Proposed Energy from Waste Combined Heat and Power Facility at Canford Resource Park

Ecology Baseline Report

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On behalf of:
MVV Environment Limited

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DISCLAIMER TEXT

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Section 1
Introduction

1.1 This Ecology Baseline Report has been prepared by The Environmental Dimension Partnership Ltd (EDP) on behalf of MVV Environment Limited (hereafter referred to as 'the Applicant'). This report provides the baseline ecological conditions relevant to a proposed Carbon Capture Retrofit Ready (CCRR) Energy from Waste Combined Heat and Power (EfW CHP) Facility and associated infrastructure development at Canford Resource Park, off Magna Road, in the northern part of Poole (hereafter referred to as 'the Site').

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

SITE CONTEXT

1.3 The Site is centred at National Grid Reference SZ 03436 96720 and comprises four main components, namely:

- The 'EfW CHP Facility Site' – this refers to the main area where the EfW CHP Facility will be located;
- The 'CHP Connection' – the corridor of land south of the EfW CHP Facility Site identified to connect to the Magna Business Park through which the underground pipes, cables and associated infrastructure would be located to supply heat and/or power;
- The 'Distribution Network Connection (DNC)' – the corridor of land and location for a substation south of the EfW CHP Facility Site identified to connect electricity to the National Electricity Transmission Network through underground pipes, cables and associated overground infrastructure; and
- 'Temporary Construction Compound 1' and 'Temporary Construction Compound 2' – there are two Temporary Construction Compounds (TCC) – TCC1 located in the arena field to the north of the EfW CHP Facility Site, and TCC2 located in a grassland field (known as the greenhouse) to the south of the EfW CHP Facility Site. One of these areas will be required to contain the construction compound for the duration of construction of the EfW CHP Facility.

1.4 The EfW CHP Facility Site measures approximately 2.3 hectares (ha) and is located in the south-western part of an existing integrated waste management park, within the Bournemouth, Christchurch and Poole Council ('BCP Council') authority area. The EfW CHP Facility Site comprises predominantly bare ground/hardstanding with natural habitats limited to borders of tall ruderal/ephemeral, and scattered scrub and a strip of semi-natural broadleaved woodland. The TCCs comprise predominantly grassland, with some ephemeral

vegetation and some scattered scrub. The CHP Connection and DNC corridors include existing hardstanding roads, grassland and small sections of woodland.

1.5 The EfW CHP Facility Site is almost entirely surrounded by semi-natural broadleaf and mixed woodland, and conifer plantation. Despite the degradation of local habitats associated with the existing waste management operations, the EfW CHP Facility Site falls within an ecologically rich landscape, as reflected by the presence of both statutory and non-statutory designations and records for a variety of protected and/or notable species.

1.6 The principal habitat features within the Site (based on an updated site survey) are illustrated on **Plan EDP 1**, with habitat descriptions and illustrative site photographs provided in **Appendix EDP 1**.

SCOPE OF BASELINE REPORT

1.7 This baseline information has been informed by a desk-based study, which included a review of existing detailed nightjar (*Caprimulgus europeaus*) studies undertaken from 2012 to 2019 and a request for ecological records from Dorset Environmental Records Centre, an Extended Phase 1 Habitat survey, great crested newt (*Triturus cristatus*) eDNA survey, reptile survey, pilot breeding bird survey and bat activity surveys undertaken at the Site across 2021 and 2022.

1.8 The remainder of this report is structured as follows:

- **Section 2** summarises the methodology employed in establishing the ecological baseline within and around the Site (with further details provided within appendices and plans where appropriate at the end of the report);
- **Section 3** summarises the current baseline ecological conditions (with further details also provided within appendices and on plans where appropriate) and identifies and evaluates the value of any pertinent ecological features based on all available survey information (previous and current); and
- **Section 4** summarises the Important Ecological Features (IEF) that are relevant to masterplanning and the Ecological Impact Assessment (EcIA) of the proposed development.

Section 2
Methodology (Baseline Investigations)

2.1 This section summarises the methodologies employed in establishing the baseline ecological conditions within the Site. The investigations have been undertaken by suitably experienced ecologists using relevant best practice methodologies wherever possible. Reasons for any departure from best practice methodology are given. Full details of the techniques and processes adopted are, where appropriate, provided within appendices and plans to the rear of this report.

DESK STUDY

2.2 The desk study is an important element of establishing the baseline conditions of a 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.

2.3 An ecological desk study of the Site was undertaken during March 2022. The organisations contacted/resources accessed, and the type of information requested, are summarised within **Table EDP 2.1**.

Table EDP 2.1: Organisations Contacted During the Desk Study

Organisation/Resource	Information Requested/Reviewed
Dorset Environmental Records Centre (DERC)	Non-statutory local sites (2km radius around the Site); Protected/notable species records (2km); and Annex II bats (8km).
Multi-Agency Geographic Information for the Countryside (MAGIC) website [1]	International statutory designations (10km); and National statutory designations (5km radius around the Site with designations up to 10km to the north east and south west also reviewed - based on area of potential acidification impacts to habitats determined via air quality modelling and scoping responses from Natural England and the local planning authority).
Nightjar Resource Use Study [2], Nightjar Habitat Creation and Monitoring Strategy [3] , and Population estimates of European Nightjar breeding on Canford Heath NNR, Dorset 2018/2019 [4]	Review of information on nightjar usage of the Site and wider area

[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

2.4 The scope and search areas of the ecological desk study are considered sufficient to cover the potential zones of influence[5] of the proposed development in relation to designated sites, habitats and species.

2.5 Any pertinent information received as a result of the desk study has been included and specifically referenced within **Section 3**.

EXTENDED PHASE 1 HABITAT SURVEY

2.6 The survey technique adopted for the initial habitat assessment was at a level intermediate between a standard Phase 1 survey technique[6], based on habitat mapping and description, and a Phase 2 survey, based on detailed habitat and species surveys. The survey technique is commonly known as an Extended Phase 1 Habitat survey. This level of survey does not aim to compile a complete floral and faunal inventory for the Site.

2.7 The level of survey involves identifying and mapping the principal habitat types and identifying the dominant plant species present in each principal habitat type. In addition, any actual or potential protected species or species of principal importance are identified and scoped.

2.8 The Extended Phase 1 Habitat survey of the EfW CHP Facility Site and CHP Connection was undertaken by a suitably experienced surveyor on 03 August 2021 during which the weather was warm and dry with a light breeze. A survey of the TCCs and DNC corridor was undertaken by suitably experienced surveyors on 01 (TCC1 and DNC) and 30 (TCC2) June 2022. The survey of TCC2 included a slightly more detailed botanical assessment to confirm the classification of the grassland present.

2.9 June and August are within the recommended optimum survey period for Extended Phase 1 Habitat survey; the survey is therefore not considered to be limited by climatic or seasonal factors.

DETAILED (PHASE 2) SURVEYS

2.10 The scope of Phase 2 surveys undertaken at the Site was defined following the initial studies described above (desk study and Extended Phase 1 Habitat survey). The surveys 'scoped in' are summarised in turn below and a brief explanation of those potential surveys 'scoped out' is provided thereafter.

Breeding Bird Survey

2.11 The Site offers some suitable habitat for breeding birds, and notable bird species, including nightjar, are known to be present in the wider area. A pilot breeding bird survey of the EfW CHP Facility Site and CHP Connection and DNC corridor was therefore undertaken on 06 July 2021 by an experienced surveyor at an appropriate time of year and in suitable

[5] Zone of Influence - the areas and resources that may be affected by the proposed development

[6] Joint Nature Conservation Council (2004) Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit (reprinted with minor corrections for original Nature Conservancy Council publication).

weather conditions. Based on the results of this survey, and limited suitability of habitats present within the Site, it was not considered to be necessary to undertake any further surveys.

2.12 Full details of the breeding bird survey are provided in **Appendix EDP 2**.

Bat Surveys

2.13 Due to the potential presence of suitable habitats for roosting, foraging, and commuting bats within the Site and immediately adjacent habitats, the following surveys for bats were undertaken during the active bat season in 2021 and 2022 with reference to national good practice guidelines [7]:

1. Preliminary roost assessment of trees and structures within and immediately adjacent to the whole site;

2. Bat foraging/commuting activity surveys within the EfW CHP Facility Site:

    a. Manual transect surveys; and

    b. Automated detectors.

2.14 The preliminary roost assessment of all trees and structures within the EfW CHP Facility Site was undertaken by a suitably experienced surveyor on 03 August 2021 and 01 June 2022. Owing to the limited suitability and extent of habitats present within the EfW CHP Facility Site, the Site was considered to be of low suitability for foraging and commuting bats. As such, three bat transect surveys, supplemented by automated detector deployments, were undertaken at the Site across each of the bat active seasons - spring, summer and autumn. Due to the limited extent/magnitude and temporary nature of potential impacts within the CHP Connection and DNC corridors and TCCs, these areas were not subject to the bat activity surveys.

2.15 These bat activity surveys were undertaken within the EfW CHP Facility Site during August 2021, September 2021 and May 2022.

2.16 Full details of the bat surveys are provided in **Appendix EDP 3** and on **Plans EDP 3** to **5**.

Badger Survey

2.17 The Site offers some suitable foraging and sett building opportunities for badger (*Meles meles*). As such, a badger walkover survey of the EfW CHP Facility Site and CHP Connection was completed on 03 August 2021 during the Extended Phase 1 Habitat survey. A survey of the TCCs and DNC corridor was undertaken by a suitably experienced surveyor on 01 June 2022.

[7] Collins, J. (ed.) (2016). Bat Surveys: for Professional Ecologists: Good Practice Guidelines (3rd edition). The Bat Conservation Trust, London

Great Crested Newt Survey

2.18 Two waterbodies are present within the DNC corridor section of the Site; and, several waterbodies are present within 500m of the Site boundaries. In addition, the tall ruderal and grassland do provide some suitable terrestrial habitats around the Site, particularly in the TCCs.

2.19 The three waterbodies within 250m of the Site were subject to great crested newt environmental DNA (eDNA) survey, completed by a licensed surveyor in line with the recommended survey procedure on 29 June 2021. The two waterbodies within the DNC corridor could not be accessed at the time of the survey. This is not considered to be a significant limitation given the absence of great crested newt records in the area (with recent survey work undertaken for various nearby developments). Furthermore, these waterbodies were only created in 2021 as part of the drainage scheme for one of the nearby developments, so do not yet have any vegetation and are highly unlikely to have an established fauna assemblage. Full details of the great crested newt survey are provided in **Appendix EDP 4** and the waterbody locations are illustrated on **Plan EDP 1**.

Reptile Survey

2.20 The Site offers suitable habitat for common species of reptile, particularly in the rough grassland within the TCCs. The habitats present are not typically suitable for rare reptiles including sand lizard (*Lacerta agilis*) and smooth snake (*Coronella austriaca*), however, there is limited potential for these species to utilise these habitats given their known presence within the adjacent heathland.

2.21 Artificial refugia, comprising a mixture of bitumen felt and metal tin squares, were deployed throughout suitable habitats across the Site on 03 May 2022. After a two week 'bedding in' period, the refugia were checked on seven occasions at approximately weekly intervals for the presence of reptiles.

2.22 Full details of the reptile survey are provided in **Appendix EDP 5** and on **Plan EDP 6**.

SURVEYS SCOPED OUT

2.23 **Table EDP 2.2** summarises other survey types which, while commonly required as part of an Ecological Appraisal for development sites, were not considered necessary/appropriate in this case.

Table EDP 2.2: Ecology Surveys Scoped Out

Survey Type	Reasons for Scoping Out
Detailed botanical surveys (e.g., hedgerows, grassland)	No hedgerows are present within or adjacent to the Site, and habitats within the EfW CHP Facility Site, which will be subject to permanent impacts from the proposals, are of limited ecological value.

Survey Type	Reasons for Scoping Out
Wintering and full breeding bird surveys	Limited to no suitability for wintering birds within the Site, and 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 Site, which is currently subject to regular disturbance from the existing waste management park activities making presence of this species unlikely such that surveys are not considered necessary. However, as presence cannot be ruled out entirely, precautionary mitigation will be detailed within the Ecological Appraisal.
Invertebrates	Paucity of suitable habitat and limited extent of the Site.

BIODIVERSITY NET GAIN

2.24 To calculate biodiversity net gain, as is encouraged by the National Planning Policy Framework (NPPF) and is set to become mandatory under the Environment Act 2021, a Biodiversity Impact Assessment (BIA) was undertaken. This is a transparent way to calculate the biodiversity value of the habitats on a site before and after development. It is a proxy measure to determine if the development will result in an on-site habitat biodiversity net loss or gain.

2.25 A BIA was undertaken using the Department for Environment, Food and Rural Affairs (Defra) Biodiversity Metric 3.1, by an experienced ecologist in March 2023.

2.26 The assessment was undertaken based on the existing habitat information derived from the Extended Phase 1 Habitat survey and the proposed development layout. GIS software has been used to accurately calculate areas of habitat to be retained, enhanced and recreated.

Section 3
Results (Baseline Conditions)

3.1 This section summarises the baseline ecological conditions determined through the course of the desk- and field-based investigations described in **Section 2**. In particular, it identifies and evaluates those IEF that lie within the Site's potential zone of influence, and which are pertinent in the context of the proposed development.

3.2 The evaluation of potential IEF has been undertaken in accordance with the latest Chartered Institute of Ecology and Environmental Management (CIEEM) guidance[8] with professional judgement and available guidance used to assign a value to IEF at a geographical scale. Further technical details are, where appropriate, provided within appendices and on plans to the rear of this report.

DESIGNATED SITES

3.3 Information regarding designated sites was obtained during the desk study from the MAGIC website and DERC. Statutory designations (those receiving legal protection) and non-statutory designations (those receiving planning policy protection only) are discussed in turn below.

Statutory Designations

3.4 Statutory designations represent the most significant ecological receptors, being of recognised importance at an international and/or national level. International designations include Special Protection Areas (SPA), potential SPA (pSPA), Special Areas of Conservation (SAC), possible SAC (pSAC), Ramsar Sites and proposed Ramsar. National designations include Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR).

3.5 No part of the Site is covered by any statutory designations. There are six international statutory designations within a 10km radius of the Site, and seven national statutory designations within 5km of the Site, all SSSIs. Despite being further than 5km from the Site, a further seven national statutory designations have been included below due to the potential for further-ranging air quality impacts. These statutory designations have been described in detail in **Table EDP 3.1** and statutory designated sites located within 10km of the Site are shown on **Plan EDP 2**.

[8] CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.

Table EDP 3.1: Statutory Designations within the Site's Potential Zone of Influence

Site Name	Approx. Distance and Direction from the Site	Interest Feature(s)
International Statutory Designations within 10km		
Dorset Heaths SAC	Adjacent to southern site border	Underpinned by numerous SSSI, 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 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).
Poole Harbour SPA and Ramsar	4.8km south-west	This SPA is Underpinned by several SSSI, including Poole Harbour SSSI (noted below). A natural harbour comprising extensive tidal mudflats, seagrass beds and saltmarsh, with associated reedbed, freshwater marsh and wet grassland, which support populations of five species listed in Annex I of the EC Birds Directive and two regularly occurring migratory species not listed in Annex I, including common tern (*Sterna hirundo*) and Mediterranean gull (*Larus melanocephalus*). The Ramsar designation is described as the best and largest example in Britain of a bar-built estuary with lagoon characteristics, supporting two species of nationally rare plants and one nationally rare alga, as well as at least three Red Data Book species of invertebrate.
Dorset Heaths (Purbeck and Wareham) and Studland Dunes SAC	9.1km south-west	Underpinned by several SSSI, this SAC hosts numerous Annex I habitats, including various types of dunes, wet and dry heaths, alkaline fens and bog woodland in addition to supporting Annex II species southern damselfly and great crested newt.
National Statutory Designations within 5–10km		
Canford Heath SSSI	Adjacent to southern 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.

Site Name	Approx. Distance and Direction from the Site	Interest Feature(s)
Corfe and Barrow Hills SSSI	2.3km north-west	Dry heathland dominated by ling (*Calluna vulgaris*) and western gorse (*Ulex gallii*), the wetter heathland supports several uncommon animals and plants typical of the Dorset heaths. This includes rare reptiles sand lizard and smooth snake.
Bourne Valley SSSI	2.3km south-east	This site covers the largest tract of heathland that has survived within urban sprawl on the formerly extensive heaths that once bordered Poole Bay. Sequences of heath, mire and fen woodland vegetation types are well developed. These habitats support a range of rare and uncommon plants, birds, reptiles and invertebrates. The assemblage of dragonfly and damselfly species is especially rich.
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 even 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 very rare animals confined to lowland heaths.
Upton Heath SSSI	4.5km south-west	An integral part of the national series of lowland heathlands, one of the largest continuous tracts of heathland in Dorset. It supports many of the rare plants and animals including sand lizard and smooth snake. The site has a number of uncommon heathland invertebrates and a total of 19 breeding species of dragonfly recorded.
Poole Harbour SSSI	4.8km south-west	One of the largest natural harbours in the world, with a high proportion of its area comprising intertidal marshes and mudflats. The harbour is important for its assemblage of flora, invertebrate, and bird communities.
Parley Common SSSI	5.3km north-east	Part of the original extensive heathland between the Moors River and the River Stour, this site retains much of the outstanding interest which has made the heathland famous. Many of the characteristic and rare species associated with Dorset Heathlands are recorded, whilst the rich invertebrate fauna reveals interesting affinities with the heaths of the New Forest.

Site Name	Approx. Distance and Direction from the Site	Interest Feature(s)
Slop Bog and Uddens Heath SSSI	5.6km north-east	These heathland areas are situated in the valley of the Uddens Water, a tributary of the Moors River. The wetter types of heath are best represented but there is dry heath in limited amount. Plant and animal communities typical of Dorset heathland occur and these include several rare species.
Luscombe Valley SSSI	6.2km south	Part of the complex of heathland sites, which together comprise the Dorset Heathlands. This site supports a range of important habitats with heath, acid grassland and mire communities within a matrix of pine woodland and the grassland of a close mown golf course. A small stream flows along the valley bottom and into Poole Harbour.
Holt and West Moors Heaths SSSI/NNR	6.5km north	This site comprises areas of heathland lying on acidic sands, clays and gravels between the Upper Moors River and its tributaries. Holt Heath is one of the largest remaining areas of heathland in Dorset.
Hurn Common SSSI	6.8km north-east	Although now separated into several fragments, it forms one of the largest remaining expanses of heathland in the county. Dry and wet heathland types are well represented, there are interesting areas of acidic grassland, and there is a rich associated fauna.
Moors River System SSSI	7.3km north-east	A small lowland river, which supports an exceptional diversity of aquatic and wetland plants. The vegetation varies from a type characteristic of mixed geology, low gradient rivers in the middle reaches to a type more typical of chalk streams towards the confluence with the River Stour.
Arne SSSI	8.7km south-west	The Arne Peninsula lies on the southern shore of Poole Harbour and holds an extensive area of lowland heathland with diverse plant and animal communities of dry heath, wet heath and bog. There are transitions from heathland into saltmarsh, reed swamp, coniferous and deciduous woodland.

3.6 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 impacts upon habitats could occur. This is the modelled area where 1% of the Critical Load (deposition flux of an air pollutant below which significant harmful effects on sensitive ecosystems do not occur, according to present knowledge[9]) of pollutants released by the EfW Facility on the particular habitats

[9] 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

present is exceeded. These designations are therefore 'scoped in' to the EcIA as IEF of international (and national in relation to the SSSI) importance.

3.7 Given the spatial distance and direction between the Site and the other internationally designated sites, namely Poole Harbour SPA/Ramsar (also covered by Poole Harbour SSSI) and Dorset Heaths (Purbeck and Wareham) and Studland Dunes SAC, significant air quality impacts from the proposals here are unlikely, as shown by the detailed air quality modelling. Owing to this, in addition to the lack of any other potential impact pathways from the proposals, these sites are therefore scoped out of the EcIA as IEF.

3.8 A detailed screening and assessment of potential impacts on these International Statutory Designations, including further information on the air quality modelling, is provided in the shadow Habitats Regulations Assessment Report (report ref.; edp7095_r011) accompanying the EcIA.

3.9 Similarly, the nature of the proposed development means that air quality effects would be the only potential impact pathway for the other nationally designated sites listed above. The detailed air quality assessment undertaken shows that these remaining designations are outside of the modelled area where significant impacts on habitats from air pollutants may arise. These sites are therefore scoped out of the EcIA as IEF.

Non-statutory Designations

3.10 Non-statutory designations are also commonly referred to in planning policies as 'local sites', although in fact these designations are typically considered to be important at a county level. In Dorset, such designations are named Sites of Nature Conservation Interest (SNCI). Additional designated sites which should be considered at this level include Local Community Nature Reserves (LCNR), Local Nature Reserves (LNR) and Ancient Semi-natural Woodland (ASNW) where these are not covered by other designations.

3.11 One non-statutory designation, Frogmoor Wood SNCI, is located almost adjacent to the EfW CHP Facility Site's boundary. The potential CHP Connection passes through this SNCI, it has therefore been 'scoped in' to the EcIA as an IEF of County importance. Other non-statutory designations present within 2km of the EfW CHP Facility Site include:

- Knighton Heath Golf Course SNCI, 980m south east;
- Moortown Copse SNCI, 1.1km north;
- Arrowsmith Coppice SNCI, 1.4km west;
- Canford Park LNCR, 1.6km north east;
- Haymoor Bottom SNCI, 1.7km south;
- Delph Woods SNCI, 1.8km west;
- Alderney Waterworks SNCI, 1.9km south east; and
- Bearwood SNCI, 1.9km east.

3.12 Regarding non-statutory designations, guidance from the Environment Agency in relation to environmental permitting[10] suggests that when the impact from the Proposed Development is less than 100% of the short-term and long-term relevant Critical Loads, the impact can be considered insignificant. However, the Institute of Air Quality Management (IAQM) guide to the assessment of air quality impacts on designated nature sites[9] notes that this likely does not provide adequate protection, and it is normal practice to treat such sites in the same manner as SSSI and European sites (i.e., using a screening threshold of 1% of the long-term and 10% of the short-term Critical Loads).

3.13 As such, using the same detailed air quality modelling and screening thresholds noted above in relation to international designations, no potentially significant impacts are anticipated on most of the identified non-statutory designations (i.e., the percentage increase in pollutant deposition is less than 1% of the particular habitat's Critical Load) and these have therefore been scoped out of the EcIA as IEF. The designations where 1% of the Critical Load is exceeded are:

- Knighton Heath Golf Course SNCI: This designation supports scattered remnants of heath on a golf course. At this designation, 1% of the Critical Load for acid deposition is exceeded;
- Moortown Copse SNCI: This designation supports deciduous woodland over gravel. At this designation, 1% of the Critical Load for nitrogen deposition and acid deposition is exceeded; and
- Bearwood SNCI: This designation supports woodland and a small area of grassland. At this designation, 1% of the Critical Load for nitrogen deposition and acid deposition is exceeded.

3.14 Knighton Heath, Moortown Copse and Bearwood SNCI have therefore also been scoped in to the EcIA as IEF of County importance.

HABITATS

3.15 Information on habitats within and around the Site was obtained during the desk study, and the Extended Phase 1 Habitat survey.

3.16 The distribution of different habitat types within and adjacent to the Site is illustrated on **Plan EDP 1**. In addition, detailed descriptions of these habitat types, together with illustrative photographs, are provided in **Appendix EDP 1**. A summary, and qualitative assessment of these habitats, using both JNCC Phase 1 and Defra Biodiversity Metric 3.1 terminology, is provided in **Table EDP 3.2**.

[10] https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit

Table EDP 3.2: Summary of Habitats Within the Site

JNCC Phase 1	DEFRA Metric 3.1			Area	Distribution	Intrinsic Ecological Importance*
Habitat Type	**Habitat Type**	**Distinctiveness**	**Condition**			
EfW CHP Facility Site						
Hardstanding/Bare Ground and Structures	Developed land; sealed surface and vacant/derelict land/bare ground	V. low and low	N/A and poor	1.75ha	Covers majority of the area	Negligible
Scrub and Tall Ruderal Vegetation	Mixed scrub and ruderal/ephemeral	Medium and low	Moderate	0.47ha	Around the edges of the hardstanding across the area	Site
Broadleaved Woodland	Other woodland, broadleaved	Medium	Moderate	0.15ha	South-east edge	Local
TCC1						
Poor Semi-improved Grassland	Modified grassland	Low	Poor	2.40ha	Covers the entirety of the TCC1 area.	Site
Hardstanding/Bare Ground	Developed land; sealed surface and vacant/derelict land/bare ground	V. low and low	N/A and poor	0.25ha	A bare ground track is present within TCC1, and the road connecting to the EfW CHP Facility Site is hardstanding	Negligible
TCC2						
Semi-Improved Neutral Grassland	Other neutral grassland	Medium	Moderate	1.37ha	Covers the entirety of the TCC2 area	Local
Bare Ground	Vacant/derelict land/bare ground	Low	Poor	0.07ha	A bare ground track connects TCC2 to the EfW CHP Facility Site	Negligible

JNCC Phase 1	DEFRA Metric 3.1			Area	Distribution	Intrinsic Ecological Importance*
Habitat Type	**Habitat Type**	**Distinctiveness**	**Condition**			
CHP Connection and DNC Corridor						
Hardstanding/Bare Ground	Developed land; sealed surface and vacant/derelict land/bare ground	V. low and low	N/A and poor	0.17ha	The majority of the potential connection corridor runs along existing access roads/tracks	Negligible
Semi-improved Neutral Grassland	Other neutral grassland	Medium	Moderate	1.93ha	Covers the entirety of the DNC corridor and short sections of the CHP Connection cross grassland fields	Local
Standing Water	Sustainable urban drainage feature	Low	Poor	0.03ha	Two waterbodies and an associated ditch at the north of the DNC corridor	Site
Broadleaved Woodland	Other woodland, broadleaved	Medium	Moderate	0.15ha	Short sections of the CHP Connection cross woodland parcels and a woodland belt (mostly along a grass track through the woodland)	Local

3.17 As noted within the table above, the majority of land cover within the EfW CHP Facility Site is hardstanding/bare ground of negligible intrinsic ecological importance, with small parcels of scrub and tall ruderal and two waterbodies of Site importance and a belt of woodland along the south east edge of Local importance. The majority of the connection corridors utilise existing hardstanding and bare ground roads/tracks, with short sections crossing grassland and woodland parcels.

3.18 Within the TCCs, TCC1 comprises an area of poor semi-improved grassland, which is of limited ecological importance. TCC2 is located within a corner of a large neutral semi-improved grassland field of Local importance.

3.19 A number of the habitats or other features also require consideration in relation to their importance in maintaining populations of protected and/or notable species.

PROTECTED AND/OR NOTABLE SPECIES

3.20 The likelihood of presence, or confirmed presence, of protected/and or notable wildlife species within the Site is summarised below with reference to desk study records, habitat suitability and detailed surveys where relevant. Further details are made available within appendices and plans where referenced.

3.21 Where a particular species or taxonomic group has been confirmed to be present, or presence is inferred based on habitat suitability, the ecological value or significance of the population or assemblage is assessed on a geographical scale according to professional judgement and available guidance.

Birds

3.22 The desk study returned records of notable birds, the most pertinent of which, based on the habitats present, are considered to include herring gull (*Larus argentatus*), nightjar, sky lark (*Alauda arvensis*), starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*) and linnet (*Linaria cannabina*).

3.23 The aforementioned studies on nightjar nesting, foraging and commuting habits in the area reviewed during the data search conclude that Canford Heath supports a number (10–20 pairs) of breeding nightjar and that breeding and non-breeding individuals travel north and east from the heath to forage, with some birds travelling as far north as the River Stour. The Nightjar Resource Use Study noted that whilst most birds spent the majority of their time on Canford Heath, others travelled to a variety of locations north and east the heath to forage using a range of flight paths. None of the tracked birds were recorded foraging within the Site, with preferred habitats lying beyond the Site to the north, east or west of the Site. Birds flying to foraging habitats north of the Site were recorded crossing over the Site to reach their preferred foraging area.

3.24 The majority of the EfW CHP Facility Site, CHP Connection and DNC corridor provide little to no suitable habitat for this species, with large areas of hardstanding and frequently disturbed (via regular personnel and vehicle movements) bare ground. However, the woodland edge and tall ruderal habitats provide some suitable foraging habitat, albeit

limited. The TCCs have potential to provide suitable foraging resource for nightjar as they support ruderal species within grassland, which could support the invertebrate assemblage preferred by nightjar. However, higher quality habitats are present within the local landscape, and this appears to be reflected in the paucity of records of tracked birds using the Site for foraging.

3.25 The pilot breeding bird survey undertaken in July 2021 recorded a total of 18 species. Of these, one is listed on the Birds of Conservation Concern (BoCC)[11] Red list, namely herring gull and a further six are on the Amber list, namely black-headed gull (*Chroicocephalus ridibundus*), woodpigeon (*Columba palumbus*), dunnock (*Prunella modularis*), song thrush (*Turdus philomelos*) willow warbler (*Phylloscopus trochilus*) and wren (*Troglodytes troglodytes*). The remaining 11 are common and widespread (Green list or no status) species.

3.26 All the species of conservation concern are relatively common and widespread, despite some suffering national declines. With the exception of the two gull species, which typically nest near water (black-headed gulls) or on sand dunes, cliffs or buildings (herring gulls), the other conservation concern species are likely to breed within the scrub and woodland habitats within/adjacent to the Site.

3.27 Overall, based on the survey findings, the assemblage of bird species recorded is considered to typical for the diversity and quality of habitats present at a site in this geographic and topographic location. The species recorded are all common resident species, which are widespread. Owing to the small numbers of species recorded, and the paucity of habitats within the Site that could support more specialist birds of conservation concern, the assemblage of breeding birds at the Site is considered to be of no greater than Site level importance.

Bats

3.28 The desk study returned numerous records for a variety of bat species within 5km of the Site, including greater horseshoe bat (*Rhinolophus ferrumequinum*), barbastelle (*Barbastella barbastellus*), serotine (*Eptesicus serotinus*), noctule (*Nyctalus noctula*), Leisler's bat (*Nyctalus leisleri*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), Nathusius' pipistrelle (*Pipistrellus nathusii*), Bechstein's bat (*Myotis bechsteinii*), Daubenton's bat (*Myotis daubentonii*), Natterer's bat (*Myotis nattereri*), Whiskered bat (*Myotis mystacinus*), brown long-eared bat (*Plecotus auritus*) and grey long-eared bat (*Plecotus austriacus*). Bat roosts within the wider area were recorded for brown long-eared bat, pipistrelle sp., serotine and noctule.

Preliminary Roost Assessment of Trees and Structures

3.29 The EfW CHP Facility Site contains a small number of trees, predominantly within the woodland blocks on its boundaries. It also contains a large metal structure along with seven

[11] Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. (2021) The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114: 723-747.

portacabins and several shipping containers associated with the active waste management park.

3.30 All structures within the Site were found to have negligible bat roost suitability. A total of five trees, located along the edges of the EfW CHP Facility Site and CHP Connection, were found to have bat roosting suitability. Full details of the survey results are provided in **Appendix EDP 3**.

Bat Foraging/Commuting Activity

3.31 During the summer and autumn bat transect activity surveys of the EfW CHP Facility Site undertaken in 2021, a low to moderate amount of activity by foraging common and soprano pipistrelle was recorded, mostly associated with the adjacent woodland edges, in addition to several passes by long-eared bat (*Plecotus* sp.) and some high passes by noctule. Additionally, automated detectors, also deployed in summer and autumn 2021, recorded a small number of passes from *Myotis* sp. and serotine.

3.32 During the spring bat transect activity surveys of the EfW CHP Facility Site undertaken in 2022, a relatively low amount of activity by foraging common and soprano pipistrelle was recorded, mostly associated with the adjacent woodland edges, in addition to several passes from *Myotis* sp. and noctule. Additionally, automated detectors also deployed in spring 2022 recorded low levels of activity from common pipistrelle, soprano pipistrelle and noctule with several passes from serotine, Nathusius' pipistrelle and *Myositis* sp. Additionally, a single pass was recorded from a barbastelle. Based on the survey findings, the bat population is dominated by common and widespread species in low to moderate numbers. Overall, the assemblage is judged to be of Local level importance.

Badger

3.33 No evidence of this species was recorded during any of the Site visits in 2021. However, badgers are relatively common and widespread nationally and locally across Dorset (with numerous records of badger returned from within 2km of the Site during the desk study) and the Site provides some opportunities for foraging and sett building. As such, it is considered likely badgers are present within the local landscape and potentially occupy the Site in future but would be of Site level importance only.

Dormouse

3.34 No records for hazel dormice (*Muscardinus avellanarius*) within 2km of the EfW CHP Facility Site were returned during the desk study. The EfW CHP Facility Site itself has a very small extent of woodland habitat that is of limited suitability for this species owing to its lack of understorey and regular disturbance. However, the woodland surrounding the EfW CHP Facility Site and within part of the potential CHP Connection is capable of supporting dormice. Albeit this suitability is much reduced in the woodland area immediately adjacent to the EfW CHP Facility Site due to light spill and general disturbance from the current waste management works. On a precautionary basis, any currently unknown dormouse population utilising the woodland immediately adjacent to the EfW CHP Facility Site is likely to be limited in size and therefore considered to be of Site level importance.

3.35 Given the nature of the proposals and limited extent of potential impacts on suitable woodland habitat, it is considered that no further dormouse surveys are required to inform the proposals or assessment of impacts. Measures to avoid potential impacts to this species during the works can be detailed within an Ecological Construction Method Statement (ECMS) and/or Landscape and Ecological Management Plan (LEMP) or equivalent documents, secured by a suitably worded planning condition.

Great Crested Newt

3.36 No records for great crested newt were returned from DERC during the desk study. The waterbodies within 250m of the EfW CHP Facility Site boundary subject to great crested newt eDNA testing in June 2021 returned negative results, suggesting this species is likely absent from the Site and wider surroundings.

3.37 Given the negative results returned from the great crested newt eDNA surveys no further surveys were considered necessary and great crested newt are considered to be absent from the Site. This species is therefore scoped out of the EcIA as an IEF.

Reptiles

3.38 Numerous records for common and rare reptile species within 2km of the Site were returned during the desk study, namely sand lizard, common lizard (*Zootoca vivipara*), slow-worm (*Anguis fragilis*), smooth snake, adder (*Vipera berus*) and grass snake (*Natrix helvetica*).

3.39 The habitats within the EfW CHP Facility Site, albeit limited in extent, and the grassland within TCC2, provide good suitability for common reptile species. However, these habitats do not typically support rare reptile species known to be present in the adjacent heathland, namely sand lizard and smooth snake.

3.40 Reptile surveys across the Site in 2022 found a medium population of slow-worm and low populations of common lizard, grass snake and adder utilising the suitable habitats, primarily within TCC2 where the rough grassland habitat has the highest suitability for these reptiles and within the tall ruderal habitats edging the EfW CHP Facility Site.

3.41 Based on the survey findings, the reptile assemblage within the Site is judged to be of Local level importance.

BIODIVERSITY NET GAIN

3.42 Potential habitat losses during construction have been quantified within the Biodiversity Metric, which will be appended to the EcIA. Two scenarios have been calculated given that only one of the two TCC areas will be utilised.

3.43 Based on the detailed layout, assumptions can be made regarding the habitats present post-development, made up of habitats retained in their current state (with no change), habitats lost then re-instated following temporary impacts such as the TCCs, habitats retained and enhanced, and newly created habitats. These assumptions have been quantified within the Biodiversity Metric as habitat units – no hedgerow or river units are present within the Site.

3.44 If TCC1 is utilised, the net effect of all habitat retention, enhancement and creation results in a total net unit change of -4.17 habitat units, which is -10.26%. This assumes that the grassland within the TCC2 area and the DNC corridor is subject to enhancement.

3.45 If TCC2 is utilised, the net effect of all habitat retention, enhancement and creation results in a total net unit change of -7.78 habitat units, which is -21.90%. This assumes that a better condition grassland will be created within the TCC2 area upon completion of the construction period, and that retained grassland within the DNC corridor is subject to enhancement.

3.46 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 this 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 to delivering enough credits to achieve a minimum 25% net gain, will be undertaken during the appropriate survey season.

Section 4
Summary of Findings

4.1 Based on the baseline investigations described above, the IEF pertinent to an EcIA (i.e., those of Local level importance or greater, or those receiving legal protection) of the proposed development at the Site, are listed in **Table EDP 4.1**.

Table EDP 4.1: Important Ecological Features Warranting Consideration by the EcIA

Important Ecological Feature	Key Attributes	Ecological Importance
Designated Sites		
Dorset Heathlands SPA/SAC/Ramsar	Designated for rare habitats including wet and dry heaths, alkaline fens and Molinia meadows, southern damselfly and internationally important bird assemblages. Adjacent to the Site.	International
Canford Heath SSSI	One of the largest heathland areas in Dorset, this site supports a number of the rare and local species characteristic of Dorset heathland. Adjacent to the Site.	National
Turbary and Kinson Commons SSSI	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 associated bog communities. The richness of these relic heathland and bog communities is made more significant by their urban location.	National
Ferndown Common SSSI	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 very rare animals confined to lowland heaths.	National
Parley Common SSSI	Part of the original extensive heathland in this area, this site retains much of the outstanding interest, which has made the heathland famous. Many of the characteristic and rare species associated with Dorset Heathlands are recorded, whilst the rich invertebrate fauna reveals interesting affinities with the heaths of the New Forest.	National
Frogmoor Wood SNCI	Birch woodland and semi-acid grassland. Adjacent to the EfW CHP Facility Site and bisected by the CHP Connection.	County
Moortown Copse SNCI	3.6ha of deciduous woodland over gravel.	County
Bearwood SNCI	3.42ha of broadleaved woodland and a small area of grassland.	County

Important Ecological Feature	Key Attributes	Ecological Importance
Designated Sites		
Knighton Heath Golf Course SNCI	45.95ha of golf course supporting scattered remnants of heath.	County
Habitats		
Woodland	Along the south-western boundary of the EfW CHP Facility Site and within the potential CHP Connection corridor. The EfW CHP Facility Site is surrounded by woodland to the southeast, south, west and north west.	Local
Semi-Improved Neutral Grassland	Within the TCC2 and DNC corridor	Local
Species		
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 Site, but due to Site 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 Site, but presence cannot be entirely ruled out, so precautionary methodologies will be required.	Site (included due to legal protection)
Reptiles	Presence of common species including slow-worm, common lizard, grass snake and adder.	Local

4.2 The IEFs identified are not considered to pose a significant constraint to the proposed development at the Site. By virtue of the quantum of hardstanding/bare ground and low value habitats present, coupled with the scope of the potential mitigation measures, sensitive development of the Site is considered to be capable of delivering biodiversity gain and being compliant with relevant legislation and planning policy for conservation of the natural environment at all levels.

Appendix EDP 1
Habitat Descriptions and Site Photographs

A1.1 The principal habitats within and around the Site are described below, with illustrative photographs provided where appropriate. The following should be read in conjunction with **Plan EDP 1**.

HARDSTANDING, BARE GROUND AND STRUCTURES

A1.2 The majority of the EfW CHP Facility Site is covered with hardstanding, bare ground and structures associated with the waste management park (as shown in **Image EDP A1.1**). The hardstanding/bare ground comprises the working space, parking areas and access tracks around the Site. There is one large structure in the centre of the EfW CHP Facility Site with seven portacabins located immediately east of this. There are also several shipping containers located across the EfW CHP Facility Site.

A1.3 These areas are of Negligible ecological importance. The structure's importance in relation to roosting bats in discussed within **Appendix EDP 3**.

Image EDP A1.1: Harding standing and main structure within the EfW CHP Facility Site

SCRUB AND TALL RUDERAL VEGETATION

A1.4 Around the peripheries of the hardstanding are earth banks dominated by scrub and tall ruderal vegetation, as shown in **Image EDP A1.2**. Additionally, some areas of ephemeral habitat associated with the margins, which have sparse vegetation and scrub starting to regenerate are present.

A1.5 Species associated with these habitats include ragwort (*Jacobaea vulgaris*), oxeye daisy (*Leucanthemum vulgare*), common vetch (*Vicia sativa*), dandelion (*Taraxacum officinale*), ribwort plantain (*Plantago lanceolata*), white clover (*Trifolium repens*), sow thistle (*Sonchus oleraceus*), creeping thistle (*Cirsium arvense*), yarrow (*Achillea millefolium*), cow parsley (*Anthriscus sylvestris*), purple toadflax (*Linaria purpurea*), black medic (*Medicago lupulina*), foxtail grass (*Alopecurus pratensis*), broad leaved dock (*Rumex obtusifolius*), fern sp., perineal rye grass (*Lolium perenne*), poppy (*Papaver rhoeas*), red clover (*Trifolium pratense*), curled dock (*Rumex crispus*), cocks foot (*Dactylis glomerata*) and Yorkshire fog (*Holcus lanatus*), teasle (*Dipsacus fullonum*), bindweed (*Convolvulus arvensis*), silverweed (*Potentilla anserina*) and rosebay willowherb (*Chamerion angustifolium*).

Image EDP A1.2: Strip of tall ruderal vegetation within the EfW CHP Facility Site

A1.6 The scatted scrub includes bramble (*Rubus fruticosus* agg.), bracken (*Pteridium aquilinum*), buddleia (*Buddleja davidii*), gorse (*Ulex europaeus*), birch (*Betula* sp.) saplings and conifer sp. as shown in **Image EDP A1.3**.

Image EDP A1.3: Scrub bank within the EfW CHP Facility Site

WOODLAND

A1.7 The EfW CHP Facility Site is bound by woodland to the north and south, as shown in **Image EDP A1.4**, this is listed as Deciduous Woodland on the Priority Habitat Inventory. Species present include oak (*Quercus robur*), horse chestnut (*Aesculus hippocastanum*), rowan (*Sorbus aucuparia*), holly (*Ilex aquifolium*), Scots pine (*Pinus sylvestris*) and silver birch (*Betula pendula*). Some of the parcels of woodlands were areas of planted pine trees. There was no notable ground flora species recorded, with a sparse understory of bramble, laurel (*Laurus nobilis*) and rhododendron (*Rhododendron ponticum*) with fern sp. and ivy (*Hedera helix*) also present.

A1.8 The area of woodland within the south-east area of the EfW CHP Facility Site boundary is dominated by oak. Bark chippings cover the ground in this area, associated with a bridleway and as such, there was minimal ground flora and understory growth.

Image EDP A1.4: Woodland along the southern border of the EfW CHP Facility Site

SEMI-IMPROVED NEUTRAL GRASSLAND

A1.9 TCC2 and the CHP Connection and DNC corridors are located within fields of semi-improved neutral grassland. The field within which TCC2 is situated has supported large greenhouses in the past and is cut on an occasional basis with some bracken encroaching from the edges, as shown in **Image EDP A1.5**. Frequent species in this area include Yorkshire fog, birds-foot trefoil (*Lotus corniculatus*), ribwort plantain (*Plantago lanceolata*), white clover (*Trifolium repens*), sweet vernal-grass (*Anthoxanthum odoratum*), hawksbeard sp. (*Crepis* sp.) with discrete patches where silverweed, creeping cinquefoil (*Potentilla reptans*), creeping thistle (*Cirsium arvense*), soft rush (*Juncus effusus*) and hard rush (*Juncus inflexus*) are locally dominant. Species recorded occasionally include meadow barley (*Hordeum brachyantherum*), cock's-foot (*Dactylis glomerata*), lawn daisy (*Bellis perennis*), black medick (*Medicago lupulina*), tall fescue (*Festuca arundinacea*), red fescue (*Festuca rubra*), smooth tare (*Vicia tetrasperma*), common vetch (*Vicia sativa*), false oat grass (*Arrhenatherum elatius*) and creeping bent (*Agrostis stolonifera*). Species recorded rarely include germander sp., perennial rye-grass (*Lolium perenne*), common chickweed (*Stellaria*

media), wavy hairgrass (*Deschampsia flexuosa*), common ragwort, self-heal (*Prunella vulgaris*), common centaury (*Centaurium erythraea*), spiked sedge (*Carex spicata*) and jointed rush (*Juncus articulates*).

A1.10 The CHP Connection and DNC corridor are within an ungrazed and unmown grassland field that is publicly accessible greenspace, supporting informal pathways that are popular with dog walkers. Yorkshire fog is abundant with frequent sweet vernal grass and occasional cock's-foot. Other species rarely and occasionally recorded include common mouse-ear (*Cerastium fontanum*), common sorrel *(Rumex acetosa)*, common ragwort, lesser stitchwort (*Stellaria graminea*), oak saplings, red clover (*Trifolium pratense*), field speedwell (*Veronica agrestis),* ribwort plantain, dandelion (*Taraxacum*), common cat's-ear (*Hypochaeris radica*ta), bird's foot trefoil, field woodrush (*Luzula campestris*) and spear thistle (*Cirsium vulgare*).

Image EDP A1.5: Semi-improved neutral grassland field where TCC2 is located

STANDING WATER

There are two waterbodies located next to one another and an associated ditch in the northern section of the DNC corridor. These features were created in 2021 as sustainable urban drainage features for an adjacent new development and as such, are still in their establishment phase with no aquatic vegetation present. The waterbody and ditch banks are steep with some grasses and tall ruderal vegetation.

POOR SEMI-IMPROVED GRASSLAND

A1.11 The field within which TCC1 is situated comprises recolonising poor semi-improved grass with some ephemeral/short perennial species over bare ground/gravel, as shown in **Image EDP A1.6**. This area is occasionally used to host car boot sales. Frequent species recorded in this area include lesser trefoil, common mouse-ear and red fescue, with stag's horn plantain (*Plantago coronopus*) abundant. Dandelion and yarrow were recorded occasionally, whist species recorded rarely include beaked hawk's-beard (*Crepis vesicaria*), spear thistle, ribwort plantain, broad leaved dock, creeping thistle, stork's bill (*Erodium cicutarium)* and daisy.

Image EDP A1.6: Poor semi-improved vegetation recolonising over gravel in TCC1 area

Appendix EDP 2
Breeding Bird Survey

METHODOLOGY

A2.1 The pilot breeding bird survey was timed to start around first light, to coincide with the period of peak activity for birds, most particularly passerine songbird species. It was also undertaken during suitable weather conditions, i.e., days/periods with strong winds and heavy or persistent rain were generally avoided. It is therefore considered that the results are not significantly limited by seasonal or climatic factors.

A2.2 The dates and timings of the survey visit, and the weather conditions encountered are summarised in **Table EDP A2.1**.

Table EDP A2.1: Date, Timing and Weather Conditions During the Breeding Bird Survey Visit

Date	Start/Finish	Sunrise	Precipitation	Cloud (%)	Wind (Beaufort)	Visibility
06/07/21	05:00 – 06:30	05:04	Nil	100	1–2	Fair

A2.3 The survey methodology involved walking to within c.50m of all parts of the EfW CHP Facility Site and recording all birds listed as BoCC and their activity status, with a particular emphasis placed upon those elements considered to relate to, or be indicative of, breeding. This ensured that the survey identified all birds using the margins of the EfW CHP Facility Site, as well as those in the interior.

A2.4 The survey was carried out by an experienced ornithologist, at an appropriate time of year for the locality, and in suitable weather conditions. It is therefore considered that the results provide a representative overview of the breeding bird interest at the EfW CHP Facility Site.

RESULTS

A2.5 The pilot breeding bird survey undertaken in July 2021 recorded a total of 18 species. Of these one is listed on the BoCC Red list, namely herring gull and a further six are on the Amber list, namely black-headed gull), woodpigeon, dunnock, song thrush, willow warbler, and wren. The remaining 11 are common and widespread (Green list or no status) species.

A2.6 Although the surveys were carried out at the time of BoCC 4, prior to BoCC 5 being published, the results of the breeding bird survey have been analysed using the current BoCC 5.

A2.7 **Table EDP A2.2** provides a full list of those species recorded that are considered to be of conservation concern.

Table EDP A2.2: A Summary of the Bird Species of Conservation Concern Recorded During 2021 Pilot Breeding Bird Survey

Species	BoCC 5	Other Status	Regional Status	Comments
Herring Gull (*Larus argentatus*)	Red	Priority Species	Locally abundant breeding resident, very common winter visitor and passage migrant.	Three recorded flying over the EfW CHP Facility Site, a further individual recorded flying over the TCCs and two recorded flying south-east of the Site.
Black-headed Gull *(Chroicocephalus ridibundus*)	Amber	n/a	Locally abundant breeding resident, very common winter visitor and passage migrant.	One recorded near to existing buildings at the EfW CHP Facility Site.
Dunnock (*Prunella modularis*)	Amber	Priority Species	Very common breeding resident	One singing within woodland within the CHP Connection.
Song Thrush (*Turdus philomelos*)	Amber	Priority Species	Common breeding resident, winter visitor and passage migrant.	One male recorded singing in woodland adjacent to the existing EfW CHP Facility Site.
Willow warbler (*Phylloscopus trochilus*)	Amber	n/a	Common but declining breeding visitor and migrant.	One male recorded singing in woodland adjacent to the CHP Connection.
Woodpigeon (*Columba palumbus*)	Amber	n/a	Very common breeding resident, winter visitor and passage migrant.	Two individuals were recorded flying over during the survey with one near to existing buildings at the recycling site and another flying over the south of the EfW CHP Facility Site.
Wren (*Troglodytes troglodytes*)	Amber	n/a	Very common breeding resident.	Three males recorded singing within woodland. One adjacent to the EfW CHP Facility Site and one within the CHP Connection and another adjacent to it.

A2.8 In addition to those species listed above, 11 Green Listed species were also observed within the Site. A list of species recorded is included in **Table EDP A2.3**.

Table EDP A2.3: Additional species recorded during the Breeding Bird Survey within the Site

Species	Local Status
Buzzard (*Buteo buteo*)	Common breeding resident.
Carrion Crow (*Corvus corone*)	Very common breeding resident, winter visitor and passage migrant.
Chaffinch (*Fringilla coelebs*)	Very common breeding resident, winter visitor and passage migrant.
Chiffchaff (*Phylloscopus collybita*)	Very common breeding resident, passage migrant and increasingly common winter visitor.
Goldfinch (*Carduelis carduelis*)	Very common increasing breeding resident, winter visitor and passage migrant.
Magpie (*Pica pica*)	Very common resident.
Nuthatch (*Sitta europaea*)	Fairly common breeding resident.
Pied Wagtail (*Motacilla alba*)	Common breeding resident, winter visitor and passage migrant.
Reed warbler (*Acrocephalus scirpaceus*)	Common breeding visitor and passage migrant.
Robin (*Erithacus rubecula*)	Very common breeding resident, winter visitor and passage migrant.
Treecreeper (*Certhia familiaris*)	Fairly common breeding resident.

A2.9 All the species of conservation concern are relatively common and widespread, despite some suffering national declines. With the exception of the two gull species, which typically nest near water (black-headed gulls) or on sand dunes, cliffs or buildings (herring gulls), the other conservation concern species are likely to breed within the scrub and woodland habitats surrounding the EfW CHP Facility Site. Birds were recorded site-wide, with peaks of activity associated with the woodland within and adjacent to the EfW CHP Facility Site and the CHP Connection corridor.

A2.10 No heathland specialist species associated with Canford Heath were recorded using the habitats within or flying over the Site and the Site does not support suitable breeding habitat for these species.

A2.11 Overall, based on the survey findings, the assemblage of bird species recorded is considered to typical for the diversity and quality of habitats present at a site in this geographic and topographic location. The species recorded are all common resident species, which are widespread. Owing to the small numbers of species recorded, and the paucity of habitats within the Site that could support more specialist birds of conservation concern, the assemblage of breeding birds at the Site is considered to be of no greater than Site level importance.

NIGHTJAR DATA ASSESSMENT

A2.12 Nightjars are spring/summer visitors associated with young plantation woodlands, woodland edge, clear fell and lowland heath habitats. They require areas of bare ground for

breeding with cover provided by low shrub species such as heather (*Calluna vulgaris*), gorse (*Ulex* spp.), bracken and bramble or trees.

A2.13 The aforementioned studies on nightjar nesting, foraging and commuting habits in the area[2,3,4] conclude that Canford Heath supports a number (10–20 pairs)[12] of breeding nightjar and that breeding and non-breeding individuals travel north and east from the heath to forage[13], with some birds travelling as far north as the River Stour. The Nightjar Resource Use Study noted that whilst most birds spent the majority of their time on Canford Heath, others travelled to a variety of locations north and east of the heath to forage using a range of flight paths. None of the tracked birds were recorded foraging within the Site, with preferred habitats lying beyond the Site to the north, east or west of the Site. Birds flying to foraging habitats north of the Site were recorded crossing over the Site to reach their preferred foraging area. This study also concluded that built up areas do not present a barrier to this species' dispersal as they were recorded both flying over and visiting them.

A2.14 Although the majority of the EfW CHP Facility Site, CHP Connection and DNC corridor provide little to no suitable habitat for this species, with large areas of hardstanding and frequently disturbed (via regular personnel and vehicle movements) bare ground, the woodland edge and tall ruderal habitats provide some suitable foraging habitat, albeit limited. The TCCs have potential to provide suitable foraging resource for nightjar as they support ruderal species within grassland, which could support the invertebrate assemblage preferred by nightjar. However, higher quality habitats are present within the local landscape, and this appears to be reflected in the paucity of records of tracked birds using the Site for foraging.

A2.15 Furthermore, no suitable nesting habitat is supported within the Site, with hardstanding, bare ground, dense woodland and regularly disturbed areas considered unsuitable for nesting nightjars.

A2.16 Opportunities to improve the foraging resource for nightjar within the local area were discussed in these reports in relation to various ongoing and planned developments. Areas highlighted for future nightjar mitigation were White's Pit to the east of the Site and Canford Park Suitable Alternative Natural Greenspace (SANG).

[12] Andrew Lowe and Oliver Padget April 2021Population estimates of European Nightjar, *Caprimulgus europeaus*, breeding on Canford Heath NNR, Dorset 2018/2019

[13] EPR Ltd, January 2017 (P12/55-2C) Nightjar Resource Use Study

Appendix EDP 3
Bat Surveys

METHODOLOGY

A3.1 Due to the presence of potentially suitable habitats for roosting, foraging and commuting bats within the Site, a range of bat surveys were undertaken in 2021 and 2022, with reference to national good practice guidelines [14]:

1. Preliminary roost assessment of trees and structures;
2. Bat foraging/commuting activity surveys:
    a. Manual transect surveys; and
    b. Automated detectors.

Bat Roosting Surveys

Preliminary Roost Assessment - Structures

A3.2 To determine the potential impacts of future development upon bats potentially roosting within structures present within the Site, a Preliminary Roost Assessment was undertaken by a suitably experienced ecologist following current good practice guidelines on 03 August 2021.

A3.3 A total of eight structures comprising one large, main structure (B1) and seven portacabins are present within the Site, as shown on **Plan EDP 1**. Additionally, several shipping containers are present across the EfW CHP Facility Site.

A3.4 The exterior walls and roofs of the structures were viewed from ground level using a high-powered torch and binoculars where appropriate. Features such as cracks/holes in the walls, ventilation gaps, loose/lifted cladding or roof felt, gaps between the barge- or soffit-boards, fascias and outside walls, broken windows, and cracks between the window frames and the walls were included in the search. Possible bat access points around the eaves and barge-boarding were noted, and areas where evidence of bat use may accumulate such as on the ground, ledges, windowsills, window panes and walls were inspected.

A3.5 Bats were sought for *in situ*, in addition to evidence of their usage in the form of characteristic signs. Signs of roosting bats include:

- Bat(s) roosting *in-situ* (live, dead or parts of);
- Bat droppings or urine splashes within or beneath a feature/access point;
- Feeding remains (e.g., insect wings and beetle wing cases);

[14] Collins, J. (ed.) (2016). Bat Surveys: for Professional Ecologists: Good Practice Guidelines (3rd edition). The Bat Conservation Trust, London

- Oily marks, smoothly worn surfaces or staining around an access point/feature;
- Audible squeaking from the roost; and
- Large/regularly used roosts or sites may produce a distinctive odour.

A3.6 Based upon the results of the Preliminary Roost Assessment, the structures were each assigned a bat roost suitability category, as shown in **Table EDP A3.1**.

Table EDP A3.1: Bat Roost Suitability Categories for Structures

Bat Roost Suitability	Description
Confirmed Roost	Evidence of bats found. A European Protected Species (EPS) mitigation licence likely required for works to the building to be completed lawfully.
High	A building/structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis.
Moderate	A building/structure with one or more potential roost sites that could be used by bats but are unlikely to support a roost of high conservation status (with respect to roost type only).
Low	A building/structure with one or more potential roost sites that could be used by individual bats opportunistically.
Negligible	The building/structure is not considered suitable for use by roosting bats.

Limitations

A3.7 Preliminary Roost Assessments of buildings/structures can be undertaken at any time of year and these assessments were therefore not limited by seasonal or climatic factors.

A3.8 Internal access into the structures was not possible. However, owing to the lack of potential bat access points on the structures and absence of any suitable internal roosing areas, this is not considered to be a limitation to the survey.

Preliminary Ground Level Roost Assessment - Trees

A3.9 To determine the potential impacts of the proposed development upon bats potentially roosting within trees within the Site, a Preliminary Ground Level Roost Assessment was undertaken to search for the presence of Potential Roosting Features (PRF), in accordance with current good practice guidelines[14].

A3.10 All trees within the Site boundary and immediately adjacent to it were assessed by a suitably experienced ecologist on 03 August 2021. Each tree was assessed as thoroughly as possible from ground level using a high-powered torch and binoculars, with all elevations covered where accessibility allowed.

A3.11 PRF sought for during the Preliminary Ground Level Roost Assessment included:

- Loss/peeling/fissured bark;
- Natural holes e.g., rot holes, cavities and wounds from fallen limbs;

- Woodpecker holes;
- Bat, bird or dormouse boxes;
- Compression forks or small gaps between overlapping stems;
- Cracks/splits or hollow tree trunk/limbs; and
- Crevices formed by thick-stemmed ivy.

A3.12 The Preliminary Ground Level Roost Assessment also included a search for any signs of roosting bats (as outlined in paragraph A3.5) present in, around or below each PRF.

A3.13 Based upon the results of the Preliminary Ground Level Roost Assessment, the descriptions provided in **Table EDP A3.2** were used to assign a roost suitability category to each tree.

Table EDP A3.2: Bat Roost Suitability Categories for Trees

Bat Roost Suitability	**Description**
Confirmed Roost	Evidence of bats found. An EPS mitigation licence likely required for works to tree to be completed lawfully.
High	Tree supports one or more PRF that are obviously suitable for use by larger numbers of bats on a more regular basis, and potentially for longer periods of time.
Moderate	Tree supports one or more PRF that could be used by bats but are unlikely to support a roost type of high conservation status (with respect to roost type only).
Low	A tree of sufficient size and age to contain PRF but with none seen from the ground, or features seen but with only very limited roosting potential.
Negligible	Tree supports no PRF and is not of a size or age where it is likely to have any.

Limitations

A3.14 Preliminary Ground Level Roost Assessments of trees can be undertaken at anytime of the year but are best undertaken in winter/early spring when visibility into the crown of the tree is improved due to the absence of leaves. As this survey was undertaken during August, it is possible that some PRF may have been missed due to the limited canopy visibility.

A3.15 Bats are mobile animals and will move between a series of different tree roost sites, frequently establishing and occupying different PRF, depending on seasonal requirements and resources available locally. Furthermore, existing PRF on trees can be transient and new PRF formed regularly. This survey, therefore, only provides a snapshot of the conditions present at the Site at the time of survey.

Bat Activity Surveys

Manual Transect Surveys

A3.16 Manual transect surveys were undertaken to identify levels of bat activity within the EfW CHP Facility Site. With reference to current good practice guidelines[14], surveys were completed in 2021 and 2022 within the seasonal months of August, September and May. The date, timing and weather conditions of each transect survey is given in **Table EDP A3.3**.

Table EDP A3.3: Date, Timing and Weather Conditions of Bat Transect Surveys

Survey Date	Survey Start – End Times	Sunset Time	Weather Conditions (Start - End)			
			Temp (ºC)	Cloud (%)	Rain	Wind (Beaufort Scale)
03 Aug 2021	20:51–22:51	20:51	20–13	15–0	Nil	0
22 Sep 2021	19:07–21:07	19:07	18–15	10–0	Nil	1
28 May 2021	21:07–23:07	21:07	19–15	20–5	Nil	0

A3.17 The transect surveys were completed by an experienced bat surveyor and assistant, walking six loops of a single route around the EfW CHP Facility Site, as shown on **Plan EDP 3**.

A3.18 Activity surveys were conducted using an Elekon Batlogger M, with observations of the time, location, and activity of all bats seen or heard recorded. Bats were identified on the basis of their characteristic echolocation calls, which were recorded and analysed using computer sonogram analysis (BatExplorer) to confirm species identification. Species of *Myotid* bat (*Myotis* spp.), long-eared bat (*Plecotus* spp.) and in some cases *Nyctalus* spp. are difficult to tell apart solely from their echolocation calls and were therefore grouped as such.

Automated Detector Surveys

A3.19 To supplement the bat transect survey data, activity within the EfW CHP Facility Site was also sampled using static detectors which automatically trigger and record echolocation calls. Two automated detectors were deployed in strategic locations within the EfW CHP Facility Site for at least five consecutive nights during each sampling month to sample bat foraging and commuting activity. These locations are illustrated within **Plan EDP 3**.

A3.20 Anabat Express Bat Detectors were fixed in secure locations, with an external microphone attached approximately 1.5–2m above ground and directed away from the tree/hedgerow to maximise detection sensitivity. **Table EDP A3.4** gives the sampling dates and weather conditions for the automated detectors deployed during each sampling period. Weather information was taken from a local weather station (located approx. 2km south-west of the Site) available online.

Table EDP A3.4: Automated Detector Sampling Dates and Weather Conditions

Sampling Period	Location Ref	Temp Range (°C)	Precipitation
03–09 Aug 21	L1	Low of 9.3 on one-night, other nights low of 10.6 to 13.1	Small amount of rain (0.25mm) during one night.
	L2		
27 Sept–05 Oct 21	L1	Lows of 5.0 to 6.6 on four nights, 8.3 to 10 on the other nights.	Some rain (3–16mm) on three nights, heavy rain (49mm) on one night.
	L2		
18–25 May 22	L1	Low of 7.1 and 7.4 on two nights, 8.0 to 11.6 on other nights.	Small amount of rain (2–3mm) on three nights and moderate rain (5mm) on last night.
	L2		

A3.21 The echolocation calls recorded by the automated detectors were filtered for noise files (i.e., sound files created when noise triggers the detector to record) and then specifically for each of the UK's bat species using Analook software filter function. All files passing the various filters were checked manually using sonogram analysis (Titley Scientific AnalookW) in accordance with published parameters[15] to confirm the identification of each call.

Limitations

A3.22 The September 2021 survey experienced some cold and rainy weather conditions during the sampling period. Additionally, the May 2022 sampling period was unseasonably rainy. This will have had an impact on the levels of bat activity recorded and has been taken into consideration during analysis of the results. The August 2021 automated detector survey was not constrained by unseasonably cold or wet conditions.

A3.23 One of the August 2021 automated detectors (location L1) suffered a software failure such that no recordings were made by this detector. Given the small size of the Site, the recordings made by the remaining functional detector at location L2 are considered to provide sufficient data for the Site.

A3.24 The identification of calls and species using Analook software is dependent upon the quality of the recording made, which may limit levels of activity and species recorded and can be influenced by the following factors:

- Weather conditions - rainfall and wind;
- Distance of bat from the microphone;
- Presence of obstructions through which the noise must pass i.e., trees/leaves; and
- Proximity of other noise sources such as roads.

[15] Russ (2021). Bat Calls of Britain and Europe, a Guide to Species Identification. Pelagic Publishing, Exeter

RESULTS

Bat Roosting Surveys

Preliminary Roost Assessment – Structures

A3.25 Structure B1 is a large, modern industrial building used for waste management, constructed of corrugated metal with a pent roof of metal sheeting. Access is via large, automated doors on both ends. The structure was tightly sealed with no potential bat access points found. There was security lighting fixed to the building and installed across the EfW CHP Facility Site, as a result, the site and associated features are subject to artificial light pollution.

A3.26 The portacabins are metal walled with flat roofs of bitumen roofing felt. They have PVC guttering and windows. Some had a soffit board strips, no access points or crevices were observed around the perimeters. The buildings were in use as office spaces with internal lighting and are known to have high levels of human disturbance during the day.

Image EDP A3.1: External construction of the main structure (B1) and a portacabin

A3.27 The shipping containers across the EfW CHP Facility Site are considered not suitable for use by bats; the metal construction and lack of insulation/ventilation would result in internal temperatures fluctuating too much. Additionally, no access potential points are present around the container doorways.

Image EDP A3.2: One of the shipping containers within the EfW CHP Facility Site

A3.28 No evidence of bats was found during the assessment. The assessment identified all structures to be of negligible suitability for use by roosing bats.

Preliminary Ground Level Roost Assessment - Trees

A3.29 During the preliminary ground level roost assessment of trees, five trees within/immediately adjacent to the Site were found to support features with bat roost suitability. Details are provided in **Table EDP A3.5**.

Table EDP A3.5: Preliminary Ground Level Roost Assessment Results

Tree Number*	Species	Description	Roost Suitability Category
T29	Scots pine	A couple of shallow cracks in branch scars.	Low
T22	English oak	Numerous cracks in small dead branches, snag ends and a large crack in a more significant branch.	Moderate
T1	English oak	A few gaps in branch scars that look to be quite shallow.	Moderate
T5	English oak	Two small limb holes	Moderate
T4	English oak	Several small limb holes and splits in dead branches, one larger rot hole.	Moderate

*Corresponds to tree numbers within the arboricultural assessment for the Site (ref: edp7095_r005)

A3.30 No features with bat roost suitability were seen on any other trees within/immediately adjacent to the Site. All other trees were therefore assessed as having negligible suitability for roosting bats.

Bat Activity Surveys

Manual Transect Surveys

A3.31 During the manual transect surveys at least five species of bat (as *Myotis* sp. and long-eared sp. recordings are not identified to species level) were recorded, namely common pipistrelle, soprano pipistrelle, noctule, *Myotis* sp. and long-eared sp. The vast majority of this activity related to common pipistrelle bats, which were mostly seen foraging along the woodland edges at the EfW CHP Facility Site boundaries, with soprano pipistrelle being the second most commonly recorded, also seen foraging along the wooded boundaries. Several passes by noctule were recorded during the surveys; an individual was seen flying high westwards over the EfW CHP Facility Site whilst three bats of this species were seen flying above the woodland to the west of the Site during the August survey. Additionally, several passes by long-eared sp. were recorded during the August survey, and a single Myotis sp. pass was recorded in the May survey, all associated with the woodland edges.

A3.32 These results are illustrated on **Plan EDP 3** to **Plan EDP 5**.

Automated Detector Surveys

A3.33 Detailed results of the automated detector surveys, undertaken in August and September 2021 and May 2022 are provided in **Tables EDP A3.6**, **A3.7** and **A3.8** below.

A3.34 In summary, the August survey showed low to moderate levels of activity from common pipistrelle (making up 43.6% of all bat recordings made by the detector in August), and a reasonable level of activity by noctule (120 recordings in total, 31.3%). Soprano pipistrelle was the third most frequently recorded species with a total of 59 recordings (15.4%), followed by a small number of passes recorded by serotine (20 passes, 5.2%) and *Myotis* sp. (17 passes, 4.4%).

A3.35 The September automated detectors recorded very low levels of activity from noctule and soprano pipistrelle, with a couple of passes from common pipistrelle. However, this sampling period was constrained by unseasonably wet and cold conditions, so this data is considered to be an underrepresentation of typical bat activity during this month.

A3.36 The May survey showed low levels of activity across both locations from common pipistrelle, soprano pipistrelle and noctule. A small number of passes from serotine, *Myotis* sp. and Nathusius' pipistrelle were also recorded during the sampling periods. A single pass from a barbastelle was recorded at Location 2.

Table EDP A3.6: Results of Automated Detector Surveys – August 2021

Location and Species Recorded	**Date and Number of Recordings**						**Grand Total**	**Percentage of Recordings per Detector**
	03 Aug 21	**04 Aug 21**	**05 Aug 21**	**06 Aug 21**	**07 Aug 21**	**08 Aug 21**		
Location L1								
	Detector failed – no recordings made							
Location L2	**77**	**93**	**25**	**113**	**41**	**34**	**383**	
Common pipistrelle	16	21	7	90	16	17	167	43.6%
Noctule	36	53	9	8	4	10	120	31.3%
Soprano pipistrelle	13	12	6	9	13	6	59	15.4%
Serotine	4	5	2	5	4		20	5.2%
Myotis sp.	8	2	1	1	4	1	17	4.4%

Table EDP A3.7: Results of Automated Detector Surveys – September 2021

Location and Species Recorded	**Date and Number of Recordings**					**Grand Total**	**Percentage of Recordings per Detector**
	27 Sep 21	**29 Sep 21**	**01 Oct 21**	**03 Oct 21**	**04 Oct 21**		
Location L1	**6**	**2**	**5**			**13**	
Noctule	2	2	2			6	46.2%
Soprano pipistrelle	2		3			5	38.5%
Common pipistrelle	2					2	15.4%
Location L2	**1**			**3**	**1**	**5**	
Noctule	1			1	1	3	60.0%
Soprano pipistrelle				2		2	40.0%

Table EDP A3.8: Results of Automated Detector Surveys – May 2022

Location and Species Recorded	Date and Number of Recordings					Grand Total	Percentage of Recordings per Detector
	18 May 22	19 May 22	20 May 22	21 May 22	22 May 22		
Location L1	**84**	**9**	**4**	**7**	**11**	**115**	
Common pipistrelle	71	4		4	8	87	75.6%
Noctule	6	4	4	2	3	19	16.5%
Soprano pipistrelle	6	1		1		8	7%
Nathusius' pipistrelle	1					1	0.9%
Location L2	**57**	**16**	**44**	**26**	**25**	**168**	
Common pipistrelle	41	8	13	8	10	80	47.6%
Soprano pipistrelle	7	4	24	5	6	46	27.4%
Serotine	1	2	3	5	3	14	8.3%
Noctule		2	3	3	4	12	7.1%
Myotis sp.	4		1	4	1	10	6%
Nathusius' pipistrelle	4			1		5	3%
Barbastelle					1	1	0.6%

Appendix EDP 4
Great Crested Newt eDNA Survey

METHODOLOGY

A4.1 There are two waterbodies and an associated ditch present at the north end of the DNC corridor section of the Site. These could not be accessed at the time of the eDNA survey. This is not considered to be a significant limitation given the absence of great crested newt records in the area (supported by recent survey work undertaken for various nearby developments). Furthermore, these waterbodies and ditch were only created in 2021 as part of the drainage scheme for one of the nearby developments, so do not yet have any vegetation and are highly unlikely to have an established fauna assemblage.

A4.2 Off site, there are two balancing ponds and a third connected sequence of six polluted waterbodies present within 250m of the Site boundary, all located in a group approximately 45m north-west of the EfW CHP Facility Site at their closest point.

A4.3 To determine the presence/likely absence of great crested newt within the vicinity of the Site, water sampling was undertaken of these waterbodies. Environmental DNA (eDNA) is DNA that is collected from the environment in which an organism lives. In aquatic environments, animals including amphibians shed cellular material into the water via their saliva, urine, faeces, skin cells, etc. This DNA may persist for several weeks. It can be collected through a water sample and analysed to determine if the target species of interest (great crested newt) is/has been present in the sampled waterbody.

A4.4 Water samples were taken from the waterbodies on 29 June 2021 by a great crested newt licensed ecologist in accordance with those methodologies set out by the Freshwater Habitats Trust[16] and using separate sterile equipment packs provided by SureScreen Scientifics for the collection of eDNA samples. Briefly, the protocol involves:

- Collecting 20 water samples from selected areas evenly spread around the accessible perimeter of the waterbody including both open water and vegetated areas;
- At each sampling location, a ladle of water is collected by stirring the water column without stirring up sediment and poured into the provided sampling bag. When all 20 ladles are collected, the bag is shaken thoroughly;
- 15ml of this mixed sample is then pipetted into each of six conical tubes containing preserving fluid and a control substance, each tube is then shaken thoroughly to homogenize the sample; and
- These tubes are then labelled appropriately and couriered to the laboratory for real-time polymerase chain reaction (PCR) analysis.

[16] GCN eDNA protocol, P. Williams, Freshwater Habitats Trust. August 2013

Limitations

A4.5 According to guidance, there is a 99.3% detection rate of great crested newt eDNA when 80–90% of the pond margin is sampled, and this detection percentage decreases with decreasing area of pond margin that is sampled. Access to the perimeter of these waterbodies to take samples was limited to approximately 50–70% of the three ponds sampled owing to the presence of tall, steep banks. Therefore, the probability of the results being accurate is decreased to some extent.

RESULTS

A4.6 No evidence of great crested newt eDNA was found in the three waterbodies surveyed in 2021. Analysis was conducted in accordance with current best practice guidelines and in the presence of the following controls: extraction blank, appropriate positive and negative PCR controls (great crested newt, inhibition, and degradation). All controls performed as expected.

Appendix EDP 5
Reptile Survey

METHODOLOGY

A5.1 To confirm the presence, or likely absence, of reptiles and the extent of their usage of the Site, detailed refugia-based surveys were undertaken with reference to best practice guidance [17, 18], targeting suitable habitats across the Site. The location of reptile refugia are illustrated on **Plan EDP 6**.

A5.2 A total of 200 artificial reptile refugia were deployed at regular intervals throughout suitable reptile habitat within the EfW CHP Facility Site and TCC2 on 03 May 2022. An additional 30 refugia were deployed in TCC1 on 18 May 2022. The refugia comprised of:

- 80 bitumen roofing felt sheets (measuring approximately 1m x 0.5m);
- 75 corrugated tin rectangles (1m x 0.5m); and
- 75 corrugated tin squares (0.5m x 0.5m).

A5.3 Reptile refugia were left undisturbed *in situ* for two weeks prior to the commencement of the seven reptile survey visits between May and July 2022. Detailed weather conditions recorded during each survey visit are summarised in **Table EDP A5.1**.

Table EDP A5.1: Date, Timing and Weather Conditions of Reptile Survey Visits

Visit No.	Visit Date	Start Time	Air Temp Range (°C)	Wind Speed (Beaufort)	Cloud Cover (%)	Rain
1	17/05/22	08:30	16–17	0	0	Nil
2	18/05/22	16:00	15–17	1–2	70–100	Light rain during last 10 mins
3	26/05/22	09:00	15–16	1	80–90	Nil
4	01/06/22	09:40	12–16	2	15–80	Nil
5	08/06/22	08:40	15–17	2–3	80–50	Light rain at beginning and end of survey
6	30/06/22	11.30	17–19	0	60	Light rain towards the end of the survey
7	28/07/22	13:00	20–21	1–2	20–90	Nil

[17] Froglife (1999) Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10, Froglife, Halesworth

[18] DMRB (2005) Nature conservation advice in relation to reptiles and roads. Volume 10, Section 4, Part 7, HA/116/05. DMRB

A5.4 During each survey visit, artificial refugia were individually checked by an experienced ecologist with any reptiles observed recorded, along with notes on their life stage (adult/juvenile) and sex. Surveyors also scanned and searched suitable habitat adjacent to and between the refugia for basking reptiles.

A5.5 A peak count of the total number of individuals of a particular species was recorded. Peak counts of adults were then used to estimate population size for each reptile species recorded. Estimates of population size followed the approach given in the withdrawn draft reptile mitigation guidelines[15], and are summarised with respect to widespread reptiles in **Table EDP A5.2**.

Table EDP A5.2: Population Size Estimates for Common Reptile Species

Species	Population Size Class Category		
	Small	Medium	Large
Slow-worm	< 10	10–40	> 40
Common lizard	< 5	5–20	> 20
Grass snake	< 5	5–10	> 10
Adder	< 5	5–10	> 10

Limitations

A5.6 The reptile surveys were undertaken mostly within recognised optimal months for reptile surveys and during suitable weather conditions, however, due to record-breaking temperatures in July, the final survey was postponed and finally undertaken in sub optimally warm conditions.

A5.7 Due to access issues, refugia within TCC1 were deployed at a later date and therefore subject to only four survey visits. Given the limited suitability of the habitat within this area if the Site, this is not considered to have significantly impacted the results or impact assessment.

RESULTS

A5.8 Seven reptile survey visits were undertaken within the Site, the results are shown in **Table EDP A5.3**.

Table EDP A5.3: Summary of Reptiles Recorded within the Site

Visit No.	Part of the Site	Slow-Worm				Common Lizard				Grass Snake		Adder
		Male	Female	Juvenile	Adult Count	Male	Female	Juvenile	Adult Count	Juvenile	Adult	Adult
1	EfW CHP Site	0	1	0	**1**	0	0	0	**0**	0	**0**	**0**
	TCC2	8	7	34	**15**	1	2	0	**3**	1	**0**	**0**
	TCC1	n/a	n/a	n/a	**n/a**	n/a	n/a	n/a	**n/a**	n/a	**n/a**	**n/a**
2	EfW CHP Site	0	3	0	**3**	0	0	0	**0**	0	**0**	**0**
	TCC2	0	8	13	**8**	0	0	0	**0**	0	**0**	**0**
	TCC1	n/a	n/a	n/a	**n/a**	n/a	n/a	n/a	**n/a**	n/a	**n/a**	**n/a**
3	EfW CHP Site	2	7	1	**9**	0	1	0	**1**	1	**1**	**0**
	TCC2	1	9	7	**10**	1	1	0	**2**	0	**0**	**0**
	TCC1	n/a	n/a	n/a	**n/a**	n/a	n/a	n/a	**n/a**	n/a	**n/a**	**n/a**
4	EfW CHP Site	1	3	0	**4**	0	0	0	**0**	**1**	**0**	**0**
	TCC2	1	8	0	**9**	0	1	0	**1**	0	**0**	**0**
	TCC1	0	0	0	**0**	0	0	0	**0**	0	**0**	**0**
5	EfW CHP Site	1	1	0	**2**	0	0	0	**0**	0	**0**	**0**

Visit No.	Part of the Site	Slow-Worm				Common Lizard				Grass Snake		Adder
		Male	Female	Juvenile	Adult Count	Male	Female	Juvenile	Adult Count	Juvenile	Adult	Adult
	TCC2	2	11	1	**13**	0	0	0	**0**	0	**0**	**0**
	TCC1	0	0	0	**0**	0	1	0	**1**	0	**0**	**0**
6	EfW CHP Site	4	9	0	**13**	0	0	0	**0**	0	**1**	**0**
	TCC2	1	16	4	**17**	0	0	0	**0**	0	**0**	**2**
	TCC1	0	0	0	**0**	0	0	0	**0**	0	**0**	**0**
7	EfW CHP Site	2	7	0	**9**	0	0	0	**0**	0	**2**	**0**
	TCC2	0	0	0	**0**	0	0	0	**0**	0	**0**	**0**
	TCC1	0	0	0	**0**	0	0	0	**0**	0	**0**	**0**

EfW CHP Facility Site

A5.9 A peak adult survey count of 13 slow-worm, a single common lizard, and 2 grass snake were recorded within the EfW CHP Facility Site, as shown on **Plan EDP 6**.

TCC2

A5.10 A peak adult survey count of 17 slow-worm, three common lizard and 2 adder were recorded within the TCC2 survey area, as shown on **Plan EDP 6**.

TCC1

A5.11 A single common lizard was recorded within this survey area, as shown on **Plan EDP 6**.

Overall

A5.12 This indicates the presence of a medium population of slow-worm and low populations of common lizard, grass snake and adder within the whole of the Site.

A5.13 Several amphibians were also recorded during the survey, comprising young common toad (*Bufo bufo*) and young common frog (*Rana temporaria*) under mats in the EfW CHP Facility Site.

Plans

Plan EDP 1: Extended Phase 1 Habitat Survey
(edp7095_d002c 22 June 2023 GYo/JSn)

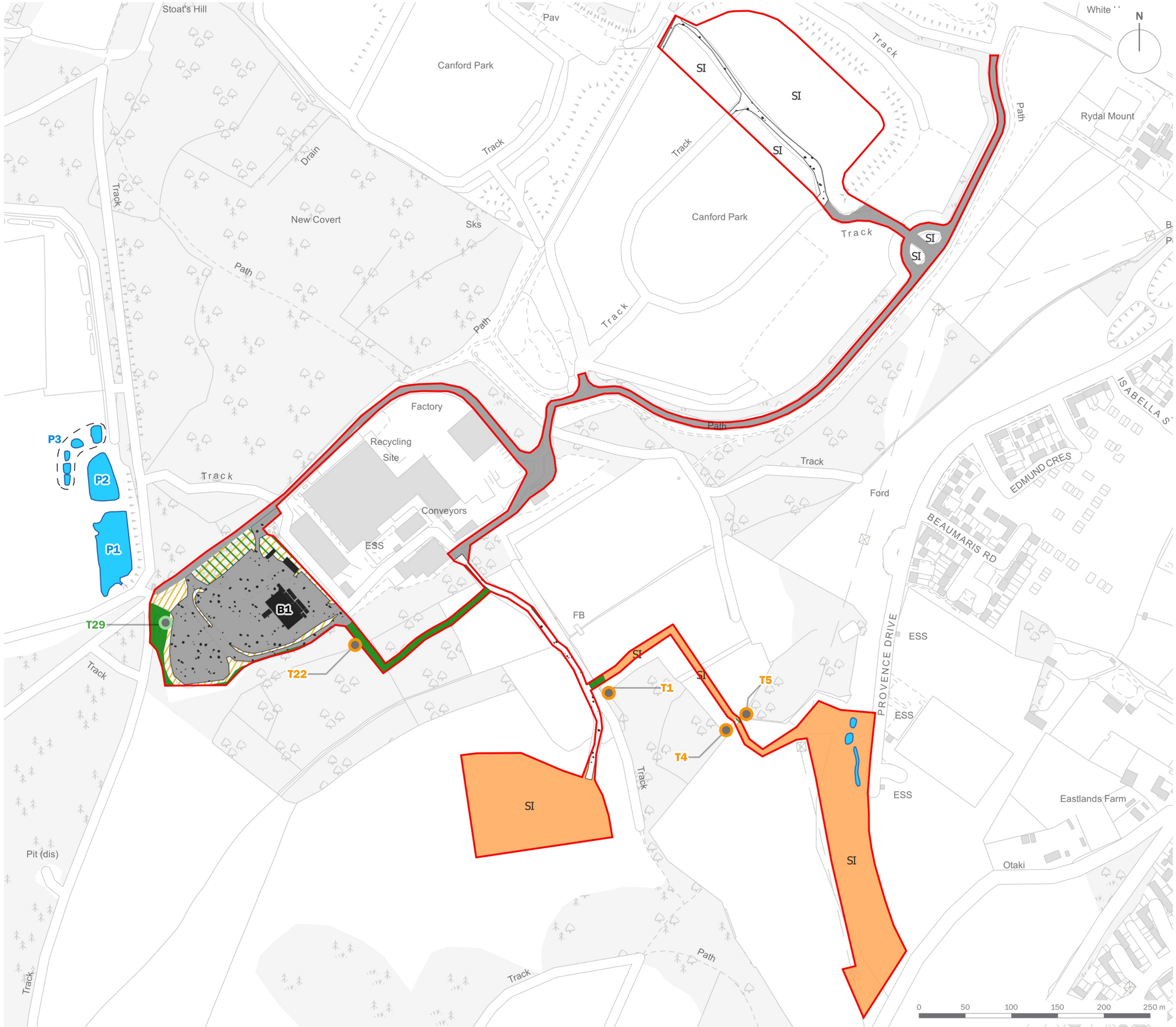
Plan EDP 2: Statutory Designated Sites within 5km
(edp7095_d003b 16 February 2022 DJo/GCr)

Plan EDP 3: August 2021 Bat Activity Survey Results
(edp7095_d004b 03 May 2023 DJo/GCr)

Plan EDP 4: September 2021 Bat Activity Survey Results
(edp7095_d005b 03 May 2023 DJo/GCr)

Plan EDP 5: May 2022 Bat Activity Survey Results
(edp7095_d020b 03 May 2023 GYo/TRo)

Plan EDP 6: Reptile Survey Plan
(edp7095_d006b 03 May 2023 DJo/GCr)



Site Boundary

Broadleaved Semi-natural Woodland

Tall Ruderal

Scrub and Tall Ruderal

SI Semi-improved Neutral Grassland

SI Poor Semi-improved Grassland

Standing Water

Building

Hardstanding

Hardstanding/Bare Ground

Bare Ground

Trees with Bat Roost Suitability

Moderate Suitability

Low Suitability

client

MVV Environment Limited

project title

Proposed Energy from Waste Combined Heat and Power Facility at Canford Resource Park

drawing title

Extended Phase 1 Habitat Survey

date	**22 JUNE 2023**	drawn by	**GYo**
drawing number	**edp7095_d002c**	checked	**JSn**
scale	**1:4,000 @ A3**	QA	**DJo**

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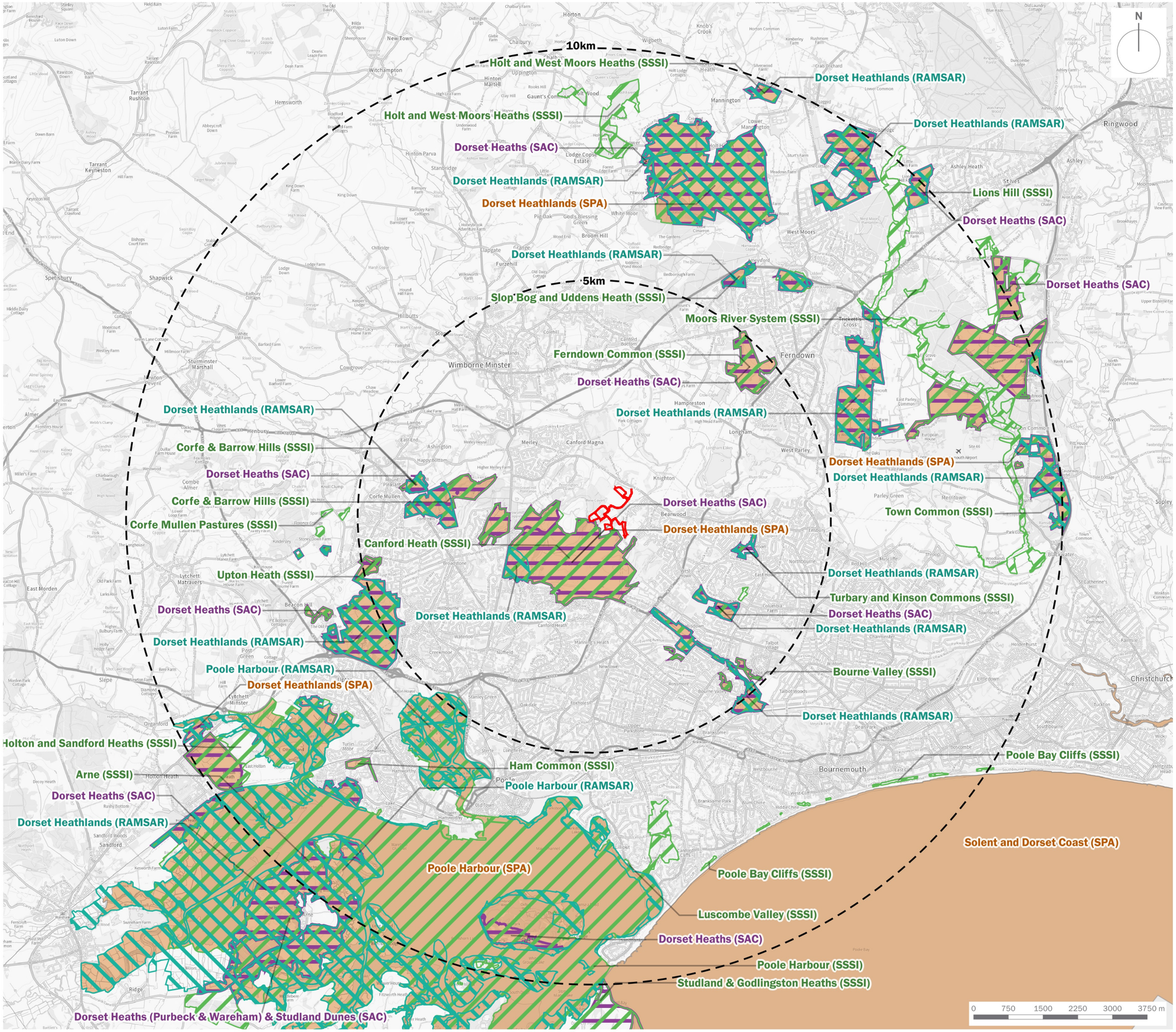

Site Boundary

Range Rings from the EfW CHP Facility Site (at 5km intervals)

Site of Special Scientific Interest (SSSI)

RAMSAR

Special Area Conservation (SAC) - Dorset Heaths

Special Protection Area (SPA)

client

MVV Environmental Limited

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Proposed Energy from Waste Combined Heat and Power Facility at Canford Resource Park

drawing title

Statutory Designated Sites within 10km

date	**16 FEBRUARY 2023**	drawn by	**DJo**
drawing number	**edp7095_d003b**	checked	**GCr**
scale	**1:80,000 @ A3**	QA	**GYo**

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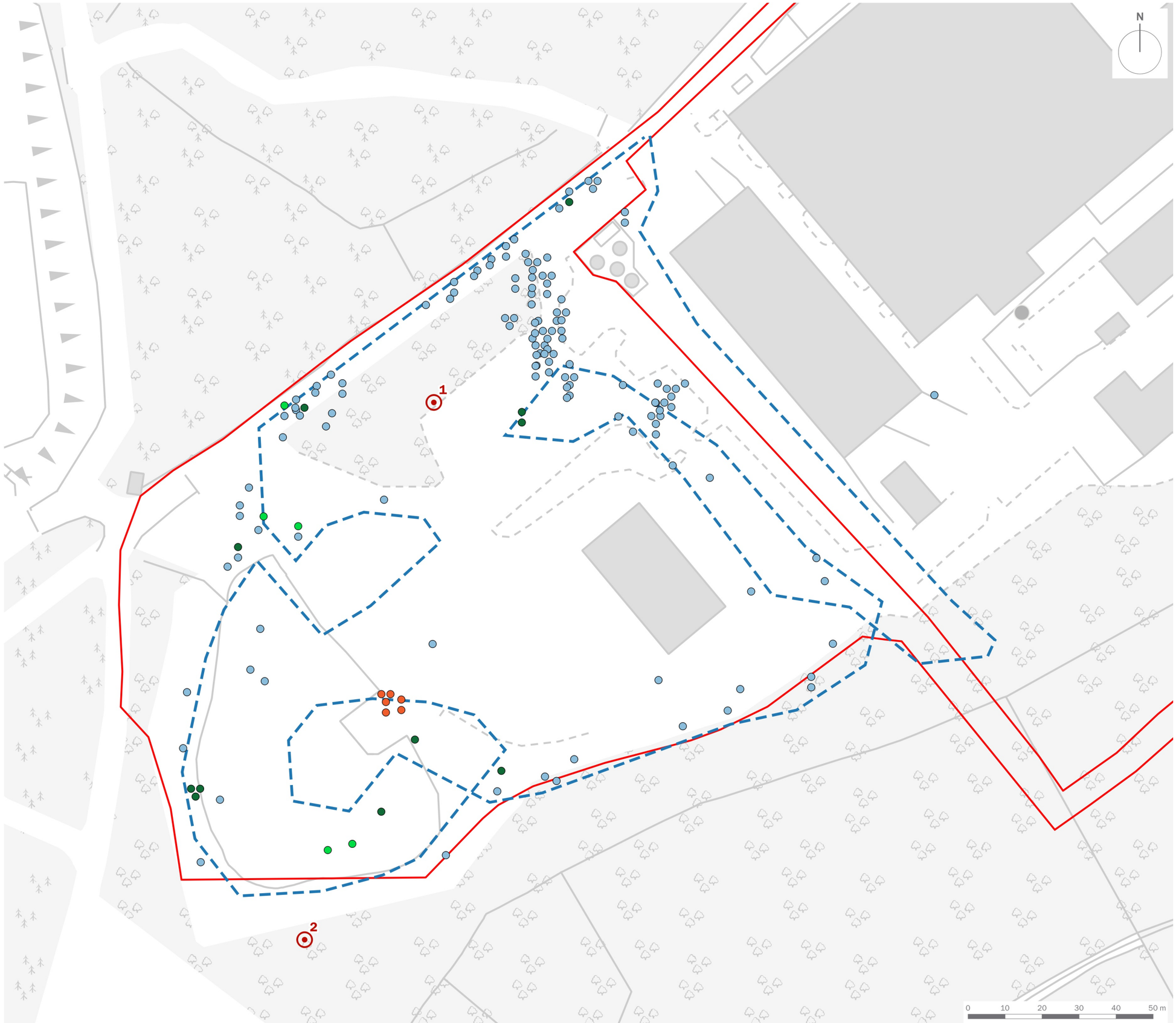


Site Boundary

Bat Transect

Automated Bat Detector

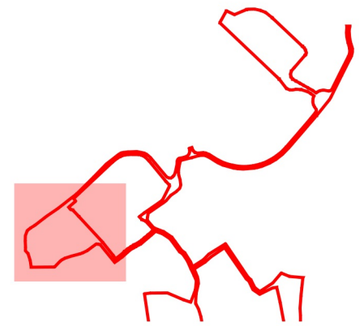
Bat Survey

Common Pipistrelle

Soprano Pipistrelle

Noctule

Long-eared Sp.



client

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project title

Proposed Energy from Waste Combined Heat and Power Facility at Canford Resource Park

drawing title

August 2021 Bat Activity Survey Results

date	**03 MAY 2023**	drawn by	**DJo**
drawing number	**edp7095_d004b**	checked	**GCr**
scale	**1:1,000 @ A3**	QA	**GYo**

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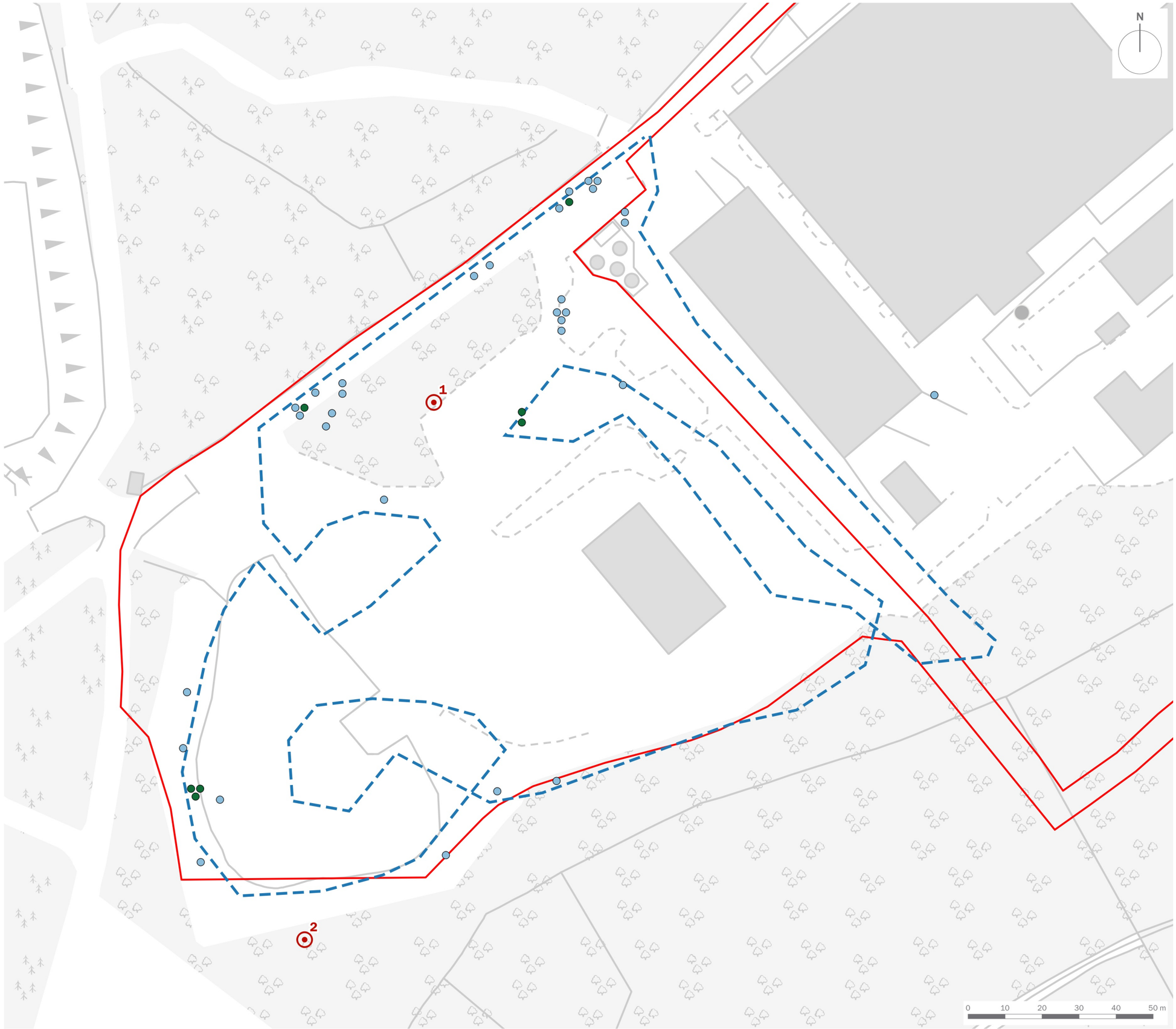


Site Boundary

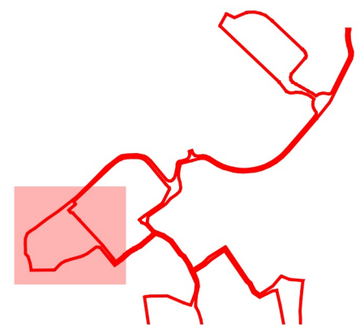
Bat Transect

Automated Bat Detector

Bat Survey

Common Pipistrelle

Soprano Pipistrelle



client

MVV Environmental Limited

project title

Proposed Energy from Waste Combined Heat and Power Facility at Canford Resource Park

drawing title

September 2021 Bat Activity Survey Results

date	**03 MAY 2023**	drawn by	**DJo**
drawing number	**edp7095_d005b**	checked	**GCr**
scale	**1:1,000 @ A3**	QA	**GYo**

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Site Boundary

Bat Transect

Automated Bat Detector

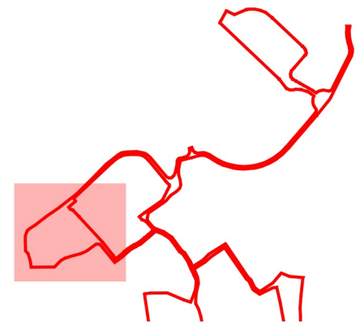
Bat Survey

Common Pipistrelle

Soprano Pipistrelle

Myotis spp.

Noctule



client

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project title

Proposed Energy from Waste Combined Heat and Power Facility at Canford Resource Park

drawing title

May 2022 Bat Activity Survey Results

date	**03 MAY 2023**	drawn by	**GYo**
drawing number	**edp7095_d020b**	checked	**TRo**
scale	**1:1,000 @ A3**	QA	**DJo**

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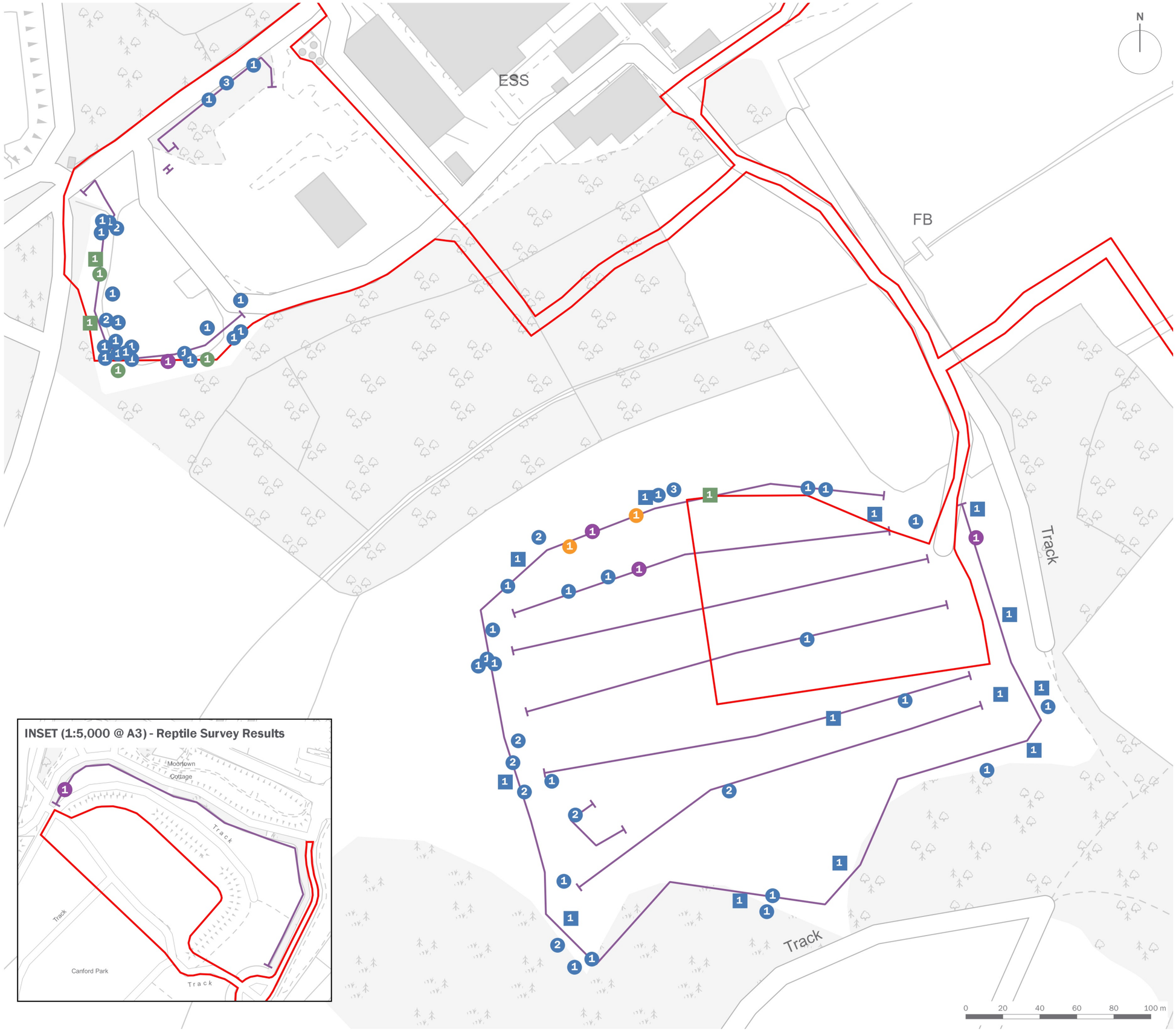


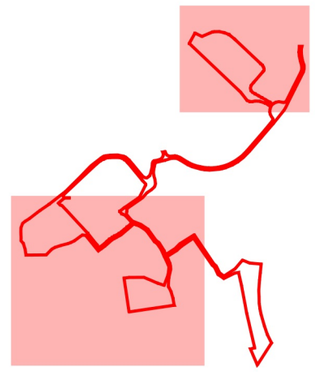
N

Site Boundary

Reptile Mat and Tin Location

Reptile Species Recorded During Each Survey Visit (with number found)

- 1 Adult Adder
- 1 Adult Slow-worm
- 1 Juvenile Slow-worm
- 1 Adult Common Lizard
- 1 Adult Grass Snake
- 1 Juvenile Grass Snake



client

MVV Environmental Limited

project title

Proposed Energy from Waste Combined Heat and Power Facility at Canford Resource Park

drawing title

Reptile Survey Plan

date	**03 MAY 2023**	drawn by	**DJo**
drawing number	**edp7095_d006b**	checked	**GCr**
scale	**1:2,000 @ A3**	QA	**GYo**

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