Land at College Road, Campdown

COMBINED BAT REPORT

B038823

Dandara Southern Ltd.

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Prepared on Behalf of Tetra Tech Limited.

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EXECUTIVE SUMMARY

Contents	Summary
Site Location	The site is shown in Figure 1 and comprises approximately 26.6 hectares of land consisting of a series of large, connected fields with areas of scrub and hedgerow. The site was formerly heavily grazed but, following the removal of livestock from the site (approximately 2019), the site vegetation has become more overgrown.
Proposals	The proposed development plans for the site include the creation of 628 residential properties, with associated landscaping, public open space, allotments, sustainable drainage systems (SuDS) and access routes.
Existing Site Information	Tetra Tech (formerly WYG) carried out an Ecological Appraisal (EA) of the site in 2016 (WYG, 2017). The site was found to offer low suitability for foraging and commuting bats and subsequent bat activity surveys were completed, confirming the presence of common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus* and serotine *Eptesicus serotinus* on site. A climbed tree inspection was carried out on the trees in the southern portion of the site to assess their suitability for roosting bats. The findings of the ground level and climbed inspection concluded that the group of trees offered moderate suitability to support roosting bats. In subsequent emergence surveys, carried out in 2017, no bats were recorded emerging from or returning to the trees. Tetra Tech completed an update EA in 2022, which identified the site as offering low suitability for roosting bats and moderate suitability for foraging and commuting bats (Tetra Tech, 2023). Updated surveys were therefore recommended to be carried out in 2022 to determine the presence or likely absence of roosting bats and to provide up-to-date assessment of the bat assemblage using the site.
Scope of this Survey(s)	The purpose of this report is to: Present the results of the dusk emergence survey carried out on a group of trees on site, to determine whether these support roosting bats; Present the results of the activity surveys carried out across the wider site to determine species composition and distribution of bats on site; Identify any issues and constraints which need to be addressed before site development work commences.
Results	Across the walked transect and automated detector surveys, at least seven species of bat were recorded at the site. The species assemblage onsite appears to have increased in diversity when compared to previous

	assessments of the site across 2016/17, during which only common pipistrelle, soprano pipistrelle and serotines were recorded. The most frequently recorded bat species were common pipistrelle, alongside low and individual passes from soprano pipistrelle, barbastelle, serotine, noctule, Natterer's bat and *Myotis* species. Activity was broadly spread across the site boundaries, with foraging and commuting bats utilising the linear, tree-lined boundaries for their routes. Barbastelle bats, amongst the rarest species in the country, were recorded during every month, in the northern and southern automated detector locations, but not during manual surveys. During the emergence surveys, no bats were recorded roosting within the group of trees in the southern part of the site. Overall, the site was found to be of County importance for foraging and commuting bats based on the Wray et al. (2010) methodology.

GLOSSARY

BAP	Biodiversity Action Plan
BCT	Bat Conservation Trust
CRoW Act	Countryside and Rights of Way Act (2000)
CSZ	Core Sustenance Zone
EA	Ecological Appraisal
EPS	European Protected Species
EPSL	European Protected Species License
HBIC	Hampshire Biodiversity Information Centre
IEEC	Institute of Ecology and Environmental Management
LBAPs	Local Biodiversity Action Plans
LERC	Local Environmental Records Centre
LPA	Local Planning Authority
MAGIC	Multi-Agency Geographic Information for the Countryside
NERC Act	Natural Environment and Rural Communities Act
NPPF	National Planning Policy Framework
OS	Ordinance Survey
POS	Public Open Space
SAC	Special Area of Conservation
SAP	Species Action Plan
SSSI	Site of Special Scientific Interest
SuDS	Sustainable Drainage System
W&CA	Wildlife and Countryside Act 1981

1.0 INTRODUCTION

1.1 BACKGROUND

Tetra Tech was commissioned by Dandara Southern Ltd in June 2022 to undertake bat emergence and activity surveys of the site at Campdown, hereafter referred to as “the site”.

This report has been prepared by Tetra Tech Consultant Ecologist Harriet Kimber and the conditions pertinent to it are provided in Appendix A.

1.2 SITE LOCATION

The site is located approximately 2.5km west of Havant and is centred on Ordnance Survey National Grid Reference SU 69069 06995. The A3 is situated immediately east of the site, with Widley to the west and Portsmouth Golf Club to the west and south-west. To the south lies an area of grazed farmland and the outer reaches of the city of Portsmouth, with Langstone Harbour beyond.

1.3 SITE DESCRIPTION

The site location is shown in Figure 1 and comprises approximately 26.6 hectares of land consisting of a series of large, connected fields with areas of scrub and hedgerow. The site was formerly intensively grazed but following the removal of livestock from the site in around 2019, it became largely overgrown.

1.4 DEVELOPMENT PROPOSALS

The proposed development plans for the site (as shown in Appendix B) include mixed use residential development comprising 628 dwellings, community centre, allotments, public open space including play areas, new junction to College Road, related internal access roads, footways and cycleways, pumping station and sustainable drainage (SuDs) basins.

1.5 EXISTING SITE INFORMATION

Tetra Tech (formerly WYG) carried out an Ecological Appraisal (EA) of the site in 2016 (WYG, 2017).

The site was found to offer low suitability for foraging and commuting bats and subsequent bat activity surveys were completed during the 2016/2017 season. Bat activity surveys were undertaken to provide a valuation of the assemblage of foraging and commuting bats using the site, which was found to be of district, local or parish level (WYG, 2019), with common pipstrelle *Pipistrellus pipistrellus*, soprano pipstrelle *Pipistrellus pygmaeus* and serotine *Eptesicus serotinus* bats recorded. This was supplemented by further automated detector surveys during the 2020 survey season which were consistent with the 2016/17 results.

During the EA, several mature and semi-mature trees were found to have features such as cracks and limb crevices that could support roosting bats. No evidence of roosting bats, such as droppings or staining were identified during the assessment from ground level. Following the EA, a climbed tree inspection was carried out on the trees to assess their suitability for roosting bats. The findings of the ground level and climbed inspection concluded that the group of trees offered moderate suitability to support roosting bats.

A dusk emergence survey of the trees was completed on 24th August 2017 and a dawn return survey took place on 31st August 2017. No bats were recorded emerging or returning to the trees during the surveys, although activity around the trees from brown long eared bats *Plecotus auritus*, common pipistrelle, soprano pipistrelle and serotine bats was noted (WYG, 2017).

Tetra Tech completed an update EA of the site on 30th June 2022, which identified the site as offering low suitability for roosting bats and moderate suitability for foraging and commuting bats (Tetra Tech, 2023). Updated surveys were therefore recommended to be carried out in 2022 to determine the presence or likely absence of roosting bats and to provide up-to-date assessment of the bat assemblage using the site.

The data search associated with the updated EA requested information from the Local Ecological Records Centre (LERC) regarding records of bats within 2km of the site. Only those records from within the past 10 years were considered in this report. Hampshire Biodiversity Information Centre (HBIC) returned records of bats of ten different species, including common pipistrelle, soprano pipistrelle, Brandt's bat *Myotis brandtii*, Whiskered bat *Myotis mystacinus*, brown long-eared, noctule *Nyctalus noctula*, Natterer's bat, myotis species *Myotis* sp., serotine and Alcathoe bat *Myotis alcathoe*.

A search of MAGIC identified one granted European Protected Species License (EPSL) for bats within 2km of the site. The EPSL allowed the destruction of a resting place for common pipistrelle, 1.8km southeast of the site (2014-1826-EPS-MIT).

1.6 PURPOSE OF THE REPORT

The purpose of this report is to:

- Present the results of the dusk emergence survey carried out on a group of trees on site, to determine whether these support roosting bats;
- Present the results of the activity surveys carried out across the wider site to determine species composition and distribution of bats on site;
- Identify any issues and constraints which need to be addressed before site development work commences.

Further discussion regarding development impacts and mitigation are discussed in the Environmental Statement (Tetra Tech, 2023b).

Note that scientific names are provided at the first mention of each species and common names (where appropriate) are then used throughout the rest of the report for ease of reading.

2.0 METHODOLOGY

2.1 BAT ACTIVITY SURVEYS

Activity surveys were conducted monthly between June and September 2022. These surveys comprised walked transect surveys paired with the deployment of two automated 'static' bat detectors. Each survey was conducted in accordance with industry standard best practice guidance as outlined in the Bat Conservation Trusts *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn.) (Collins, 2016).

2.1.1 Walked Transect Surveys

All surveys were completed when weather conditions were suitable (i.e., not during heavy rain, low temperatures, or strong winds). Metadata was recorded at the start and end of each survey and is provided below in Table 1.

Table 1: Metadata for transect surveys

Survey No.	Date	Dusk / Dawn	Survey Timings	Weather Conditions	
				Start	End
1	20.06.2022	Dusk	21:21 - 23:21	14°C; 5% cloud cover; wind speed 2; no precipitation.	12°C; 0% cloud cover; wind speed 0; no precipitation.
2	18.07.2022	Dusk	21:09 to 23:09	28°C; 0% cloud cover; wind speed 1; no precipitation.	20°C; 0% cloud cover; wind speed 1; no precipitation.
3	01.08.2022	Dusk	20:48 to 22:48	21°C; 0% cloud cover; wind speed 2; no precipitation.	18°C; 0% cloud cover; wind speed 0; no precipitation.
Walked surveys terminated, see section 2.3.					

The surveys were conducted by the following Tetra Tech personnel who were all experienced at conducting bat surveys:

6th June 2022 – Project ecologist ben Cooke BSc and Field Ecologist Madeline Maidment.

18th July 2022 - Senior Ecologist Alex Coggins BSc and Field Ecologist James Genge.

1st August 2022 – Consultant Ecologist Emma Taylor BSc and Field Ecologist Madeline Maidment.

The dusk surveys commenced at sunset and concluded two hours after sunset. The surveyors noted bat activity, using both visual observation and audio bat detectors to identify foraging and / or commuting behaviour. Surveyors recorded the time and a description of any activity. Additionally, where bats could be seen, the patterns and directions of flight were also recorded.

All surveys were completed using an Elekon Batlogger M (full spectrum with GPS) and followed a set transect route (wherever possible) at a steady pace. The transect route followed for each survey is shown in Figure 2. The direction in which the transect was walked was alternated between surveys in order to record activity around the site at different times. The recorded data was then analysed using Bat Explorer (version 2.1.10.1) to confirm the species present within the site. The recordings and the field notes were used to help build a picture of bat activity across the site and to identify areas of relatively higher use.

Heat Maps

The spatial analyst extension was used within ArcGIS to analyse Batlogger point bat data. An activity heat map was subsequently produced to highlight the density of the bat data, visually using the colour spectrum of green for low and red for high, but also statistically using quantitative outputs calculated by the kernel density spatial analysis tool. These are provided separately for each monthly survey (Figures 3-5).

2.1.2 Automated Detector Surveys

As stipulated by the Bat Conservation Trust (BCT) guidance (Collins, 2016), each transect survey was accompanied by an automated 'static' detector survey. The detectors were deployed on site during the activity surveys and set to record at night only, in 'zero crossing' file format. These were left for five consecutive nights to record any bat activity occurring between dusk and dawn, before being collected again.

Two Anabat Express detectors were deployed on site each month. One detector was placed along the north-eastern boundary and one in the south- western boundary. Both detectors were securely fastened to trees within the boundary. The exact locations of the automated detectors are provided in Figure 2.

The static detectors were left to record for a minimum of 5 consecutive nights in suitable weather conditions during each of the sampled months. Surveys were not contiguous, i.e. they were spaced out to include a reasonable time gap between each monitoring period. The first 5 nights were used for the analyses given that the weather conditions were suitable; and the remaining nights were discounted. The detectors were set to record 30 minutes prior to sunset until 30 minutes after sunrise. A summary of the weather conditions during the static monitoring is provided in Table 2.

Table 2: Metadata for automated detector surveys.

Month	Date	Overnight min / max temperatures (°C)	Average wind speed (mph)	Overnight rainfall
June	21.06.22	9 - 17	2	None
	22.06.22	13 - 19	3	None
	23.06.22	15 - 16	4	None
	24.06.22	15 - 16	10	Light rain early in the evening
	25.06.22	14 - 14	12	None
July	19.07.22	18 - 20	10	None
	20.07.22	15 - 21	6	None
	21.07.22	17 - 21	2	None
	22.07.22	12 - 19	3	None
	23.07.22	18 - 19	11	None
August	02.08.22	18 - 21	9	Light rain at the end of the night
	03.08.22	14 - 21	3	None
	04.08.22	13 - 22	7	None

	05.08.22	**11 - 20**	**4**	**None**
	06.08.22	**12 - 16**	**0**	**None**
September	**07.09.22**	**14 - 20**	**6**	**Scattered showers**
	08.09.22	**15 - 16**	**5**	**Scattered showers early in the evening**
	09.09.22	**14 - 18**	**7**	**None**
	10.09.22	**10 - 20**	**0**	**None**
	11.09.22	**13 - 18**	**3**	**Light rain in the morning.**

The data collected by these detectors was then analysed using AnalookW (V4.5z) sound analysis software to determine the species present and relative amount of activity over the consecutive five-night period.

2.2 BAT EMERGENCE SURVEYS

In accordance with Bat Conservation Trust (BCT) guidelines (Collins, 2016), the group of trees in the south-western corner of the site (assessed as having low suitability) was subject to one dusk emergence or dawn return survey between May and August. A dusk emergence survey was carried out on 14th July 2022.

The dusk surveys commenced 30 minutes before sunset and continued for 1.5 hours after sunset. Surveyors were positioned equidistant around the trees during the surveys, as shown in Figure 6, so that all potential roosting features could be observed. Surveyors used an Elekon Batlogger (full spectrum detector) to record bat calls as well as watching for emerging bats. Bat Explorer software was subsequently used to analyse these calls. Temperature readings, cloud cover and wind condition assessments were also recorded, as shown in Table 3.

In addition to standard surveyor positions, the use of night-vision cameras and recording equipment (Elekon Batloggers and Anabat Express) were also used. Canon XA11 cameras mounted on tripods were used in combination with infrared lamps and torches. The cameras were set up ahead of the survey start time and directed at the previously identified potential roost features identified on the trees. The location of the cameras is shown in Figure 6. The cameras and the lamps were switched on and set to record at the start of the survey and switched off at the end. A member of Tetra Tech staff was assigned to monitor the position, battery life and field of view of the cameras as the survey progressed to ensure the equipment worked consistently throughout the recording period. After the survey, the recorded files were then analysed using MotionMeerkat (Weinstein, 2015) software to detect any movement, a surveyor then reviewed the registered files to determine if a roost was present. The corresponding recording device was then analysed to establish the species of bat emerging/returning.

Table 3: Emergence Survey metadata

Date of survey	Timings	Weather Start	Weather End
Dusk 14/07/22	Start: 20:43 End: 22:43 Sunset: 21:13	Temp: 17°C Precipitation: 0 Cloud: 0 Wind: 1	Temp: 15°C Precipitation: 0 Cloud: 0 Wind: 1

2.3 VALUING BAT POPULATIONS

The assessment of the value of the bat population on site is based on the method proposed by Wray *et al*. (2010). Using this method bat activity, species and number is used to assign a relative ecological value. The value to the species is partly based upon how well used a habitat is and how rare the bat species is. In the case of commuting routes or foraging areas, the number of roosts nearby is also a factor. Once the value of the bat population has been calculated, robust mitigation for any impact on the bats can be determined.

British bat species are subdivided into groups dependant on how common they are; these groups are Rarest, Rarer and Common. These have been further subdivided based upon the location surveyed. Table 4 presents the rarity categorisation of bats in England (after Wray *et al*., 2010).

Table 4: Categorising bats by distribution and rarity in England

Country: England		
Rarest	**Rarer**	**Common**
Greater horseshoe *Rhinolophus ferrumequinum* Bechstein's bat *Myotis bechsteinii* Alcathoe *Myotis alcathoe* Greater mouse-eared *Myotis myotis* Barbastelle Grey long-eared *Plecotus austriacus*	Lesser horseshoe *Rhinolophus hipposideros* Whiskered *Myotis mystacinus* Brandt's *Myotis brandtii* Daubenton's *Myotis daubentonii* Natterer's bat *Myotis nattererii* Leisler's *Nyctalus leisleri* Noctule Nathusius' pipistrelle bat *Pipistrellus nathusii* Serotine	Common pipistrelle Soprano pipistrelle Brown long-eared

To calculate the score for either commuting routes or foraging areas the numerical values from each column below are added together. These are detailed in Tables 5 and 6.

Table 5: Valuing commuting routes

Species	Number of bats	Roosts/potential roosts nearby	Type and complexity of linear features
Common (2)	Individual bats (5)	None (1)	Absence of (other) linear features (1)
-	-	Small number (3)	Unvegetated fences and large field sizes (2)
Rarer (5)	Small number of bats (10)	Moderate number/Not known (4)	Walls, gappy or flailed hedgerows, isolated well grown hedgerows, and moderate field sizes (3)
-	-	Large number of roosts or close to a Site of Special Scientific Interest (SSSI) (5)	Well grown and well-connected hedgerows, small field sizes (4)
Rarest (20)	Large number of bats (20)	Close to or within a Special Area of Conservation (SAC) for the species (20)	Complex network of mature well-established hedgerows, small fields and rivers/streams (5)

Table 6: Valuing foraging areas

Species	Number of bats	Roosts/potential roosts nearby	Foraging habitat characteristics
Common (2)	Individual bats (5)	None (1)	Industrial or other site without established vegetation (1)
-	-	Small number (3)	Suburban areas or intensive arable land (2)
Rarer (5)	Small number of bats (10)	Moderate number/Not known (4)	Isolated woodland patches less intensive arable and/or small towns and villages (3)
-	-	Large number of roosts or close to an SSSI (5)	Larger or connected woodland blocks, mixed agriculture and small villages/hamlets (4)
Rarest (20)	Large number of bats (20)	Close to or within an SAC for the species (20)	Mosaic of pasture, woodlands and wetland areas (5)

Finally, for commuting routes and foraging areas, the ecological value of the site is based upon the scoring system shown in Table 7.

Table 7: Scoring system for valuing commuting and foraging bats

Geographic frame of reference	Score
International	>50
National	41-50
Regional	31-40
County	21-30
District, local or parish	11-20
Not important	1-10

2.4 VALUING BAT ROOSTS

The assessment of the value of any bats roosts found was made using the approach in the article in the Institute of Ecology and Environmental Management (IEEM) In Practice magazine – *Valuing Bats in Ecological Impact Assessment*, No. 70, December 2010 (Wray et al. 2010). Where bats (species and number) are found using certain habitats (to roost, commute or forage) their population is assigned a relative ecological value. The value to the species is partly based upon how well used a habitat is and upon how rare the bat species is. Once the value of the bat population has been calculated, robust mitigation for any impact on the bats can be determined.

British bat species have been subdivided into groups, dependant on how common they are (common, rarer and rarest). These have been further subdivided based upon the location surveyed. Table 4 presents the rarity categorisation of bats in England. The tables in the following sections have been adapted from Valuing Bats in Ecological Impact Assessment (Wray et al. 2010).

The value assigned for rarity is combined with the type of roost found to give a value for bats as an ecological receptor, as detailed in Table 8.

Table 8: Valuing Bat Roosts

Geographic Frame of Reference	Roost types
District, Local or Parish	Feeding perches (common species) Individual bats (common species) Small number of non-breeding bats (common species) Mating sites (common species)
County	Maternity sites (common species) Small number of hibernating bats (common and rarer species) Feeding perches (rarer / rarest species) Individual bats (rarer / rarest species) Small numbers of non-breeding bats (rarer / rarest species)
Regional	Mating sites (rarer / rarest species) including well-used swarming sites Maternity sites (rarer species) Hibernation sites (rarest species) Significant hibernation sites for rarer/rarest species or all species assemblages
National/UK	Maternity sites (rarest species) Sites meeting Sites of Special Scientific Interest (SSSI) guidelines
International	Special Areas of Conservation (SAC) sites

2.5 LIMITATIONS

The surveys were completed with the assistance of bat detectors. All survey techniques are subject to bias, and bat detector surveys may under-record species with weak echolocation calls, such as brown long-eared bats. However, these biases were considered when interpreting the results. (It is also of note that Batloggers are very effective at picking up quiet calls from brown long-eared bats). Some bat calls are variable and extremely similar between species. Where identification to species level was not possible (for example some species in the *Myotis* bat group), bats were identified to family level (e.g. *Myotis* sp.). where call parameters were inconclusive the species has been labelled as 'unknown'.

Note that for transects, the Batloggers record 'calls' (single echolocation pulses) whereas for statics, we report 'passes' – i.e. a sequence of 3 or more echolocation calls (which is automated when recording with the Anabat Express and analysing data in the AnalookW software). This means that the static and transect data are not directly comparable. The number of passes recorded in a night could be one bat flying past the detector multiple times or a number of bats each flying past once, which cannot be quantified. Taking note of this will allow the dataset to be interpreted accurately and transparently.

During the August walked transect, an antisocial behaviour incident on site was noted by surveyors. In the interests of health and safety, the Project Manager made the decision to terminate walked transect surveys on site (this was subsequently communicated to Hampshire County Council Senior Ecologist Tristan Norton). As a result, only automated detectors were deployed on site during following this period. This is not considered to be a significant constraint, as the automated detector

recordings produced further data, and previous data on bat activity was also available (from 2016/17 and 2020).

No automated detector surveys were conducted during the month of October 2022 due to increased activity on site and the risk of loss of equipment deployed on site. As above, this is not considered to be a significant constraint, due to the overall quantity of data collected across the site. Further data from October 2022 would not result in any material change to the assessment of bat use of the site, nor proposed mitigation.

During the automated surveys for the nights of the 6th and 8th of September, no bats were recorded by the static detector located in the north of the site. For nights with no bat data, the detectors showed no technical faults, were functioning correctly and otherwise successfully recorded bats on the other nights in these periods. It can therefore be presumed that there was limited localised bat activity on those nights. The abundance of bat recordings from the other months at this location suggests this does not imply any significant limitation to the findings, and thus overall confidence in the automated data is high.

As light levels drop after dusk, the visibility of features decreases over time. However, surveyors were positioned appropriately to ensure that any bats flying from the trees would be recorded and therefore emergences would be identified. Based on the species assemblage observed foraging around the trees after their normal emergence times, it is considered that visibility after dusk was not a constraint during surveys.

The details of this report will remain valid for a period of two years from the date of the last survey (September 2024), after which the validity of this assessment should be reviewed to determine whether further surveys are necessary. Note that the recommendations within this report should be reviewed (and reassessed if necessary) should there be any changes to the red line boundary or development proposals upon which this report has been based.

3.0 RELEVANT PLANNING POLICY & LEGISLATION

3.1 PLANNING POLICY

3.1.1 Revised National Planning Policy Framework

A revised NPPF was issued on 20th July 2021 (Ministry of Housing Communities and Local Government, 2021) and currently supplements government Circular *06/2005, Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System* (Office of the Deputy Prime Minister, 2005).

Circular 06/2005 states that the presence of protected species is a material consideration in the planning process. Paragraph 174 of the NPPF also states that:

'*Planning policies and decisions should contribute to and enhance the natural environment by:*

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan)

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland

c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

3.1.2 Local Plan

The site falls under the jurisdiction of Havant Borough Council and the relevant local plan document for this site is the Havant Borough Local Plan.

Policy CS11 Protecting and Enhancing the Special Environment and Heritage of Havant Borough, states:

Planning permission will be granted for development that:

1. Ensures the key landscape and built form principles set out in the Havant Borough Townscape, Landscape and Seascape Character Assessment are protected and where possible enhanced by partnership working with developers, groups and the wider community.

2. Protects and where possible enhances the borough's statutory and non-statutory designated landscape, habitats and features of biological, hydrological or geological interest. Protection and enhancement will be achieved by appropriate adaptation and mitigation measures including wardening, education and information and the creation of new habitats, water bodies/courses planting of new trees and woodland.

3. Has particular regard to the following hierarchy of nature conservation designations within the borough (as identified on the Proposals Map): (i) Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Ramsar [International]. (ii) Sites of Special Scientific Interest (SSSI) and National Nature Reserves [National]. (iii) Sites of Importance for Nature Conservation (SINC), Local Nature Reserves (LNR), other Ancient Woodland not identified in (ii) above [Local].

4. Protects and where appropriate enhances the borough's statutory and nonstatutory heritage designations by appropriately managing development in or adjacent to conservation areas, listed buildings, scheduled ancient monuments, historic parks and gardens, archaeological sites, buildings of local historic or architectural interest.

5. Supports an ongoing programme of survey of habitats and species and designation of Sites of Importance for Nature Conservation.

6. Incorporates partnership working with conservation organisations to improve public understanding of biodiversity and to manage public access to designated sites, particularly on the coast, to reduce harm to nature conservation interests.

7. Incorporates partnership working with landowners and developers to ensure land management practices restore, enhance and where appropriate create new valued landscapes, habitats and their soil structure, particularly the ancient woodland remnants of the Forest of Bere and coastal salt marsh.

8. Protects wildlife habitats and wildlife corridors to prevent the fragmentation of existing habitats and to allow species, for example Brent Geese, to respond to the impacts of climate change by making provision for habitat adaptation e.g. coastal managed realignment and species migration.

9. Maintains undeveloped gaps between the settlements of Emsworth/Havant; Havant/Waterlooville; Havant/Portsmouth; Emsworth/Westbourne and Leigh Park/Rowlands Castle as shown on the Proposals Map.

10. Protects the best and most versatile agricultural land that has the greatest potential for local food security.

> *11. Responds to the emerging evidence from the Solent Disturbance and Mitigation Project, the published recommendations, and future related research.*

The emerging Local Plan is also relevant with Policy E18 Protected Species stating,

Development proposals which are likely to affect protected species and/or their supporting habitats will only be permitted where:

a. Appropriate surveys are undertaken to establish the presence/likely absence of protected

species.

If protected species are likely to be present, planning permission will only be granted where either:

b. A Mitigation Plan is provided which is based upon appropriate ecological assessments to the satisfaction of the Local Planning Authority; or

c. A Compensation Plan is provided if it is not possible to mitigate the impact; and

d. Review and monitoring plans are put in place, where appropriate.

For sites that contain or are adjacent to sites likely to contain Bechstein's bat, planning permission will only be granted where:

e. Survey methods appropriate to Bechstein's bat are used and undertaken by a suitably-qualified ecologist.

If the presence of Bechstein's bat is established, planning permission would only be granted where:

f. The net loss of woodland (including groups of trees) is avoided;

g. Impacts on Bechstein's bat breeding habitat (i.e. net loss of/excessive disturbance to woodland or trees containing maternity roosts) are avoided;

h. Proposals include appropriate buffers to woodlands, hedgerows and other flight corridors, taking into account the location of roosts and foraging/commuting habitats; and

i. Review and monitoring plans are put in place, where appropriate.

Where the above measures cannot be met planning permission will be refused, unless the applicant can show, subject to meeting the tests of the Habitats Regulations, that there would not be an adverse effect on the population of the relevant protected species.

3.1.3 Local Biodiversity Action Plan

Local Biodiversity Action Plans (LBAPs) identify habitat and species conservation priorities at a local level (typically County by County) and are usually drawn up by a consortium of local Government organisations and conservation charities. Although they are no-longer managed at a national level, many are still reviewed and updated at a local level.

The Biodiversity Action Plan (BAP) for Hampshire is the relevant document for this site (Hampshire Biodiversity Partnership, 2000) and it includes Species Action Plans (SAPs) for serotine, common pipistrelle, *Myotis* bats and long-eared bats *Plecotus sp*.

It should be noted that the existence of an SAP does not always infer an elevated level of importance for those features. These plans may be designed to encourage an increase in these species, rather than to protect a county-scarce feature (for example).

3.2 LEGISLATION

All British bat species are listed in Schedule 5 of the Wildlife and Countryside Act (W&CA) (HMSO, 1981) and under Schedule 2 of The Conservation of Habitats and Species Regulations (HMSO, 2017). Furthermore, the Countryside and Rights of Way Act (CRoW Act) (Schedule 12, Paragraph 5) (HMSO, 2000) has amended Section 9 of the W&CA meaning that bats are fully protected under this Section of the W&CA and also under Regulation 41 of the Habitats Regulations which transposes the Habitats Directive into UK law.

This makes it an offence to:

Deliberately capture, injure or kill any bat;
Deliberately disturb bats, in particular where it is likely to:
- Impair their ability to breed or reproduce, or to rear or nurture their young;
- Impair their ability to hibernate or migrate; or
- Affect significantly the local distribution or abundance of bats.

Intentionally or recklessly damage, destroy or obstruct the access to the place of shelter or protection; and
Damage or destroy a bats breeding site or resting place.

The effects of development proposals should be considered when assessing the impact of the maintenance of favourable conservation status of local bat populations, especially those mentioned under Section 41 of the Natural Environment and Rural Communities Act (NERC Act) (HMSO, 2006). The presence of these species is a material consideration in determining a planning application and it is therefore appropriate for the Local Planning Authority (LPA) to ensure that these species are not adversely affected by development.

4.0 RESULTS

4.1 WALKED TRANSECT SURVEYS

The results of the walked transect surveys are provided in the form of monthly bat activity heat maps, which are shown in Figures 3 to 5. In total, at least 5 species of bat were recorded across the 2022 season during the transect surveys. Recordings were dominated by common pipistrelle with occasional passes by soprano pipistrelle, serotine, Myotis species (likely whiskered or Brandt's bat based on call parameters) and noctule bats.

In June (Figure 3), common pipistrelle, serotine and Myotis species (likely whiskered or Brandt's bat based on call parameters) were recorded along the western and south western site boundaries. In July (Figure 4), activity was concentrated along the southern boundary, with common and soprano pipistrelles, noctules and serotines observed foraging and commuting. In August (Figure 5), activity was generally low, with common and soprano pipistrelle and serotine foraging and commuting in the southwestern and western boundaries of the site.

4.2 AUTOMATIC DETECTOR SURVEYS

At least seven different species of bat were recorded by the automatic bat detectors. The activity recorded across the two detectors varied between months, with the northern device recording more variety and frequency in bat activity at the start of the survey period, compared to the south. Conversely, by the end of the survey period, the majority of calls and species were recorded by the southern device.

Detailed results from the automated detector surveys are provided in Appendix C.

Bat Activity Distribution in June

During the first deployment in June, recordings by the static detectors were largely from common and soprano pipistrelle, in addition to a few individual passes by serotine, noctule, Natterer's, Myotis species (likely whiskered or Brandt's bat based on call parameters) and barbastelle. Barbastelle passes were recorded at the northern static each night, except 23rd June. The northern detector recorded the highest level of bat activity overall, whilst the southern detector recorded only a low number of individual passes over the five nights. A total of six barbastelle passes were picked up, exclusively by the static located on the northern boundary, whilst passes by Myotis species (likely whiskered or Brandt's bat based on call parameters) were recorded in low numbers at both detector locations.

Bat Activity Distribution in July

During July, bat activity was generally less than in June, with passes dominated by common pipistrelle but in lower numbers. A low number of passes by soprano pipistrelle, noctule, barbastelle, Natterer's and Myotis species (likely whiskered or Brandt's bat based on call parameters) were also recorded. Eight barbastelle and three Myotis species (likely whiskered or Brandt's bat based on call parameters) were recorded in both the northern and southern locations

Bat Activity Distribution in August

In August, activity at the northern static was far higher than the southern, with recordings featuring all seven species that were identified on site. A peak count of 134 common pipistrelle passes were recorded on 3rd August 2022. Barbastelle were recorded each night in the north of the site exclusively, totalling 15 passes, whilst a total of 54 Myotis species (likely whiskered or Brandt's bat based on call parameters) passes were recorded across both points of the site.

Bat Activity Distribution in September

During September, activity levels at the northern detector were notably lower than previous months, whilst the southern static remained consistent. No bats were recorded during two nights of the

northern recordings, with only a low number of common and soprano pipistrelle detected on remaining evenings.

Common and soprano pipistrelle dominated the recordings in September, with noctule, serotine, myotis species, and Natterer's also recorded. Barbastelle were recorded, across four passes, during the final night only.

4.3 EMERGENCE SURVEYS

No bats were recorded emerging from the trees surveyed on site; therefore, it can be presumed that no bat roosts will be impacted by their presumed removal.

4.4 SUMMARY

Across the walked transect and automated detector surveys, at least seven species of bat were recorded at the site. The species assemblage onsite appears to have increased in diversity when compared to previous assessments of the site across 2016/17, during which only common pipistrelle, soprano pipistrelle and serotines were recorded.

The most frequently recorded bat species were common pipistrelle, alongside low and individual passes from soprano pipistrelle, barbastelle, serotine, noctule, Natterer's and Myotis species (likely whiskered or Brandt's bat based on call parameters). Activity was broadly spread across the site, with foraging and commuting bats utilising the linear, tree-lined boundaries for their routes.

Low numbers of barbastelle passes were recorded in every month, across both automated detector locations. A peak count of four passes were recorded by the northern detector in August, with four more passes recorded by the southern detector in September, although most passes were recorded by the northern detector. With reference to emerging Policy E18, no Bechstein's bat (which have distinctive call parameters, in particular very high call slope – which measures the change in frequency over time) were recorded..

Roosting bats are currently absent from the group of trees located in the southern part of the site.

4.5 VALUATION OF BAT POPULATIONS USING THE SITE

The site was found to be of value at a County level for foraging and commuting bats based on the Wray *et al*. (2010) method (this is primarily based on manual survey results as automated detectors do not establish abundance).
This assessment is based on the following valuations:

Commuting routes

> **Small** number of **rarer** species foraging in an area with **an unknown number** of roosts nearby within a habitat of **overgrown hedgerows and moderate field sizes.**
>
> 10 + 10 + 4 + 3 = 27, indicating a commuting route of County level.

Foraging areas

> **Small number of bats** of **rarer** species foraging in an area with **an unknown number** of roosts nearby with **isolated woodland patches.**
>
> 10 + 10 + 4 + 3 = 27 indicating a foraging area of County level.

5.0 REFERENCES

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FIGURES

Figure 1 – Site Location Plan

Figure 2 – Transect Route and Static Detector Locations

Figure 3 - June 2022 Bat Activity Heat Map

Figure 4 – July 2022 Bat Activity Heat Map

Figure 5 – August 2022 Bat Activity Heat Map

Figure 6 – Bat Emergence Surveyor / Camera Locations

Site Location Plan

Campdown

Dandara Southern Ltd.

F

Legend

Site Boundary

Notes:

Drawn by: EC

Checked by: HK

Office: Southampton

Figure No. 1

Revision No. A

0 50 100 150 Meters

Scale 1:3,000 @A3

10 January 2023

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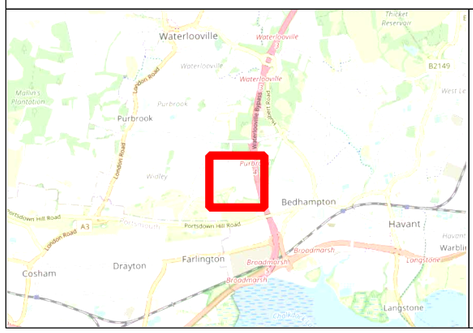

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Transect Route and Automated Detector Locations

Campdown

F

Dandara Southern Ltd.

Legend

- Site Boundary
- Transect Route
- Static Detector

Notes:

Drawn by: EC

Checked by: HK

Office: Southampton

Figure No. 2

Revision No. A

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Scale 1:3,000 @A3

19 January 2023

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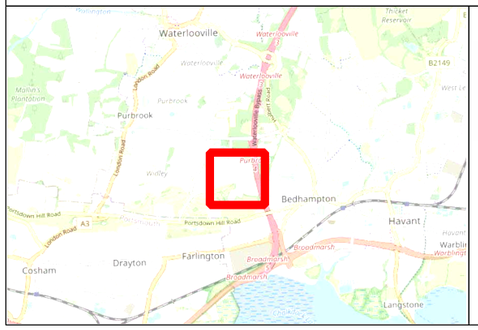

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June 2022 Bat Activity Map

Campdown

Dandara Southern Ltd.

F

Legend

Site Boundary

Bats

(Myotis sp., *Myotis spec.*

Notes:

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Office: Southampton

Figure No. 3

Revision No. A

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Scale 1:3,000 @A3

20 January 2023

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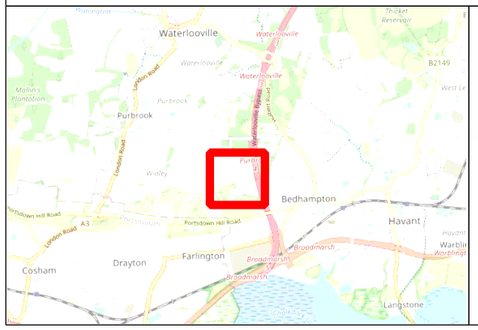

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