats and lighting: Overview of current evidence and mitigation;
- Bat Conservation Trust and Institute of Lighting Professionals (2018) Bats and Lighting in the UK: Bats and the Built Environment Series. Version 3;
- Harris, S., Cresswell, P., and Jeffries, D.J. (1989) Surveying Badgers, Mammal Society, London;
- Joint Nature Conservation Committee (1999) Bat Workers Manual;
- Froglife (1999) Reptile survey: an introduction to planning, conducting, and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10, Froglife, Halesworth;
- Oldham, R.S., Keeble, J., Swan M.J.S. & Jeffcote M. (2000) Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus). Herpetological Journal 10 (4), 143- 155; and
- Williams, P. (2013) GCN eDNA protocol, Freshwater Habitats Trust.

Baseline Data Collection

Desk Study

8.2.13 The desk study is an important element of an ecological impact assessment of any site proposed for development, enabling the initial collation and review of contextual information such as designated sites together with known records of protected and priority species and habitats.

8.2.14 The desk study involved collating biodiversity information from the following sources in March 2022:

- Dorset Environmental Records Centre (DERC);
- Multi-Agency Geographic Information for the Countryside (MAGIC) website[1]; and
- A review of detailed nightjar (Caprimulgus europeaus) studies available for the Proposed Development Boundary and wider area including Nightjar Resource Use Study[2], Nightjar Habitat Creation and Monitoring Strategy[3], and Population estimates of European Nightjar, Caprimulgus europeaus, breeding on Canford Heath NNR, Dorset 2018/2019[4].

8.2.15 The desk study requested the following information within the associated buffers from the Proposed Development Boundary:

- International statutory designations (10km);

[1] www.magic.gov.uk
[2] EPR Ltd, January 2017 (P12/55-2C)
[3] EPR Ltd, May 2018
[4] Andrew Lowe and Oliver Padget April 2021

- National statutory designations (5km radius around the Proposed Development Boundary with designations up to 10km to the north-east and south-west also reviewed - based on the area of potential acidification impacts to habitats determined via air quality modelling and scoping responses from Natural England and the LPA) and non-statutory local sites (2km);
- Annex II bat species records (8km); and
- All other protected/notable species records (2km).

8.2.16 These search areas are considered sufficient to cover the potential Zone of Influence (ZoI) for the Proposed Development in relation to designated sites, habitats, and species. The zones reflect due consideration that was given to a variety of factors, including the nature conservation value of the ecological features (receptors) listed above, the distances over which certain species can disperse, the potential routes for effects to occur (effect-receptor pathways by land, water, or air) and the distances across which such effects may occur.

8.2.17 In addition to the above, freely available web-based Ordnance Survey plans and aerial photographs of the area surrounding the Proposed Development Boundary were reviewed to identify key habitat features in and around the Proposed Development Boundary (up to 500m) including ponds that could offer potential breeding habitat for great crested newts.

Baseline Surveys

8.2.18 Using professional judgement, as well as industry guidance, baseline information was collated through a comprehensive suite of detailed ecology surveys as set out below and described in further detail within the Ecology Baseline Report (**ES Appendix 8.1**):

- Extended Phase 1 Habitat Survey (August 2021 and June 2022);
- Breeding bird survey (July 2021);
- Bat preliminary roost assessment of buildings (August 2021) and trees (June 2022);
- Bat activity transect and automated monitoring surveys (August 2021, September 2021 and May 2022);
- Badger survey (August 2021 and June 2022);
- Great crested newt eDNA surveys of ponds within 500m of the Proposed Development Boundary (June 2021); and
- Reptile survey (May to July 2022).

8.2.19 In addition to the detailed field surveys undertaken, as above, any additional species observations were recorded during the site visits undertaken.

8.2.20 Full details of the methodologies employed in relation to all ecological investigations undertaken (as listed above) are included within the Ecology Baseline Report (**ES Appendix 8.1**).

8.2.21 **Table 8-1** summarises the other surveys which, while commonly undertaken as part of an ecological assessment for development sites, were not considered necessary/appropriate in this case. This was confirmed with the LPA, namely Bournemouth, Christchurch and Poole (BCP) Council through the EIA scoping process.

Table 8-1: Ecology Surveys Scoped Out

Survey Type	Reasons for Scoping Out
Botanical surveys (e.g., hedgerows, grassland)	No hedgerows are present within or adjacent to the Proposed Development Boundary, and habitats within the EfW CHP Facility Site and CHP Connection and DNC Corridor, which will be subject to permanent impacts from the proposals, are of limited ecological value. The grassland within TCC2 was subject to a more detailed assessment than a standard Phase 1 Habitat survey would normally entail, however, a full botanical survey was not necessary in order to confirm classification of the grassland present.
Wintering and full breeding bird surveys	Limited to no suitability for wintering birds within the Proposed Development Boundary, and a pilot breeding bird survey considered to be adequate, given nature and extent of habitats in addition to availability of extensive existing nightjar data.
Dormouse survey	No records within 2km were returned during the data search and very limited extent of suitable habitat within the Proposed Development Boundary, which is currently subject to regular disturbance from the existing waste management activities, making presence of this species unlikely such that surveys are not considered necessary. However, as presence cannot be ruled out entirely, precautionary mitigation has been detailed within this EcIA.
Invertebrates	Paucity of suitable habitat and limited extent of the Proposed Development Boundary.

Predicting Effects

Evaluation Methodology

8.2.22 An evaluation of IEFs has been made with reference to CIEEM's Ecological Impact Assessment Guidelines (hereafter referred to as 'the guidelines'), a summary of which is provided below.

8.2.23 The guidelines advocate an approach to valuing features that involves professional judgement based on available guidance and information, together with advice from experts who know the locality of the project and/or the distribution and status of the species or features that are being considered.

8.2.24 The guidelines recommend that the value, or potential value, of an ecological resource or feature should be determined within a defined geographical context and recommends that the following frame of reference should be used, or adapted to suit local circumstances:

- International and European;
- National;
- Regional;
- County;
- District; and
- Local.

8.2.25 For the purposes of this assessment, the following adapted geographic frame of reference has therefore been used:

- International;

- National (England);
- Regional (south west England);
- County (Dorset);
- District (eastern Dorset); and
- Local (Poole).

8.2.26 Any feature of less than Local level importance is considered to be of Site level or Negligible importance.

Valuing Designated Sites

8.2.27 Within the UK, certain valued habitats have been assigned a level of nature conservation value through designation and the guidelines recommend that the reasons for this designation need to be considered in the assessment. Such designations include:

- Internationally important sites such as Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites;
- Nationally important sites such as Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs); and
- Regional/County/District important sites such as Local Nature Reserves (LNRs), Local Wildlife Sites (LWSs) or Sites of Nature Conservation Interest (SNCIs). SNCIs are non-statutory designated sites.

8.2.28 Where a feature has value at more than one designation level, its overriding value is that of the highest level.

Valuing Habitats

8.2.29 The guidelines recommend that the value of areas of habitat and plant communities should be measured against published selection criteria where available, such as those listed on Annex I of the Conservation of Habitats and Species Regulations 2017 (as amended) or those listed as habitats of principal importance under Section 41 of the NERC Act 2006. Where areas of a habitat or plant community do not meet the necessary criteria for designation at a specific level, the guidelines recommend that the ecologist may consider the local context if appropriate. It also emphasises the importance of not underestimating habitats in sub-optimal condition where there is potential for restoration.

Valuing Species

8.2.30 The guidelines require consideration of all protected species as 'important' features where there is the potential for a breach in legislation. Additionally, species should be assessed according to their biodiversity value, measured against published selection criteria where available (such as those listed under the Conservation of Habitats and Species Regulations 2017 (as amended) and those listed as habitats of principal importance under Section 41 of the NERC Act 2006).

8.2.31 In assigning value to a species, it is necessary to consider its distribution and status, including a consideration of trends based on available historical records, as well as their legal protection. The valuation of populations should make use of any relevant published evaluation criteria.

Ecosystem Services and Natural Capital

8.2.32 The guidelines recommend that where ecosystem service provision (benefits people derive from the natural environment) might be affected as a result of a project's ecological effects, this should be recognised and the relevant data collected during the EcIA to inform separate specialist assessments of social and economic value. This can enable the social and economic implications of ecological changes to be considered.

Assessment of Potential Impacts

8.2.33 The assessment of the potential impacts of the Proposed Development considers both on-site impacts and those that may occur at adjacent and more distant ecological features. Impacts can be positive or negative. Negative impacts can include:

- Direct loss of wildlife habitats;
- Fragmentation and isolation of habitats;
- Disturbance to species from noise, light, or other visual stimuli;
- Changes to key habitat features; and/or
- Changes to the local hydrology, water quality and/or air quality.

8.2.34 Direct, indirect, secondary, and cumulative negative and positive impacts on nature conservation features have been characterised based on predicted changes as a result of the proposed activities.

8.2.35 In order to characterise the impacts on each feature, the following parameters are considered:

- The magnitude of the impact (i.e., the size, amount, intensity or volume. Magnitude is quantified where possible and provided in absolute or relative terms);
- The extent over which the impact would occur (i.e., the spatial or geographical area over which the impact may occur during a representative range of conditions);
- The temporal duration of the impact (which is defined in relation to ecological characteristics such as the lifecycle of a species as well as human timeframes);
- Whether the impact is reversible and over what timeframe (an effect is considered reversible if it can be counteracted by mitigation or if spontaneous recovery is possible); and
- The timing and frequency of the impact (timing may change the result of an impact if it coincides with sensitive life-stages or seasons, and the number of times an activity occurs will influence the resulting effect).

Criteria For Assessment

8.2.36 The assessment identifies those positive and negative impacts which would be 'significant', based on effects that either support or undermine the conservation objectives of the ecological feature or biodiversity in general. Significant effects encompass impacts on structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent abundance and distribution). Such significant effects are qualified with reference to an appropriate geographic scale and based on the best available scientific evidence. Where it is not possible to robustly justify that no significant effect will occur, a significant effect is assumed.

8.2.37 The integrity of 'designated' sites is described as follows and is taken from the Guidelines for Ecological Impact Assessment in the UK (CIEEM, 2018). It has been used in this assessment to determine whether the impacts of the proposals on a designated site are likely to be significant:

"Significant effects encompass impacts on the structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species…. The following need to be determined: For designated sites - is the project and associated activities likely to undermine the conservation objectives of the site, or positively or negatively affect the conservation status of species or habitats for which the site is designated, or may it have positive or negative effects on the condition of the site or its interest/qualifying features?"

8.2.38 The conservation status of habitats and species within a defined geographical area is described as follows (CIEEM, 2018), and has been used in this EcIA to determine whether the impacts of the proposals on non-designated habitats and species are likely to be significant:

"Habitats - conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and its typical species within a given geographical area;

Species - conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area."

8.2.39 On the basis of the above, and within this assessment, ecological effects are described as:

- Significant or not significant;
- Significance of effect based on the likely potential impacts and the geographic value of the receptor;
- Direct and/or indirect;
- Permanent or temporary; and
- Negative or positive.

8.2.40 Mitigation measures have been incorporated into the assessment plans and considered during the assessment of effects, so that the residual impact assessment reflects the completed development. These measures include those required to achieve the minimum standard of established practice plus additional measures to further reduce the effects of the Proposed Development. The assessment considers the likely success of the mitigation.

8.2.41 Impacts are unlikely to be significant where features of local importance or sensitivity are subject to small scale or short-term impacts. However, where there are a number of small-scale impacts that are not significant alone, it may be that, cumulatively, they might result in an overall significant impact.

8.2.42 Although certain species and habitats may not constitute IEFs, based upon their nature conservation value, they may still warrant consideration during the design of the development (and any mitigation identified) based on their legal protection, their implications for policies and plans, or other issues, such as animal welfare.

8.2.43 The significance of the potential impacts upon IEFs has been assessed both before and after consideration of additional mitigation measures. The latter represents the assessment of the residual impacts of the Proposed Development.

Cumulative Assessment

8.2.44 Cumulative effects have been considered and assessed, based upon the list of schemes provided in **ES Chapter 5: Approach to Assessment**, with respect to the potential for in-combination impacts to arise upon the IEFs pertinent to the Proposed Development.

Geographical Scope

8.2.45 The ecological ZoI is an area defined by the assessment in which there may be receptors subject to effects as part of the Proposed Development; both those which may occur because of land-take and habitat loss and those which may occur through disturbance, such as noise. Such receptors include designated sites, notable habitats and protected species, and these could be affected directly, e.g., works affecting a receptor within the Proposed Development Boundary, such as removal of a tree occupied by bats, or indirectly, e.g., a designated site down river of a development being affected by sediment deposition, etc.

8.2.46 The ZoI was determined through:

- A review of existing baseline conditions in comparison with that proposed by the development;
- Consideration of the proposed activities (during all phases);
- Desk study information including an examination of mapping data; and
- Findings of the survey work, including detailed air quality modelling.

8.2.47 The ZoI is defined as the areas/resources that may be affected by the biophysical changes caused by activities associated with the Proposed Development. Due to the scale and nature of the proposals, the ZoI includes all land within the Proposed Development Boundary.

8.2.48 When assessing the potential effects of the Proposed Development on statutory sites of international importance, the ZoI includes all land within 10km of the Proposed Development Boundary (see **Figure 8-2**). For national statutory sites, a ZoI of 5km, with designations up to 10km to the north-east and south-west, were also reviewed (based on area of potential acidification impacts to habitats, as determined via air quality modelling and scoping responses from Natural England and the LPA). For non-statutory designations, a ZoI of 2km was considered to be adequate. With respect to protected species surveys, the ZoI for great crested newts included all land within 500m of the Proposed Development Boundary and for all other protected species included all land within the Proposed Development Boundary. However, the desk study area extended to greater distances for protected species to inform the need for survey work and add context to the baseline considerations.

Temporal Scope

8.2.49 The temporal scope considers the construction phase (anticipated to be approximately 36--months, with the TCC remining for a further period thereafter, up to a maximum of 24-months, to allow for post construction warranty works) and the phase when the Proposed Development is completed and operational (approximately 40-years, however, it should be noted that it is common for such developments to be operational for longer periods than this).

Consultation

Statutory Consultation

8.2.50 A Scoping Opinion was received from BCP in October 2022 (**ES Appendix 5.2**) which included comments in relation to the Ecology and Nature Conservation Chapter of the Scoping Report. In addition to the areas identified in the Scoping Report, BCP advised including the consideration of a list of statutory designations, nightjar commuting and biodiversity net gain. Natural England also submitted a response with the same list of designations to be considered, along with information on protected species. It advised that a number of items should be included; including surveys, status of habitats and species including ancient woodland and trees, direct and indirect effects, full details of mitigation and opportunities for enhancement/biodiversity net gain. These items have been covered within this EcIA.

8.2.51 Additionally, through Natural England's Discretionary Advice Service (DAS) a senior advisor for the region was consulted via email correspondence and project team meetings on 21 September 2022, 08 February 2023 and 30 March 2023 to discuss the ecological sensitivities of the wider area and within the Proposed Development Boundary. Following Natural England's advice, habitat and soil sampling surveys were undertaken across SAC/SPA/SSSI parcels in the wider area to inform the assessment of impacts upon these designations.

Community Consultation

8.2.52 As part of the Applicant's commitment to engage with the local community, three public exhibitions were held between 12 and 14 January 2023. The exhibitions occurred at the Hamworthy Club, Magna Road and Bearwood Community Centre, King John Avenue. Feedback from these events is reported in the Statement of Community Involvement that accompanies the planning application.

8.2.53 Concerning ecology and nature conservation, feedback included:

- Concern about the impacts to Canford Heath SSSI;
- Loss of habitat to accommodate the Proposed Development i.e., trees;
- General concerns about the impacts on local wildlife and nature conservation; and
- Concerns about cumulative loss and fragmentation of local habitats and biodiversity.

8.2.54 Where appropriate, in undertaking this assessment, the community's feedback has been considered and a summary response provided in the **Statement of Community Involvement** that accompanies the planning application.

Assumption and Limitations

8.2.55 There were no significant limitations to the survey work. The surveys were undertaken in suitable weather conditions (other than one reptile survey visit that was too hot) at optimum times of year and following recognised guidance. Non-significant limitations are identified in **ES Appendix 8.1**.

8.2.56 It should, however, be noted that owing to the seasonality of some species, as well as the ability for some species to quickly colonise sites, the absence of evidence of any particular species from within the Proposed Development Boundary should not necessarily be taken

as conclusive proof that the species is not present or that it will not be present in the future if land management practices change. Nonetheless, it is considered that the results of the Phase 1 Habitat survey and additional Phase 2 surveys undertaken in 2021 and 2022 are sufficient to have allowed for the identification of habitats and the presence or absence of legally protected species within the Proposed Development Boundary.

8.3 Baseline Conditions

Current Baseline

8.3.1 This section summarises the baseline ecological conditions determined through the course of desk-based and field-based investigations described above. In particular, this section identifies and evaluates those ecological features/receptors which lie within the Proposed Development Boundary's potential ZoI and which are pertinent in the context of the Proposed Development.

8.3.2 Full results of the surveys undertaken are provided within **ES Appendix 8.1**.

Designated Sites

Statutory Designations

8.3.3 No part of the Proposed Development Boundary is covered by any statutory designations. There are six international statutory designations within a 10km radius of the Proposed Development Boundary, and seven national statutory designations within 5km. These are all SSSIs. Despite being further than 5km from the Proposed Development Boundary, a further seven national statutory designations were considered in the baseline assessment due to the potential for further-ranging air quality impacts. A summary of designated sites scoped in as IEFs within the Proposed Development Boundary's ZoI is provided below in **Table 8-2**. The locations of designated sites identified as IEFs are shown on **Figure 8-2**.

Table 8-2: Statutory designations within the Proposed Development Boundary's potential ZoI

Site Name	Location/ Distance	Interest Feature(s)
International Statutory Designations – International Ecological Importance		
Dorset Heaths SAC	Adjacent to southern EfW CHP Facility Site border	Underpinned by numerous SSSIs, including Canford Heath SSSI (noted below). This SAC hosts numerous Annex I habitats, including wet and dry heaths, alkaline fens and Molinia meadows in addition to supporting populations of the Annex II species southern damselfly (Coenagrion mercurial) and great crested newt.
Dorset Heathlands SPA and Ramsar	Adjacent to southern EfW CHP Facility Site border	The SPA covers fragmented remains of once extensive dry heath, wet heath and valley mire supporting an ornithological assemblage of European importance. Qualifying species for the SPA are Dartford Warbler (Sylvia undata), nightjar, woodlark (Lullula arborea), hen harrier (Circus cyaneus) and merlin (Falco columbarius). Ramsar designated for the heath wetlands, which are amongst the best of their type in lowland Britain. The site supports a large assemblage of nationally rare and scarce wetland plant species and invertebrates (28 species).

National Statutory Designations – National Ecological Importance		
Canford Heath SSSI	Adjacent to southern EfW CHP Facility Site border	One of the largest heathland areas in Dorset, supports a number of the rare and local species characteristic of Dorset heathland. The diversity of heathland vegetation types supports a corresponding range of heathland fauna.
Turbary and Kinson Commons SSSI	2.7km south-east	Heath habitats on higher and sloped ground, whilst impeded drainage and peat accumulation within the valley bottoms have led to the development of valley mire systems with their associated bog communities. The richness of these relic heathland and bog communities, both in terms of their vegetation and associated fauna, is made more significant by their urban location.
Ferndown Common SSSI	4.1km north-east	This site, on the edge of Ferndown, comprises a significant block of heathland, which despite its now urban-fringe location, retains considerable interest, including many of the rare animals confined to lowland heaths.
Parley Common SSSI	5.3km north-east	Part of the original extensive heathland between the Moors River and the River Stour, many of the characteristic and rare species associated with Dorset Heathlands are recorded here, whilst the rich invertebrate fauna reveals interesting affinities with the heaths of the New Forest.

8.3.4 Habitat that is designated as parcels of Dorset Heaths SAC and Dorset Heathlands SPA/Ramsar, as well as being covered by Canford Heath, Turbary and Kinson Commons, Ferndown Common and Parley Common SSSI designations, lies within an area identified through detailed air quality modelling where significant effects upon habitats could occur. This is the modelled area where 1% of the Critical Load of pollutants released by the EfW Facility on the particular habitats present is exceeded (see **ES Chapter 6: Air Quality** for further details). The Critical Load is defined as the deposition flux of an air pollutant below which significant harmful effects on sensitive ecosystems do not occur, according to present knowledge[5]. These designations are therefore scoped into the assessment as IEFs of international (and national in relation to the SSSIs) importance.

8.3.5 In light of the potential for adverse impact on the SAC/SPA/Ramsar site, a Shadow Habitats Regulations Assessment of the proposals, in line with The Conservation of Habitats and Species Regulations 2017, is included as **ES Appendix 8.3**.

8.3.6 Initial review and impact screening with regard to other designated sites, as described within **ES Appendix 8.1**, ruled out adverse impacts on international and national designations other than those listed in **Table 8-2,** above, due to their location outside of areas potentially impacted by changes in air quality; making adverse impacts from airborne pollutants unlikely.

8.3.7 There are no other potential pathways through which impacts on these statutory designations could arise from the Proposed Development.

Non-Statutory Designations

8.3.8 One non-statutory designation, Frogmoor Wood SNCI, is located almost adjacent to the EfW CHP Facility Site's southern boundary, being designated for its birch woodland and semi-acid grassland. As the CHP Connection route passes through this SNCI, albeit along an existing service track; direct impacts to habitats within the designation are likely during

[5] Holman et al (2020). A guide to the assessment of air quality impacts on designated nature conservation sites – version 1.1, Institute of Air Quality Management, London. www.iaqm.co.uk/text/guidance/air-quality-impacts-on-nature-sites-2020.pdf

the installation of the underground cable/pipe. Therefore, it has been scoped in to the EcIA as an IEF of County importance.

8.3.9 Three further non-statutory designations, two designated for their woodland habitat and one for remnants of heath habitat, have been scoped in as IEFs due to their location within an area where air quality impacts might arise on woodland and heathland habitats. These comprise Moortown Copse SNCI (located 1.1km north of the Proposed Development Boundary, this designation supports deciduous woodland over gravel); Bearwood SNCI (located 1.9km east of the Proposed Development Boundary, this designation supports woodland and a small area of grassland) and Knighton Heath Golf Course SNCI (located 980m south-east of the Proposed Development Boundary, this designation supports scattered remnants of heath habitat). These IEFs, being designated as SNCIs, are of County importance.

Habitats

8.3.10 The distribution of habitats within the Proposed Development Boundary is illustrated on **Figure 8-1** and further details/evaluation of these habitats is provided in **ES Appendix 8.1**. Those habitats of sufficient value for inclusion as IEFs in the assessment are summarised in **Table 8-3** below. No habitats of sufficient value for inclusion as IEFs are present within TCC1.

Table 8-3: Important Habitats within the Proposed Development Boundary

IEF	Summary	Level of Ecological Importance
EfW CHP Facility Site		
Broadleaved Woodland	Located along the south and east edges of the EfW CHP Facility Site.	Local
TCC2		
Semi-Improved Neutral Grassland	Covers all of the TCC2 area.	Local
CHP Connection and DNC Corridor		
Semi-Improved Neutral Grassland	Covers all of the DNC Corridor area, and short sections of the CHP Connection also cross through this habitat.	Local
Broadleaved Woodland	Short sections of the CHP Connection cross woodland parcels and a woodland belt (mostly along a grass track through the woodland)	Local

Species

8.3.11 A detailed account of the protected and notable species present within and around the Proposed Development Boundary is provided in **ES Appendix 8.1**. Those species, or species assemblages, of sufficient value for inclusion as IEFs in the assessment are summarised in **Table 8-4** below.

Table 8-4: Important Species within the Proposed Development Boundary

IEF	Summary	Level of Ecological Importance
Birds	Typical assemblage present. Site may also be occasionally utilised by rarer species passing through the landscape, such as nightjar.	Site (included due to legal protection)
Bats	Limited roosting suitability within the EfW CHP Facility Site, foraging/commuting by relatively common species recorded during activity surveys.	Local
Badger	No evidence of this species' presence within the Proposed Development Boundary, but due to habitat suitability and presence in wider area, future presence cannot be ruled out.	Site (included due to legal protection)
Dormouse	Unlikely to be present within or immediately adjacent to the Proposed Development Boundary owing to lack of known presence in wider area and limited suitability of the habitat, but presence cannot be entirely ruled out, so precautionary methodologies will be required.	Site (included due to legal protection)

IEF	Summary	Level of Ecological Importance
Reptiles	Presence of common species including slow-worm, common lizard, grass snake and adder.	Local

Future Baseline

8.3.12 In the absence of the Proposed Development, it is predicted that the existing waste management park (CRP) will continue to operate and habitats within and around the Proposed Development Boundary will continue to be managed as they are and therefore the ecological value would therefore remain broadly unchanged.

8.4 Inherent Design Mitigation

8.4.1 During the design evolution for the Proposed Development, the initial findings of the ecology work were carefully considered and the mitigation hierarchy of 'avoid, mitigate and compensate' was used to minimise impacts.

8.4.2 Given the size constraints of the EfW CHP Facility Site (2.3 ha) and the required footprint of the Facility itself, there is limited scope to alter the layout within this area. This does not pose a significant constraint, as most of the area within the EfW CHP Facility Site currently comprises habitats of negligible to limited ecological value. Nonetheless, the process equipment layout has been optimised to give as compact a footprint as possible. There is some loss of slightly higher value woodland habitat on the western periphery of the EfW CHP Facility Site which could not be avoided, however, the EfW CHP Facility has been sited to minimise this loss as far as possible.

8.4.3 The height of the chimney stack from which emissions are released has been designed to be as high as possible whilst balancing landscape impacts and aerodrome safeguarding constraints due to the nearby Bournemouth Airport. The increased height of the chimney (110m) allows greater dispersion of the emission gasses, thereby reducing the concentration of pollutant deposition on habitats.

8.4.4 In light of the potential impacts on ecological receptors from air pollution, an Air Pollution Control system, continuously monitored and enforced by the Environmental Permit, will be integrated into the EfW CHP Facility to ensure gases released from the combustion process are suitable for release from the chimney. This will involve cleaning the gas with a dry reagent injection system before being filtered. Further details are provided in **ES Chapter 3: Description of the Proposed Development**. The injection of urea at this stage, undertaken to reduce NOx emissions, results in emissions of ammonia, so is itself subject to Emission Limit Values as part of the required environmental permitting. To reduce ecological impacts from ammonia emissions, a lower ammonia Emissions Limit Value of 5mg/Nm^3 (compared to current Environmental Permitting Regulations 4.02 benchmark Emission Limit Value of 10mg/Nm^3) will be adopted by the EfW CHP Facility. This will be agreed with the Environment Agency and specified within the Environmental Permit for the Proposed Development.

8.4.5 The CHP Connection has been carefully selected to avoid damage to habitats by following existing bare ground trackways as far as possible and utilising existing breaks in hedgerows. Advice from the arboricultural consultant has been used to adjust the route of the CHP Connection in order to minimise tree loss/damage whilst maintaining a relatively direct route to the DNC.

8.4.6 Furthermore, the emergency diesel generator (see **ES Chapter 3: Description of the Proposed Development** for full description) has been located along the EfW CHP Facility Site's northern boundary to minimise potential impacts on adjacent sensitive habitats within the SAC/SPA/SSSI designations from changes in air quality as a result of emissions from this intermittent generator.

8.5 Potential Environmental Impact and Effects

8.5.1 An assessment of likely significant effects of the Proposed Development on those IEFs identified above has been undertaken based on the application plans and facility operation details provided within **ES Chapter 3: Description of the Proposed Development**.

8.5.2 The likely effects are assessed with the inherent mitigation included, but in the absence of the additional mitigation measures required to address potentially significant effects. Anticipated effects during the construction and operation/post-completion stage of the Proposed Development are discussed in turn below.

Construction phase

8.5.3 Generalised potential significant effects on important ecology features resulting from the construction of the Proposed Development are listed in **Table 8-5** below.

Table 8-5: Potential Construction Related Effects

Effect	Possible Causes/Mechanisms
Habitat loss	Intentional or accidental felling of trees, removal or disturbance of vegetation or soils by heavy plant, materials storage/stockpiling etc. during Site preparation and construction.
Habitat damage/ degradation	Pollution by dust, fuels, lubricants, hydraulic fluid, cement or silt resulting in toxic effects to plants/animals. Damage to soils or vegetation by physical damage, soil compaction (resulting in changes in flora) or changes in hydrology.
Habitat fragmentation	Temporary or permanent reduction in habitat connectivity through severance of habitat corridors or isolation of patches of habitats, e.g., by severance of hedgerows or the removal of woodland, installation of features or land-use that presents a barrier or hostile environment.
Killing, injury, or disturbance of animals	Digging, vegetation/tree removal, movement of vehicles/heavy plant, and entrapment of animals in trenches, pits or pipes.
Displacement of animals	Visual, noise or vibration-related disturbance from vehicles/heavy plant, lighting, digging or piling. Habitat loss and degradation (see above) may also displace resident animals.

8.5.4 The potential significant effects resulting during the construction of the Proposed Development for each of the IEFs identified previously are discussed in turn below.

Designated Sites

8.5.5 Due to the intervening distance and lack of receptor-effect pathway, no construction impacts are anticipated upon the majority of the designated site IEFs, particularly as they are not

within or immediately adjacent to the Proposed Development Boundary. However, The CHP Connection route runs through Frogmoor Wood SNCI, so temporary habitat loss and damage is anticipated here for the installation of the underground CHP Connection and DNC Corridor. In addition, a parcel of Dorset Heathlands SAC/SPA/Ramsar also designated as Canford Heath SSSI is immediately adjacent to the south of the EfW CHP Facility Site, so there is a risk of habitat damage/degradation within these designations during construction activities if adequate protection is not instated.

8.5.6 Furthermore, a small (approximately 0.06 ha) area of the DNC Compound will encroach on an area designated as a Heathland Support Area (HSA). This HSA has been designated through a Section 106 agreement to protect the nearby statutory designated sites at Canford Heath from increased recreational pressure that may result from adjacent new developments, in addition to protecting habitat that supports and buffers the statutory designation. This encroachment would not impact the recreational route through the HSA so is unlikely to result in increased visitor pressure on the statutory designated sites, it does, however, slightly reduce the area of protected supporting/buffering habitat. The very limited extent of this impact would be significant at a Site level only.

8.5.7 Within Frogmoor Wood SNCI, a section of the CHP Connection and DNC Corridor measuring approximately 140m long would be buried via open-cut trenching, with the land restored following installation through backfilling of excavated soil and making good the ground. The route has been designed to minimise loss of mature trees as far as possible (by utilising a sparsely vegetated section of woodland and following an existing grassed service track for the majority of its length), with the removal of just one tree – a Category B English oak (Quercus robur) – in addition to understorey shrubs of mainly laurel (Laurus nobilis) and rhododendron (Rhododendron ponticum) required (further details are provided within **ES Appendix 8.4**). In the absence of additional mitigation, this represents a temporary effect significant at a Local level only owing to the limited extent and magnitude of such impacts, rather than the County level importance that the SNCI holds.

8.5.8 In the absence of additional mitigation, there is a small risk of a temporary effect significant at a National and International level respectively upon Canford Heath SSSI and Dorset Heathlands SAC/SPA/Ramsar, due to habitat damage/degradation resulting from the close proximity of construction activities.

8.5.9 Nightjar is a qualifying feature of the adjacent Dorset Heathlands SPA. Both TCC1 and TCC2 have potential to provide suitable foraging resource for nightjar as they support ruderal vegetation within grassland which could support the invertebrate prey assemblage preferred by this species. However, previous studies (described within **ES Appendix 8.1**) showed that although tracked nightjars passed over the Proposed Development Boundary, none were recorded stopping to forage within any part of the Proposed Development Boundary (including TCC1 and TCC2). The extent and magnitude of such temporary impacts is therefore evaluated to be relatively low. Such temporary negative effects are therefore only considered to be significant at a Site level.

8.5.10 There may also be displacement/disturbance of foraging and/or commuting nightjar caused by security lighting within TCC1 or TCC2. As noted above, although they likely don't forage within these areas, this species is known to cross over the Proposed Development Boundary from Canford Heath to reach preferred foraging areas to the north and east. Such disturbance/displacement from artificial lighting could affect breeding success, albeit it is likely only a small proportion of the population that could be affected. Such effects would be temporary, reversible and significant at a Local level.

Habitats

Woodland

8.5.11 Direct impacts on woodland include the unavoidable loss of very small areas (totalling approximately 0.15 ha) of woodland edge within the EfW CHP Facility Site to facilitate the Proposed Development. Owing to the limited extent and magnitude of this loss, the significance of such effects in the absence of mitigation is considered to be at a Site level only.

8.5.12 In addition, retained woodland along the EfW CHP Facility Site boundaries may be subject to indirect degradation impacts, such as soil compaction, dust and encroachment by machinery resulting from adjacent construction works. In the absence of mitigation, the extent and magnitude of such temporary impacts is evaluated to be relatively low. Such temporary negative effects are therefore only considered to be significant at a Site level.

8.5.13 There will be an increase in traffic accessing the EfW CHP Facility Site during the construction phase, which could have air quality impacts that may cause degradation of retained and adjacent woodland habitat. During the peak construction period, it is anticipated that up to 200 cars and a peak of around100 Heavy Goods Vehicles (HGVs) will visit the EfW CHP Facility per day. This is well below the threshold change in annual average daily traffic values of 1,000 cars and 200 HGVs, advocated by Highways England in their Design Manual for Roads and Bridges (DMRB), above which the assessment of air quality impacts is required. Impacts from construction traffic are therefore considered to be not significant.

Semi-improved Neutral Grassland

8.5.14 Direct and permanent impacts on semi-improved neutral grassland include the unavoidable loss of very small areas (totalling approximately 0.37 ha) of grassland within the CHP Connection and DNC Corridor to facilitate the switch compound and a single-track access road for construction and future maintenance. Owing to the limited extent and magnitude of this loss, the significance of such effects in the absence of mitigation is considered to be at a Site level only.

8.5.15 Direct and temporary impacts on semi-improved neutral grassland would also occur if TCC2 is implemented, which would require the temporary removal of approximately 1.37 ha of grassland for the compound during the construction phase. In the absence of further mitigation, such permanent impacts constitute a temporary, reversible effect significant at a Local level.

8.5.16 In addition, retained grassland adjacent to the DNC and TCC2 boundaries may be subject to indirect degradation impacts, such as soil compaction, spills of fuel/fluids and encroachment by machinery resulting from adjacent construction works. In the absence of mitigation, the extent and magnitude of such temporary impacts, although uncertain, is evaluated to be relatively low. Such temporary negative effects are therefore only considered to be significant at a Site level.

8.5.17 The increase in traffic accessing the EfW CHP Facility Site during the construction phase, which could have air quality impacts that may cause degradation of retained and adjacent grassland habitat, is anticipated to be up to 200 cars and a peak of around100 HGVs per day. This is well below the threshold change in annual average daily traffic values of 1,000 cars and 200 HGVs, advocated in the DMRB. Impacts from construction traffic are therefore considered to be not significant.

Species

Birds

8.5.18 The loss and degradation of potential bird nesting habitats during construction is primarily confined to the small areas of woodland loss within the EfW CHP Facility Site and tree/understorey loss along a small section of the CHP Connection and DNC Corridor. However, these habitats are considered to be of limited quality, being within/adjacent to the existing recycling centre and therefore subject to regular disturbance from vehicle movements and waste management operations. Owing to the limited extent and magnitude of this loss, the significance of this permanent effect in the absence of mitigation is considered to be at a Site level only.

8.5.19 Removal of breeding habitat at inappropriate times of year could result in the injuring or killing of individual birds, their eggs or young. Given the limited extent of the suitable habitat loss, meaning that the number of nests impacted would likely be very small, the significance of this effect in the absence of mitigation is considered to be at a Site level only. However, such actions would be an offence under the Wildlife and Countryside Act 1981 (as amended) and will therefore be given full consideration with respect to mitigation.

8.5.20 In the absence of mitigation, disturbance of retained nesting and foraging habitat through noise, visual and human disturbance during construction is likely to be moderate in extent (covering the area immediately surrounding the EfW CHP Facility Site in addition to TCC1 or TCC2 depending on which TCC is utilised) and duration (construction period anticipated to last up to three years). However, it is considered that many of the urban fringe species present are likely to already be habituated to moderate levels of disturbance (from the existing waste management operations, presence of dog walkers and proximity of urban edge). The significance of this temporary effect in the absence of mitigation is considered to be at a Site level only.

8.5.21 Specific impacts on nightjar are discussed above in relation to designated sites.

Bats

8.5.22 Of the trees requiring removal to facilitate the Proposed Development (see **ES Appendix 8.4**), one tree has been assessed as having low bat roost suitability. The other four trees that were found to have moderate bat roost suitability are all located adjacent to the CHP Connection and DNC Corridor and are being retained. While the loss of this low potential roosting resource is considered to be not significant, owing to the transitory nature of roosts, particularly tree roosts, and the tree features themselves, potential roost features may increase in suitability over time and become occupied by roosts in future that would be subject to legal protection. As such, they require further consideration with respect to update surveys and mitigation to ensure there is no breach of legislation, as discussed further in the Additional Mitigation section of this Chapter. Survey updates will be undertaken in line with best practice guidance and prior to any removal of any trees.

8.5.23 Given that the main permanent elements of the Proposed Development – namely the EfW CHP Facility – lies almost entirely within land currently occupied by the existing waste management park, there will be very limited loss of or changes to bat foraging and commuting habitat. Owing to the limited extent and magnitude of this loss, the significance of this permanent effect in the absence of mitigation is considered to be at a Site level only.

8.5.24 If utilised over TCC1, the temporary loss of semi-improved grassland at TCC2 would result in a minor, temporary reduction in bat foraging habitat. Owing to the limited extent and magnitude of this loss and its temporary nature, the significance of this effect in the absence of mitigation is considered to be at a Site level only. Habitats within TCC1 are of limited

value to commuting or foraging bats, such that temporary loss of this area, if utilised, would constitute a negligible impact on bats and is therefore not significant.

8.5.25 Indirect disturbance (e.g., light spill, visual and noise) of retained commuting, foraging and potential roosting habitat, may also result from adjacent site works during construction. In light of the existing levels of disturbance from the current waste management operations at the EfW CHP Facility Site, and anticipated restrictions in working hours at night, it is considered that the magnitude and extent of such temporary impacts upon the bat populations would be minimised. However, artificial security lighting within TCC1 or TCC2, that would be used throughout the night, has potential to disturb/displace foraging and commuting bats.

8.5.26 The most commonly recorded bats within and around the Proposed Development Boundary – common pipistrelle (Pipistrellus pipistrellus), soprano pipistrelle (Pipistrellus pygmaeus) and noctule (Nyctalus noctula), are not considered to be particularly sensitive to lighting impacts when foraging or commuting. However, due to the known presence of rarer species of bat within the wider area that are sensitive to artificial light (such as greater horseshoe (Rhinolophus ferrumequinum), barbastelle (Barbastella barbastellus), Bechstein's bat (Myotis bechsteinii) and grey long-eared bat (Plecotus austriacus)), a precautionary approach to the assessment of effects has been adopted. Such potential negative effects on the bat assemblage would be temporary, reversible and significant at a Local level.

Badger

8.5.27 Badgers are not considered an IEF due to their importance at a geographic scale, however, they are included as an IEF owing to their legal protection. No evidence of badgers or their setts was found within or near to the Proposed Development Boundary during the badger walkover surveys (August 2021 and June 2022). Nonetheless, badgers are relatively common and widespread nationally and locally (with numerous records of badger returned during the desk study) and the Proposed Development Boundary provides some opportunities for foraging and sett building. As such, it is considered likely badgers are present within the local landscape and could potentially occupy suitable habitats within or near to the CHP Connection and DNC Corridor and TCC2 in future.

8.5.28 Should a sett be established within or near to the construction footprint prior to commencement, there is a risk of directly killing or harming badgers within their holes during construction. As such, they require further consideration with respect to update surveys and mitigation to ensure there is no breach of legislation, as discussed further below. Survey updates will be undertaken in line with best practice guidance and prior to commencement of any groundworks.

8.5.29 Indirect disturbance (e.g., light spill, visual and noise) may also result from adjacent site works during construction. However, such potential temporary negative effects on badger foraging are considered to be negligible and therefore not significant.

Dormouse

8.5.30 Hazel dormice (Muscardinus avellanarius) are unlikely to be present within habitats potentially impacted by the Proposed Development as they are not known to be present in the area and the habitats within/immediately surrounding the Proposed Development Boundary are of limited suitability for this species. Nonetheless, this is a mobile species that can be under-recorded, so a precautionary approach to suitable habitat clearance should be employed to ensure the avoidance of any harm/injury to individuals, which would be an offence under The Conservation of Habitats and Species Regulations 2017 (as amended). This species therefore requires further consideration with respect to avoidance measures to ensure there is no breach of legislation, as discussed further subsequently.

8.5.31 Even in the absence of additional mitigation, it is unlikely that dormice will be indirectly, temporarily disturbed by noise and vibration and/or lighting from construction activities around areas of woodland, given the low suitability of these habitats and existing levels of disturbance from the current waste management operations at CRP. It is therefore considered that the magnitude and extent of such temporary indirect impacts upon dormice at the population level will therefore be avoided.

Reptiles

8.5.32 The permanent loss and degradation of reptile habitats during construction is anticipated at the boundaries of the EfW CHP Facility Site and within the DNC Compound. Owing to the limited extent and magnitude of this loss, the significance of this permanent effect in the absence of mitigation is considered to be at a Site level only.

8.5.33 The temporary loss and degradation of reptile habitats during construction is anticipated along the CHP Connection and DNC Corridor and within TCC2, but also to a lesser extent within the lower suitability habitat within TCC1. Within TCC1, a lower number and diversity of reptiles are present, likely due to the lower quality of habitat present and regular disturbance it is subject to. Where utilised, the temporary loss of habitat at TCC1 is considered to be of significance at a Site level only.

8.5.34 Within TCC2, a reasonable abundance and diversity of reptile species was recorded during the detailed survey work. Although the reptiles were primarily found along the field boundaries rather than across the centre of the field, the whole area provides habitat of good suitability for reptiles. Where utilised, such potential negative effects on the reptile assemblage from the loss and degradation of habitat associated with TCC2, would be temporary, reversible and significant at a Local level.

8.5.35 Impacts related to the direct injury or killing of reptiles are possible in the absence of mitigation. Furthermore, indirect disturbance (e.g., visual and noise) may also result from adjacent site works during construction. Given the populations known to be utilising the habitats within/around the Proposed Development Boundary, such potential temporary negative effects on reptiles are considered to be significant at a Local level.

Operational phase

8.5.36 Generalised potential significant effects on important ecology features resulting from the operation of the Proposed Development are listed in **Table 8-6** below.

Table 8-6: Potential Operation Related Effects

Effect	Possible Causes/Mechanisms
Habitat degradation	Degradation of soils and/or sensitive vegetation caused by airborne pollutants within the emissions from the EfW CHP Facility's combustion process. Traffic-related air quality impacts on habitats from vehicles accessing the Proposed Development.
Displacement of animals	Visual, noise or vibration-related disturbance from vehicles/combustion activities and external lighting at the proposed EfW CHP Facility.

8.5.37 The potential significant effects resulting during the operation of the Proposed Development for each of the IEFs identified previously are discussed in turn below.

Designated Sites

8.5.38 During operation of the Proposed Development, the combustion process will result in emissions to air. These emissions will include pollutants such as nitrogen oxides (NOx), sulphur dioxide (SO_2), hydrogen chloride (HCl) and hydrogen fluoride (HF). Additionally, the injection of urea during the process, used to reduce NOx emissions, will result in emissions of ammonia (NH_3).

8.5.39 These pollutants in the atmosphere will eventually be deposited on to the ground, either directly from the surrounding air (known as dry deposition) or in the form of rain, snow or fog after mixing with suspended water in the atmosphere (wet deposition). Deposition of these pollutants on particular habitats can result in detrimental effects resulting from the pollutant individually. Additionally, pollutants such as nitrogen, sulphur and hydrogen chloride cumulatively also contribute to acid deposition, which can result in its own detrimental effects on certain habitats.

8.5.40 The shadow Habitat Regulations Assessment (HRA) contained at **ES Appendix 8.3** provides a detailed Appropriate Assessment of the potential impacts from the Proposed Development on European designated sites within the potential zone of influence. The assessment has been informed by detailed air quality modelling (see **ES Chapter 6: Air Quality**) in addition to habitat surveys, soil sampling and bryophyte and lichen monitoring within Dorset Heaths SAC/SPA/Ramsar.

8.5.41 The air quality modelling shows that, based on all worst-case assumptions to ensure a conservative approach has been taken, maximum potential acid deposition on habitats within the designated sites is above the long-term 1% of the habitat's Critical Load screening thresholds which indicate a level of pollution discernible from background fluctuations (at 2.1% for woodland habitats, 1.9% for bogs, 1.8% for acid grassland and 1.2% for dwarf shrub heath). The area covered by acid deposition greater than 1% of woodland Critical Load (which covers the largest extent) includes several parcels of the SAC/SPA/Ramsar site, namely most of Canford Heath SSSI, Turbary and Kinson Commons SSSI, most of Ferndown Common SSSI and most of Parley Common SSSI.

8.5.42 Owing to the relatively far-ranging extent but very limited magnitude of this acid deposition, which could result in habitat degradation, the significance of this reversible effect in the absence of additional mitigation is considered to be at a County level only, rather than the International level importance that the SAC/SPA/Ramsar designations hold.

8.5.43 Given that the nationally designated sites (SSSIs) within the Proposed Development's potential zone of influence are also covered by these European sites, and are designated for similar reasons (presence of heathland habitats and associated notable bird, reptile and invertebrate species supported), it is also concluded that potential impacts arising from increased acid deposition will be similar to the above. This would result in a reversible effect significant at a Local level.

8.5.44 Regarding non-statutory designations, 1% of the long-term Critical Loads for nitrogen and acid deposition have been exceeded at Moortown Copse SNCI (at 1.3% for nitrogen and 3.2% for acid deposition) and at Bearwood SNCI (at 1.2% for nitrogen and 3.0% for acid deposition), and 1% of the long-term Critical Load for acid deposition has been exceeded at Knighton Heath Golf Course SNCI (at 1.4%).

8.5.45 In the context of existing background acidification levels at these sites provided by APIS[6], which are well above the Critical Loads for the habitat present (at 211% for Moortown Copse and Bearwood, and 208% for Knighton Heath) and background nutrient nitrogen deposition (which is at 290% for Moortown Copse and 287% for Bearwood), the predicted maximum acid and nitrogen deposition in a worst-case scenario on these habitats is negligible. When

[6] UK Air Pollution Information System (APIS): https://www.apis.ac.uk/

also considering an overall decreasing trend in national and local nitrogen and acidification levels, the significance of this reversible effect in the absence of mitigation is considered to be at a Site level only.

Habitats

8.5.46 By virtue of the EfW CHP Facility's chimney height (110m), there will be negligible impact on woodland, grassland and other habitats within and immediately adjacent to the Proposed Development Boundary (i.e., those habitats lying outside of the Designated Sites discussed above) due to emissions to air from the combustion process.

8.5.47 There is an emergency diesel generator (EDG) also located within the EfW CHP Facility Site. This would only be used in the unlikely event of an emergency situation (total loss of electrical power); however, it is anticipated that testing will be undertaken for up to 30 minutes fortnightly (resulting in a maximum of 50 hours use per annum). Within the air quality assessment (see **ES Chapter 6: Air Quality**), predicted impacts from short-term (24-hour mean) NOx concentrations on adjacent retained habitats (inferred using the habitat receptor predictions for Frogmoor Wood SNCI) are significant, at approximately 28% of a woodland habitat Critical Level. However, this prediction assumes that the EDG is operational for three hours per day every day (a required assumption in order to run the short-term model), in combination with the worst-case meteorological conditions, which is an extremely unlikely scenario.

8.5.48 The actual likely use of the EDG will be less than 1.5% of this extreme worst-case scenario (30 minutes of use per fortnight rather than three hours per day), and the habitats within and adjacent to the EfW CHP Facility Site are not particularly sensitive to nitrogen deposition (in addition to being fairly common and widespread). Owing to the limited extent and magnitude of this habitat degradation, the significance of this reversible effect in the absence of mitigation is considered to be at a Site level only.

Species

8.5.49 Given that the EfW CHP Facility Site is in current use as a waste management centre, with regular vehicle movements and noise/disturbance from the operations, potential impacts upon fauna which may utilise the retained and adjacent habitats for foraging and commuting will be largely unchanged during the operation of the EfW CHP Facility. Such potential permanent and reversible disturbance effects on species are considered to be negligible and therefore not significant.

8.5.50 In the absence of a sensitive lighting scheme during operation of the EfW CHP Facility, there is a risk of light spill upon adjacent habitats used by foraging and commuting nocturnal species such as bats, birds (nightjar has been considered within the designated sites section above) and badger. In the absence of mitigation, this could result in a permanent, reversible effect, significant at a Local level.

Decommissioning Phase

8.5.51 For the purpose of the assessment, a working assumption has been made that the Proposed Development has an operational lifespan of approximately 40-years. However, it should be noted that it is common for such developments to be operational for longer periods. It is anticipated that the process of decommissioning would involve the termination of operational activity, following which there would be electrical and process isolation and demolition activities. The EfW CHP Facility Site (including the CHP Connection) and the DNC would be left in a clear and secure condition in accordance with a Decommissioning Plan. The decommissioning process is anticipated to last for one year.

8.5.52 For the purposes of this assessment, the environmental effects associated with the decommissioning phase would be of a similar level to those reported for the construction phase works, albeit with a lesser duration of one year.

8.6 Additional Mitigation

8.6.1 Wherever possible, negative effects have been avoided or reduced through inherent mitigation as described above. However, not all potential negative effects can be avoided or reduced in severity through inherent mitigation alone. This section identifies those additional mitigation measures required to avoid, reduce, or offset the potential for such significant negative impacts. This includes measures to:

- Conform with relevant and pertinent legislative requirements, particularly those associated with legally protected species;
- Replace habitats of value lost and to provide habitat for species identified as IEFs; and
- Deliver and, where possible, maximise opportunities for biodiversity enhancement and gain through the Proposed Development.

8.6.2 The key mitigation delivery mechanisms to be implemented are:

- Construction Environmental Management Plan (CEMP) – a CEMP is to be prepared and will be implemented during the entirety of the construction stage to ensure appropriate management and operational systems are in place to avoid or minimise adverse pollution effects. Details of a sensitive temporary lighting strategy at the chosen TCC for the full duration of the TCC will also be covered in this document. An Outline CEMP has been prepared for submission with the planning application, and incorporates mitigation measures from this Chapter in addition to the other assessments undertaken and reported within the ES. The CEMP, based on the Outline CEMP, can be secured by way of a suitably worded planning condition;
- Ecological Construction Method Statement (ECMS) – an ECMS for each component of the Proposed Development will set out in detail the measures to be implemented to protect IEFs during the construction phase, including update surveys prior to commencement of works. It is proposed that the implementation of the ECMS will be overseen by an appointed Ecological Clerk of Works (ECoW), whose scope and remit will be set out within the ECMS. This document will be appended to the CEMP, as indicated on the prepared Outline CEMP, and a detailed Arboricultural Method Statement (AMS) which will set out measures to protect trees during the construction phase. The ECMS (and AMS) and appointment of the ECoW, can be secured by way of a suitably worded planning condition;
- Sensitive external lighting scheme – to be designed to avoid impacts on nocturnal wildlife, particularly bats and nightjar and secured by way of planning condition. External lighting at the EfW CHP Facility has been described within **ES Appendix 3.1**. It will be limited to meet security and safety standards, and openings/windows on the building have been minimised to limit internal light spill;
- Landscape, Ecology and Arboricultural Management Plan (LEAMP) – enhancement and creation of habitats of landscape, ecological and arboricultural value within nearby land outside of the Proposed Development Boundary will be undertaken to offset the small amount of unavoidable habitat losses within the Proposed Development Boundary and ensure an overall net gain in biodiversity is achieved. A Landscape, Ecology and Arboricultural Management Framework document accompanies the planning application and sets out the broad principles for inclusion within the LEAMP. The LEAMP will be prepared to set out in detail the measures to be implemented to ensure

the successful establishment/installation of new habitats/features and the long-term maintenance and management of these features;

- Contributions to monitoring and management of air quality impacts – following discussions with Natural England, an additional mitigation package is proposed to address potential exceedances of relevant acid deposition screening thresholds across the BCP Council area which includes Dorset Heaths SAC/SPA/Ramsar site. Namely a financial contribution to be delivered via a Biodiversity Enhancement Contribution and a Trickle Fund, in addition to a Monitoring and Supportive Management Plan. These measures are to be secured by a planning obligation, with the Section 106 agreement (outlined in **Appendix 5** of the **Planning Statement**) attached to planning consent, the full details of which will be agreed with the LPA and Natural England; and

- Adjustment to HSA boundary – as a small part of the DNC Compound (approximately 850m^2) will encroach within area designated as HSA. It has therefore been agreed with Natural England that to mitigate this loss, the existing HSA boundary will be redrawn to include additional adjacent land which will serve the same function. As such, an area of approximately 8,650m^2 has been identified which would provide a net increase in the HSA of 7,800m^2 or 17%. Since this land is within the Proposed Development red line the extended HSA could be secured by a suitably worded planning condition, the full details of which will be agreed with the LPA and Natural England.

Construction phase

8.6.3 All necessary surveys are considered to be sufficiently up to date at the time of submission to determine the application. However, where relevant, and depending on development timescales and phasing, certain detailed species surveys may require updating prior to commencement of the relevant phase of development. The findings will be used to inform the measures set out below.

Designated Sites and Habitats

8.6.4 Potential adverse effects on habitats and those designated sites within and immediately adjacent to the Proposed Development Boundary (namely Dorset Heaths SAC/SPA/Ramsar, Canford Heath SSSI and Frogmoor Wood SNCI) relating to damage, deterioration or disturbance, will be avoided or reduced to insignificant levels by the following:

- CEMP - including pollution prevention, sensitive lighting (including security lighting at the chosen TCC) and control of hours of operation;

- ECMS and AMS - including establishment of Ecological Protection Zones (EPZs) around retained habitats, clearly delineated by protective fencing (or other barriers) and signage, where construction activities (including incursion by vehicles or personnel, fires and stockpiling of materials) are excluded; and

- Adjustment to HSA boundary – the northern HSA boundary will be redrawn to include an additional area of habitat to mitigate and enhance that lost to the DNC Compound, anticipated to be detailed within a planning condition.

8.6.5 The measures above will address construction effects on adjacent designated sites and retained habitats, however, habitat losses within the development footprint will be addressed through new habitat creation and enhancement of existing habitats during and after construction.

8.6.6 As part of the Biodiversity Net Gain (BNG) assessment, provided within **ES Appendix 8.2**, it was calculated (using the Defra Metric, version 3.1) that delivery of TCC1 would result in

an onsite loss of -4.17 habitat units, representing a -10.26% net change in habitat units; and delivery of TCC2 would result in an onsite loss of -7.78 habitat units, representing a -21.90% net change in habitat units.

8.6.7 The Applicant has committed to delivering a minimum of 25% net gain for the Proposed Development. It is understood that the landowner of large parcels of land surrounding the Proposed Development Boundary has agreed in principle to permit and facilitate habitat creation/enhancement within this adjacent land for the purposes of enabling the Proposed Development to deliver an overall minimum 25% net gain in biodiversity habitat units. Surveys to determine the current baseline conditions of this off-site land, in order to develop a detailed plan for delivering enough credits to achieve a 25% net gain, will be undertaken during the appropriate survey season. If required, alternative locations will be investigated by the Applicant. Further details of the Applicant's Outline Biodiversity Net Gain Strategy are provided within **ES Appendix 8.6**.

8.6.8 The establishment and long-term management of the on-site habitats, as secured through the LEAMP, will partially offset the permanent and temporary losses to development. Management prescriptions for the off-site habitat unit delivery on adjacent land will be detailed within a separate document when baseline information is available. Overall, these will result in a net gain in habitat biodiversity value of at least 25%, and will be secured through a Section 106 agreement.

Species

8.6.9 Protection of species during construction will be ensured through the provisions of the ECMS. As a general measure aimed at protecting species, "toolbox talks" will be provided by a suitably qualified ecologist to the principal contractor appointed by the Applicant, for distribution to all employees involved in any enabling works/vegetation clearance, to ensure that identification and protection of the relevant species and their habitats is understood.

8.6.10 The habitat enhancement and creation measures described above (delivered via the LEAMP) will offset any impacts of habitat loss on the important species and species groups present within the Proposed Development Boundary.

8.6.11 In addition to the habitat protection and creation measures described above, which will deliver much of the necessary species protection, further measures to be included in the ECMS for each relevant species group are summarised below.

Birds

8.6.12 Retained nesting and foraging habitats, including retained trees and woodland, will be included within EPZs.

8.6.13 Removal of potential nesting habitat will be undertaken outside the bird breeding season (namely March-September inclusive) unless a detailed survey by a suitably experienced ecologist has confirmed that no active nests are present in the affected area immediately prior to works commencing.

Bats

8.6.14 An update preliminary bat roost assessment of all trees, followed by any necessary roost presence/absence surveys, will be undertaken prior to any felling or pruning. If any bat roosts are confirmed present, works will cease until an appropriate strategy is devised and agreed. Retained trees with bat roost suitability will be included within EPZs.

8.6.15 Felling of trees with bat roost suitability and no confirmed roost will follow a precautionary 'soft felling' method (e.g., sectional felling, care taken not to cut through any cracks, holes

or hollows that cannot be exhaustively checked for the presence of bats) under the supervision of a bat licensed ECoW for any trees with moderate or high roost suitability.

8.6.16 Construction activities will be restricted to daylight hours as far as possible to mitigate effects of increased visual and noise disturbance, with the use of temporary, artificial lighting avoided during the hours between dusk and dawn, with directional and low-level lighting used away from adjacent habitat to mitigate effects relating to artificial lighting.

Badger

8.6.17 An update check of the development footprint and 30m buffer for any badger setts will be undertaken prior to works commencing. In the unlikely event that any setts are recorded, impacts will be avoided by micro-siting of groundworks or, if impacts cannot be avoided, animals will be excluded from the affected area (under NE licence and potentially requiring provision of alternative setts) prior to works.

8.6.18 Good practice construction measures will be implemented to ensure badgers are either unable to access the construction site or cannot become trapped in any open excavations (e.g., through covering up at night or inserting an 'escape ramp').

Dormouse

8.6.19 Precautionary staged removal will be undertaken at an appropriate time of year of suitable habitats, under supervision of a dormouse licensed ECoW and following a pre-commencement check for dormouse and their nests. If any evidence of this species is found, works will cease until an appropriate strategy is devised and agreed.

Reptiles

8.6.20 Staged vegetation removal will be undertaken at an appropriate time of year (outside of hibernation season) of suitable habitats, under supervision of an ECoW, following a pre-commencement check for reptiles.

Operational phase

Designated Sites

8.6.21 Potential minor exceedances of relevant acid deposition screening thresholds for bog, acid grassland and dwarf shrub heath habitats within Dorset Heaths SAC/SPA/Ramsar and constituent SSSIs will be mitigated through the provision of a Biodiversity Enhancement Contribution and Trickle Fund, in addition to a future monitoring strategy, to be secured through a Section 106 agreement. This will facilitate appropriate management of the habitats within the designation in addition to functionally linked and/or other supporting habitats across the wider BCP Council area, aiming to reduce and/or prevent potential effects from increased acid deposition. Long-term monitoring is proposed alongside this management so if any changes or remedial action is needed, this can be identified. The non-statutory designated sites within the potential zone of influence of the Proposed Development will therefore also benefit from this mitigation.

Habitats

8.6.22 The LEAMP will include measures to enhance the ecological value of existing grassland habitats through a combination of initial interventions (e.g., scarring and sowing) and sensitive long-term management (e.g., light hay-cutting or grazing) and to develop the ecological value of newly created habitats to ensure, alongside ongoing

enhancement/management of identified off-site habitats, the delivery of an overall net gain in biodiversity habitat units.

Species

8.6.23 Potential adverse effects on species due to ongoing disturbance and habitat degradation effects will be largely mitigated through the measures set out above in relation to habitats and designated sites.

8.6.24 A sensitive lighting strategy will be implemented to avoid impacts on bats, nightjar, badgers and other nocturnal species.

8.7 Residual Effects

8.7.1 The residual effects are the likely effects occurring following implementation of the design measures, construction phase and operational phase mitigation measures described above.

8.7.2 The measures proposed are industry-standard and are not novel, unproven measures. There is therefore high confidence that such measures will adequately mitigate the likely effects described.

Construction phase

8.7.3 Subject to the mitigation measures outlined above, residual effects anticipated upon IEFs during the construction phase have been reduced to levels that are not considered to be significant, as detailed below.

Statutory Designated Sites

8.7.4 The CEMP, ECMS and AMS will set out the provision of EPZs around all ecologically sensitive features, including the proximate statutory designated sites, which will protect these sites from any accidental damage (including from pollution events) during construction. Sensitive lighting measures will also be set out in these documents to avoid displacement of commuting nightjar – a designated feature of the adjacent SPA. Adjustment of the HSA boundary will ensure the continued function of this designation in protecting adjacent statutory designated sites.

8.7.5 No residual effects are anticipated.

Non-Statutory Designated Sites

8.7.6 The CEMP, ECMS and AMS will set out the provision of EPZs around all ecologically sensitive features, including the adjacent non-statutory designated site, which will protect this site from any accidental damage (including from pollution events) during construction. Provision of new planting and habitat enhancements will offset the necessary minor losses of understorey and one mature tree within this designation.

8.7.7 No residual effects are anticipated.

Habitats

8.7.8 The CEMP, ECMS and AMS will set out the provision of EPZs around all ecologically sensitive features, including the retained woodland and semi-improved grassland, which will protect these habitats from any accidental damage (including from pollution events)

during construction. Provision of new planting and habitat enhancements will offset the necessary minor losses from within the Proposed Development Boundaries.

8.7.9 No residual effects are anticipated.

Species

8.7.10 The provision of EPZs around all retained habitats, as set out within the ECMS and AMS, will protect these habitats and their associated species from any accidental damage during construction.

8.7.11 The ECMS will also set out mitigation to ensure that site clearance does not impact protected or notable species and that any legislation protecting these species is adhered to. This includes protection of nesting birds, roosting bats, dormouse, badger and reptiles.

8.7.12 A sensitive lighting strategy will ensure that any lighting during construction does not impact nocturnal protected or notable species.

8.7.13 No residual effects are anticipated.

Operational phase

Statutory Designated Sites

8.7.14 Potential minor exceedances of relevant acid deposition screening thresholds for bog, acid grassland and dwarf shrub heath within Dorset Heaths SAC/SPA/Ramsar and constituent SSSIs will be mitigated through the provision of a Biodiversity Enhancement Contribution and Trickle Fund, in addition to a future monitoring strategy, to be secured through a Section 106 agreement.

8.7.15 No residual effects are anticipated.

Non-Statutory Designated Sites

8.7.16 Potential minor exceedances of nitrogen and acid deposition screening thresholds for woodland within Moortown Copse SNCI and Bearwood SNCI, and minor exceedances of acid deposition screening thresholds for dwarf shrub heath within Knighton Heath Golf Club SNCI will be mitigated through the provision of a Biodiversity Enhancement Contribution and Trickle Fund, in addition to a future monitoring strategy, to be secured through a Section 106 agreement.

8.7.17 No residual effects are anticipated.

Habitats

8.7.18 The LEAMP will set out appropriate protection, management and subsequent monitoring of new and enhanced habitats to achieve the targeted minimum of 25% net gain in biodiversity units. This would result in a small beneficial effect, significant at a Site level only.

8.7.19 Small positive residual effect anticipated at a Site level.

Species

8.7.20 A sensitive lighting strategy will ensure that any lighting during operation of the EfW CHP Facility does not impact nocturnal protected or notable species.

8.7.21 No residual effects are anticipated.

8.8 Implications of Climate Change

8.8.1 Changes to future climate predicted by the UKCP18 climate change projections include hotter, drier summers and slightly warmer, wetter winters. Given that the habitat and species IEFs within the Proposed Development Boundary are widespread and the location of the Proposed Development is not near the edge of any of their ranges; the projected change in temperatures and rainfall is not anticipated to result in any significant effects on the habitat and species IEFs.

8.8.2 The hotter, drier summers are likely to have a detrimental effect on the nearby statutory designated sites, due to the presence of wet heath and bog habitats that may dry up and the increased risk of wildfires. Although this may make the habitats more vulnerable to impacts from the EfW CHP Facility emissions, these changes would be happening alongside a general decrease in background airborne pollutants due to the projected move to cleaner energy sources and improvements in car/industry emissions, which would result in an overall reduction in nitrogen and acid deposition rates.

8.9 Cumulative Effects

8.9.1 The schemes to be considered in the cumulative assessment include the Proposed Development along with other committed developments (i.e., those that have not been commenced but have a valid planning permission and those schemes which are in the planning process). The assessment of cumulative effects repeats the assessment process set out above, but considers the potential change caused by all schemes identified for cumulative assessment.

8.9.2 The schemes listed below have been included within the assessment of cumulative effects due to proximity to the Proposed Development and those further afield which may result in similar emissions to air:

- Hillbourne Site (APP/21/00748/F): 81 houses and 29 flats;
- Leigh Road, Wimborne (3/21/1566/RM): 174 houses;
- Station Terrace, Wimborne (3/21/1556/FUL): 66 flats, 32 bungalows and nine houses;
- Wheelers Lane, Bournemouth (APP/21/00620/F): 45 houses;
- Leigh Road, Wimborne (3/21/0840/FUL): 63 houses and 12 flats;
- Vantage Way, Poole (APP/20/00252/F): one light industrial and office/warehouse unit;
- Magna Road, Bournemouth (APP/21/01186/F): three industrial units;
- 81 Sopers Lane, Poole (APP/21/00497/F): three light industrial and office/warehouse units;
- Vantage Way, Poole (APP/20/00418/F): three office/light industry/storage units;
- 35 Cobham Road, Wimborne (3/20/0880/FUL): two warehouse and office units;
- 23 Whittle Road, Wimborne (3/20/1945/FUL): energy facility;
- Mannings Heath Road, Poole (APP/21/00309/F): 10 industrial/warehouse units;
- Arena Way, Wimborne: solar farm;
- Cobham Road, Wimborne (3/21/0674/OUT): 26 industrial units;

- 15 Whittle Road, Wimborne (3/21/0740/FUL): two starter industrial units; and
- Chapel Lane, Parley (8/21/0207/FUL): energy recovery facility.

Designated Sites

8.9.3 Of the schemes listed above, Chapel Lane, Parley and Whittle Road, Wimborne are the only other projects with potential for air quality impacts which may affect nearby designated sites. The cumulative impacts on European sites, and thereby also national sites, have been considered in detail within the shadow HRA at **ES Appendix 8.3**. it is understood that the scheme at Chapel Lane, Parley will be providing its own mitigation for its potential air quality impacts, in the form of a Monitoring and Supportive Management Plan alongside financial contributions (which have been agreed with Natural England and controlled by a Section 106 agreement). Similarly to the proposed mitigation for the Proposed Development, this Monitoring and Supportive Management Plan and financial contributions will apply across the wider BCP Council area, therefore also benefiting the non-statutory local sites within the potential zones of influence of the schemes. It is therefore concluded that there would be no significant adverse cumulative effects as a result of the other identified developments.

Habitats

8.9.4 In relation to the identified habitat IEFs, as this Proposed Development will be delivering a minimum 25% net gain in habitat units, negative cumulative impacts will, to a small extent, be slightly off-set by the Proposed Development assessed within this EcIA.

Species

8.9.5 Any impacts on protected or notable species associated with the Proposed Development Boundary are expected to be readily mitigated and therefore will be imperceptible. Given that any detailed and reserved matters for the other identified developments would be expected to implement standard mitigation and enhancement measures as described within this EcIA, such as the CEMP, ECMS and LEAMP, it is concluded that there would be no significant adverse cumulative effects as a result of the other identified developments.

8.10 Summary

8.10.1 A summary of the assessment is set out in **Table 8-7** overleaf.

Table 8-7: Summary of Effects

Receptor	Sensitivity of Receptor	Nature of potential impact	Proposed mitigation	Residual effect	Significant/not significant
Construction phase					
Statutory Designated Sites	National and International	Indirect, temporary habitat damage/ degradation - temporary effect significant at a National and International level. Temporary disturbance of nightjar - temporary, reversible and significant at a Local level.	• CEMP - sensitive construction methods and pollution prevention. • ECMS and AMS – protection of retained habitat and sensitive construction/security lighting scheme. • Adjustment of HSA boundary to be secured by planning condition.	None	No significant effect
Non-Statutory Designated Sites	County	Direct, temporary habitat loss and damage in Frogmoor Wood SNCI for the CHP Connection and DNC Corridor - temporary effect significant at a Local level.	• CEMP - sensitive construction methods and pollution prevention. • ECMS and AMS – protection of retained habitat. • New planting and habitat enhancement to offset losses through the biodiversity net gain assessment.	None	No significant effect
Habitats – Woodland	Local	Direct, permanent loss of approx. 0.15 ha – significant at a Site level. Indirect, temporary habitat damage/ degradation - significant at a Site level.	• CEMP - sensitive construction methods and pollution prevention. • ECMS and AMS – protection of retained habitat. • New planting and habitat enhancement to offset losses through the biodiversity net gain assessment.	None	No significant effect

Receptor	Sensitivity of Receptor	Nature of potential impact	Proposed mitigation	Residual effect	Significant/not significant
Habitats – Semi-improved grassland	Local	Direct, permanent loss of approx. 0.37 ha – significant at a Site level. Direct, temporary loss of approx. 1.37 ha if TCC2 utilised – temporary effect significant at a Local level. Indirect, temporary habitat damage/ degradation - significant at a Site level.	• CEMP - sensitive construction methods and pollution prevention. • ECMS and AMS – protection of retained habitat. • New planting and habitat enhancement to offset losses through the biodiversity net gain assessment.	None	No significant effect
Species - Birds	Site	Direct, permanent loss of habitat – significant at a Site level. Direct damage or destruction of active bird nests - significant at a Site level. Temporary disturbance - significant at a Site level.	• ECMS – pre-works nest check, protection of retained habitat. • New planting and habitat enhancement to offset losses through the biodiversity net gain assessment.	None	No significant effect
Species - Bats	Local	Direct, permanent and temporary loss of habitat – significant at a Site level. Temporary disturbance from lighting - temporary, reversible and significant at a Local level.	• ECMS – pre-works update surveys, soft-felling of trees with roost potential, protection of retained habitat and sensitive construction/security lighting scheme. • New planting and habitat enhancement to offset losses through the biodiversity net gain assessment.	None	No significant effect
Species - Reptiles	Local	Direct, permanent loss of habitat – significant at a Site level. Direct, temporary loss of habitat if TCC1 utilised – significant at a Site level. Direct, temporary loss of habitat if TCC2 utilised - temporary effect significant at a Local level. Direct injury or killing - significant at a Local level.	• ECMS – supervised, staged vegetation removal at appropriate time of year. • New planting and habitat enhancement to offset losses through the biodiversity net gain assessment.	None	No significant effect
Operational phase					

Receptor	Sensitivity of Receptor	Nature of potential impact	Proposed mitigation	Residual effect	Significant/not significant
Statutory Designated Sites	National and International	Potential for reversible habitat degradation through increased acid deposition - significant at a County (for SAC/SPA/Ramsar) and Local level (for SSSIs).	• Contributions to monitoring and management – to be agreed with NE/LPA and delivered through a S106.	None	No significant effect
Non-Statutory Designated Sites	County	Potential for reversible habitat degradation through increased acid and nitrogen deposition - significant at a Site level.	• Contributions to monitoring and management – to be agreed with NE/LPA and delivered through a S106.	None	No significant effect
Habitats	Local	Degradation of habitats through nitrogen deposition from the emergency diesel generator - significant at a Site level.	• LEAMP – enhancement of retained habitats and sensitive long-term management of new habitats to achieve 25% BNG.	Small positive effect at a Site level only	No significant effect
Species	Local	Displacement of nocturnal species due to artificial lighting - permanent, reversible effect significant at a Local level.	• Sensitive lighting strategy	None	No significant effect

8.11 Mitigation Commitments Summary

8.11.1 A summary of the mitigation is set out in **Table 8-8** below.

Table 8-8: Summary for Securing Mitigation

Identified Receptor	Type and purpose of additional mitigation measure (prevent, reduce, offset, enhance)	Means by which mitigation may be secured (e.g., planning condition/legal agreement)	To be delivered by	Auditable by
Construction Phase				

Identified Receptor	Type and purpose of additional mitigation measure (prevent, reduce, offset, enhance)	Means by which mitigation may be secured (e.g., planning condition/legal agreement)	To be delivered by	Auditable by
Statutory Designated Sites	CEMP, ECMS and AMS incorporating measures to prevent and reduce impacts. Adjustment to HSA boundary.	Planning condition	Applicant	BCP Council/ Natural England
Non-Statutory Designated Sites	CEMP, ECMS and AMS incorporating measures to prevent and reduce impacts. New planting to offset small tree losses.	Planning condition	Applicant	BCP Council
Habitats	CEMP, ECMS and AMS incorporating measures to prevent and reduce impacts. New planting and enhancement to offset small habitat losses and deliver BNG of at least 25%.	Planning condition and Section 106 agreement	Applicant	BCP Council
Species	CEMP, ECMS and AMS incorporating measures to prevent and reduce impacts. New planting and enhancement to offset small habitat losses.	Planning condition	Applicant	BCP Council
Operational Phase				
Designated Sites	Contributions to management and monitoring of designated sites and supporting habitats across BCP Council area.	Section 106 agreement	Applicant	BCP Council/ Natural England
Habitats	LEAMP setting out suitable habitat management to offset and enhance.	Planning condition	Applicant	BCP Council
Species	Sensitive lighting strategy	Planning condition	Applicant	BCP Council