



Brackley Investments Ltd

Land at Bartons Road, Havant

Ecological Appraisal

July 2023

This report may contain sensitive ecological information, it is the responsibility of the Local Authority to determine if this should be made publicly available.

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1.0 NON-TECHNICAL SUMMARY

- 1.1 An update walkover of the Bartons Road, Havant site was undertaken on behalf of Brackley Investments in April 2023 to inform whether the baseline established during surveys undertaken by FPCR in 2020 had changed, and if further update surveys were required.
- 1.2 A desk study identified no Site of Special Scientific Interest within 2km of the site but did find a number of internationally designated sites within a 15km radius. The closest of these was Chichester and Langstone Harbours which are situated approximately 2.9km south of the site and is designated as Special Protection Areas (SPA) and a Ramsar site. These harbours are designated due to being a wetland of international importance and regularly supporting over 20,000 waterfowl. Mitigation measures have been discussed with the LPA to ensure that there are no recreational disturbance and a S106 agreement is in place for the old scheme to provide a financial contribution for nutrients, with further discussions pending to clarify this issue.
- 1.3 The species consultations recorded few protected/notable species, of note were several bat species found within 0.5km of the site including Bechsteins, barbastelle, and Alcahioe bats, and a number of bird species such as yellow hammer, marsh tit and lapwing.
- 1.4 The site was dominated by poor semi-improved grassland with scattered scrub treelines on the southern and eastern boundaries. The grassland was found to be of low intrinsic value.
- 1.5 Current survey effort indicates that a good population of slow worms is present, with a peak count of 13 adults. The 2023 bat surveys have been undertaken, and are ongoing, although as the habitats have not changed significantly the assemblages recorded in 2020 are likely to be present, where common species were recorded along with Barbastelle bats which are an Annex 2 species. A scoping breeding bird survey undertaken in 2023, concluded that the site is of limited value to birds.
- 1.6 A biodiversity net gain assessment was carried out using the Defra Biodiversity Metric 4.0, where a net gain of 26.05% or 0.97 units was achieved. This figure cannot be compared to the previous application (APP/20/00761) for this site in 2020 as no Biodiversity Metric was done for that scheme. However, the development footprint for this scheme is smaller than that of the 2020 application and so there was more opportunity to incorporate habitat retention and enhancement into the scheme.

2.0 INTRODUCTION

- 2.1 The following Ecological Appraisal has been prepared by FPCR Environment and Design Ltd on behalf of Brackley Investments Ltd for land south of Bartons Road, Havant, Hampshire (central OS Grid Reference SU733079) hereafter referred to as 'the site'.
- 2.2 It provides the results of an Extended Phase 1 Habitat and Protected Species survey undertaken during the 2023 survey season, which supported surveys completed between June and October 2020 for a previous planning application (APP/20/00761). The objective of the survey was to ascertain whether the baseline had changed from those previous surveys, and set out the mitigation measures required to ensure compliance with nature conservation legislation and to address any potentially significant ecological effects.

Site Context

- 2.3 The site comprises approximately 0.7ha of species-poor semi-improved grassland with tree lines around the boundaries. No waterbodies are present within the site boundary, but two waterbodies were identified through inspection of OS maps and aerial images within 250m of the site boundary.
- 2.4 The site is situated on the north-eastern fringe of Havant, where the surrounding landscape are composed largely of residential dwellings to the northwest, west and southwest with areas of agricultural fields and a large block of woodland to the northeast, east, and south.

Development Proposals

- 2.5 The update to the application is for the construction of a two-storey 78-bed CQC-regulated Care Centre (C2 use) providing 24-hour nursing with associated parking and access off Normandy Way. The facility is focused on end-of-life care, with residents expected to have reduced capacity and would only leave the premises when accompanied by staff or their guests.
- 2.6 The site has been subject to a previous successful planning application (APP/20/00761) for a 64-bed care home. Of note, the updated application for 78 bed has a smaller development footprint, and the same end-of-life care land use, but will be incorporating a far more biodiverse green infrastructure when compared to the previous application.

3.0 METHODOLOGY

Desk Study

- 3.1 To compile existing baseline information, relevant ecological information was requested from both statutory and non-statutory nature conservation organisations including:
- Hampshire Biodiversity Information Centre (HBIC);
 - Multi-Agency Geographic Information for the Countryside (MAGIC) website (www.magic.defra.gov.uk).
- 3.2 Further inspection of colour 1:25,000 OS base maps (www.ordnancesurvey.co.uk) and aerial photographs from Google Earth (www.maps.google.co.uk) was also undertaken to provide additional context and identify any features of potential importance for nature conservation in the wider countryside.
- 3.3 The search area for biodiversity information was related to the significance of sites and species and potential zones of influence, as follows:
- International Sites: 15km search around the Survey Area. Article 3 (1) of the EC Directive 92/43/EEC5 on the Conservation of Natural Habitats and of Wild Flora and Fauna, commonly known as the “Habitats Directive”, sets out the requirement for the establishment of “a coherent European network of special areas of conservation”. Ramsar Sites are not a part of this, but parts of their designation may cross with SAC and SPAs.
 - Nationally Protected Sites: 2km search around the site. Sites of Special Scientific Interest (SSSIs) are the principal statutory designation of sites in the UK and offences are enforced through Natural England. Laws protecting areas designated as SSSI’s are described in Sections 28 to 33 of Part 2 Wildlife and Countryside Act 1981 (as amended). This search also includes National Nature Reserves (NNRs) which are all designated as SSSIs.
 - Local Protected Sites: 1km search around the site. Local Nature Reserve (LNR) is a statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949 and amended by Schedule 11 of the Natural Environment and Rural Communities Act 2006. Local authorities have the powers to acquire, declare and manage LNRs. Parish and town councils may declare LNRs providing power is given by the district or county council. LNRs may or may not have other statutory designations such as SSSI status. LNRs are usually owned by local authorities, with management often passed onto other organisations such as County Wildlife Trusts etc. They often have good public access and facilities. There is no legal necessity to manage an LNR to any set standard but management agreements and plans often exist. Protection of LNRs is usually provided through local planning policy and through local bylaws.

Non-Statutory Designated Sites:

- 3.4 A 2km search around the site was undertaken. Non-statutory Designated Sites are sites designated by local authorities which fall outside the statutory criteria for designation. They are policy protected and included in the National Planning Policy Framework (NPPF) as “Local Sites”. Local Planning Authorities should set criteria-based policies against which proposals for developments on or affecting protected wildlife sites should be judged. Non-statutory sites

are given various names including County Wildlife Sites (CWS), Sites of Importance for Nature Conservation (SINC) and Local Wildlife Sites (LWS). A search of the Ancient Woodland Inventory is also included here.

- 3.5 Legally Protected and Notable Species. 1km search around the site. Searches include species protected under Part 1 of the Wildlife and Countryside Act 1981 (as amended), the Conservation of Habitats and Species Regulations 2017 (as amended)¹, Protection of Badgers Act 1992 and other notable fauna such as Biodiversity Action Plan, Red Data Book (RDB) species, Birds of Conservation Concern (BoCC) red & amber listed bird species and Species of Principal Importance under the Natural Environment and Rural Communities Act (NERC) 2006.
- 3.6 Data sets were restricted to the last ten years, this is to ensure that recent accounts of protected/notable species are reflected and prioritised, as they will be more relevant. However, where a protected/notable species has been documented older than ten years, and there are no recent accounts, then these have been included.

Field Surveys – Habitats / Flora

- 3.7 An Extended Phase 1 Habitat Survey was completed in April 2023 utilising the methodology set out by Natural England². This comprised a systematic walkover of the site mapping and broadly describing the principal habitat types and identifying the dominant plant species / communities present within each habitat type. This survey was an update from surveys carried out by FPCR in 2020, and as such were seeking to determine whether the baseline had changed with regards to species assemblages and coverage.
- 3.8 Each habitat was described based on botanical merit and target notes used where appropriate to highlight features or habitats of particular interest. Features such as trees were considered with regard to their ecological value and potential to provide suitable habitats for protected species.

Invasive Plants, Notifiable Weed Species and Other Notable Flora

- 3.9 Consideration has been given as to the presence of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (WCA 1981)³ and the presence of any notable weeds including those covered under the Weed Act 1959⁴ (where population is significant enough to be considered injurious).
- 3.10 In order to conduct a Biodiversity Net-Gain (BNG) assessment on the scheme, a UKHab survey was conducted which followed the UKHab Survey techniques as recommended by Natural England⁵ and the Chartered Institute of Ecology and Environmental Management⁶.

¹ The Conservation of Habitats and Species Regulations 2019 (Amendment) (EU Exit). [Online]. <http://www.legislation.gov.uk/ukdsi/2019/9780111176573>

² JNCC. (2010). Handbook for Phase 1 Habitat Survey – a technique for environmental audit. Peterborough: JNCC

³ Act of Parliament, (1981). The Wildlife and Countryside Act 1981 (as amended), London: HMSO.

⁴ Act of Parliament. (1959). The Weed Act 1959. London: HMSO.

⁵ Natural England, 2014. Protected species and development: advice for local planning authorities. (updated 2021) [online] Available at: <https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications> [Accessed 05/03/2021]

⁶ CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester

Faunal Survey

- 3.11 During the surveys of the site, observations, signs of or suitable habitat for any species protected under Part 1 of the Wildlife and Countryside Act 1981 (as amended), the Conservation of Habitats and Species Regulations 2017 (as amended) and the Protection of Badgers Act 1992⁷ were noted with particular attention being given to the potential presence of bats, hazel dormouse *Muscardinus avellanarius*, great crested newt *Triturus cristatus*, and badger *Meles meles*. Throughout the survey consideration was also given to the existence and use of the site by other protected species or locally notable fauna such as Species of Principal Importance as listed on Section 41 of the NERC Act (2006), Birds of Conservation Concern (BoCC) red & amber listed bird species⁸ and any Local Biodiversity Action Plan (LBAP) or Red Data Book (RDB) species.
- 3.12 The standard survey methodology was extended to assess the potential presence of protected species within features such as buildings and trees or specific habitats considered for their ecological value and potential to provide suitable habitats for protected species.

Badgers

- 3.13 As part of the survey all hedgerows, scrub, and other suitable habitats within the site and immediately adjacent, were searched for evidence of badger activity. The standard methodology was used, as outlined by Harris, Creswell, and Jefferies⁹ (1989). This involved a thorough search for evidence of the presence of badgers, including:
- Setts, including earth mounds, evidence of bedding and runways between setts.
 - Latrines, often located close to setts, at territory boundaries or adjacent to favoured feeding areas.
 - Prints and paths or track ways.
 - Hairs caught on rough wood or fencing; and
 - Other evidence including snuffle holes, feeding, and playing areas and scratching posts.
- 3.14 The identification of snuffle holes, scratching posts or feeding signs on their own are not necessarily conclusive evidence of the presence of badgers. A number of such signs need to be seen in conjunction before they can be said to be conclusive of badger activity.

Bats

Tree Roost Assessments

- 3.15 Tree assessments were undertaken from ground level, with the aid of a torch and binoculars (where appropriate). These surveys were initially undertaken in June 2020 and then updated in April 2023 by an experienced ecologist from FPCR. During the survey Potential Roosting

⁷ The Protection of Badgers Act 1992 (as amended). London: HMSO [Online]. Available from: <http://www.legislation.gov.uk/ukpga/1992/51/contents>

⁸ *Birds of Conservation Concern 4* (2015). British Trust for Ornithology {Online}. Available from: <http://www.bto.org/science/monitoring/psob>

⁹ Cresswell, P., Harris, S. & Jefferies, D.J. (1989). Surveying Badgers. The Mammal Society Publication No.9 Mammal Society

Features (PRF) for bats such as the following were sought (Based on p.16, British Standard 8596:2015 Surveying for bats in trees and woodland, October 2015¹⁰):

- Natural holes (e.g. knot holes) arising from naturally shed branches or branches previously pruned back to a branch collar.
- Man-made holes that have developed from flush cuts or cavities created by branches tearing out from parent stems.
- Woodpecker holes.
- Cracks/splits in stems or branches (horizontal and vertical).
- Partially detached, loose or bark plates.
- Cankers (caused by localised bark death) in which cavities have developed.
- Other hollows or cavities, including butt rots.
- Compression of forks with occluded bark, forming potential cavities.
- Crossing stems or branches with suitable roosting space between.
- Ivy stems with diameters in excess of 50mm with suitable roosting space behind (or where roosting space can be seen where a mat of thinner stems has left a gap between the mat and the trunk);
- Bat or bird boxes; and
- Other suitable places of rest or shelter.

- 3.16 Certain factors such as orientation of the feature, its height from the ground, the direct surroundings, and its location in respect to other features may enhance or reduce the potential value.
- 3.17 Trees were classified into general bat roost potential groups based upon the presence of these features. *Table 1* (below) broadly classifies the potential categories as accurately as possible as well as discussing the relevance of the features. This table is based upon Table 4.1 and Chapter 6 in the Bat Conservation Trust (BCT) guidance¹¹.
- 3.18 Although the British Standard 8596:2015 document groups trees with moderate and high potential, these have been separated below (as per Table 4.1 in BCT Guidelines) to allow more specific survey criteria to be applied, particularly with reference to the definition of a breeding site or resting place as described in the Habitat Regulations.

¹⁰ Surveying for Bats in Trees and Woodland – Guide. British Standards Institution. BS8596:2015, UK.

¹¹ Collins, J. (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

Table 1. Bat Roosting Potential Categories

Classification of Tree / Building	Description of Category and Associated Features (based on Potential Roosting Features listed above)	Likely Further Survey Work / Actions
Confirmed Roost	Evidence of roosting bats in the form of live / dead bats, droppings, urine staining, mammalian fur oil staining, etc.	A Natural England derogation licence application will be required if the tree or roost site is affected by the development or proposed arboricultural works. This will require a combination of aerial assessment by roped access bat workers (where possible, health and safety constraints allowing) and nocturnal survey during appropriate periods (e.g. nocturnal survey – May to August) to inform on the licence. Works to tree undertaken under supervision in accordance with the approved good practice method statement provided within the licence. However, where confirmed roost site(s) are not affected by works, work under a precautionary good practice method statement may be possible.
High Potential	One or more Potential Roosting Features that are obviously suitable for larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter protection, conditions (height above ground level, light levels, etc) and surrounding habitat. Examples include (but are not limited to); woodpecker holes, larger cavities, hollow trunks, hazard beams, etc.	Aerial assessment by roped access bat workers (if appropriate) and / or nocturnal survey during appropriate period (May to August). Following additional assessments, tree/buildings may be upgraded or downgraded based on findings. If roost sites are confirmed and the roost is to be affected by proposals a licence from Natural England will be required. After completion of survey work (and the presence of a bat roost is discounted), a precautionary working method statement may still be appropriate.
Moderate Potential	A tree with Potential Roosting Features which could support one or more potential roost sites due to their size, shelter protection, conditions (height above ground level, light levels, etc) and surrounding habitat but unlikely to support a roost of high conservation status (i.e. larger roost, irrespective of wider conservation status). Examples include (but are not limited to); woodpecker holes, rot cavities, branch socket cavities, etc.	A combination of aerial assessment by roped access bat workers (trees) and / or nocturnal survey during appropriate period (May to August). Following additional assessments, roost may be upgraded or downgraded based on findings. After completion of survey work (and the presence of a bat roost is discounted), a precautionary working method statement may still be appropriate. If a roost site/s is confirmed a licence from Natural England will be required.
Low Potential	Contain Potential Roosting Features but with none seen from ground or features seen only very limited potential. Examples include (but are not limited to); loose/lifted bark/tiles, shallow splits exposed to elements or upward facing holes/cavities.	No further survey required but a precautionary working method statement may be appropriate.
Negligible / No potential	Negligible/no habitat features likely to be used by roosting bats	None.

* *The Conservation of Habitats & Species Regulations 2017 (as amended) affords protection to “breeding sites” and “resting places” of bats. The EU Commission’s Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC, February 2007 states that these are places “where there is a reasonably high probability that the species concerned will return”.*

2020 Manual Activity Surveys

- 3.19 A suite of manual activity surveys were carried out to inform the planning application in 2020 for the same site boundary. The methods utilised were as follows.
- 3.20 Following the initial Extended Phase 1 Habitat and Preliminary Protected Species survey in June 2020, bat survey effort was reviewed against Natural England¹² and BCT guidance (2016). This assessed the site to be of small size and providing low habitat quality (refer Table 7.2, Bat Surveys – Good Practice Guidelines).
- 3.21 Survey guidance from the Bat Conservation Trust recommends that any site, regardless of its size, should be subject to activity assessments. Under this guidance the site was of low suitability and falls under the seasonal survey requirements.
- 3.22 Survey effort was increased from the offset due to the fact consultation records returning evidence of a confirmed Bechstein's bat (Annex II species) roost in the wider landscape. Survey effort was increased to monthly as some potentially suitable habitat for this species (woodland) was present along the western site boundary.
- 3.23 The primary objective of the activity surveys was to identify foraging areas, commuting routes and general species utilisation of the site.
- 3.24 In line with the BCT guidance the transect route was predetermined prior to survey to comprehensively cover all areas of the site and included five-minute point count stops, during which time all bat activity was recorded. The point counts were strategically located throughout the site to account for any habitat loss or potential impacts from the proposed development, and to ensure a comprehensive coverage of habitats.
- 3.25 The dusk transects commenced at sunset and continued for approximately 2-3 hours. Surveys were undertaken in conditions that were close to optimal as described within the BCT guidance (2016), where sunset temperatures were 10°C or above with no rain or strong winds. Dawn surveys commenced 2 hours before sunrise and ended at sunrise or later if bat activity continued.
- 3.26 The surveys were undertaken by appropriately experienced/licenced ecologists from FPCR. The transect was walked at a steady pace using an Apple iPad mini with an Echo Meter Touch (Wildlife Acoustics Version 2.0.4). This software identifies and tags sound files that it suggests are bat passes; these surveys are also supplemented by written notes documenting bat activity present on site and identifying any key foraging and commuting routes.
- 3.27 Post-survey, bat calls were analysed using BatSound (Version 4.1.4) and Analook (Titley Electronics, Version 4.1) / Kaleidoscope Viewer (Version 4.5.4), (versions correct for 2020 bat call analysis) by taking measurements of the peak frequency, inter-pulse interval, call duration and end frequency. Analysis was undertaken by experienced ecologists from FPCR. From this, the level of bat activity across the site was assessed by taking into account the species assemblage and spatial variation in activity within different habitats.
- 3.28 The timings and weather conditions for the 2020 activity transects are shown in *Table 2* below.

¹² Jones AJ (2004) Bat Mitigation Guidelines, English Nature

Table 2. 2020 Transect Survey Timings and Weather Conditions

Survey ref/ Date	Survey Type	Start Time	Sunset/ Sunrise Time	Finish Time	Weather Conditions (temp °C; cloud cover %; wind; and rain)
Activity Transects					
Transect 1 – 02/07/2020	Transect	21:20	21:20	23:20	50% cloud; light breeze; no rain; 18°C
Transect 2 – 28/07/2020	Transect	20:55	20:55	22:55	5% cloud; light breeze; dry; 17°C
Transect 3 – 17/09/2020	Transect	19:12	19:12	21:17	0-10% cloud; moderate breeze; dry; 17°C
Transect 4 – 01/09/2020	Transect (Dusk)	19:48	19:48	21:48	90% cloud; no wind; no rain; 18°C
Transect 5 – 02/09/2020	Transect (Dawn)	04:20	06:20	06:30	50% cloud, no wind; no rain; 10°C
Transect 6 – 08/10/2020	Transect	18:26	18:26	20:26	70% cloud; light breeze; no rain; 14°C

2023 Manual Activity Surveys

- 3.29 A The methodology outlined above has been utilised and to date, two surveys have been completed in 2023 (May and June) which can be seen in *Table 3*.

Table 3. 2023 Transect Survey Timings and Weather Conditions

Survey ref/ Date	Survey Type	Start Time	Sunset/ Sunrise Time	Finish Time	Weather Conditions (temp °C; cloud cover %; wind; and rain)
Activity Transects					
Transect 1 – 16/05/2023	Transect	20:48	20:48	22:48	14°C; 10% cloud; light breeze; no rain.
Transect 2 – 15/06/2023	Transect	21:19	21:19	23:19	19°C; 0% cloud; no wind; no rain.
Transect 3 – 17/07/2023	Transect	TBC			
Transect 4 – 14/08/2023	Transect (Dusk)	TBC			
Transect 5 – 15/08/2023	Transect (Dawn)	TBC			

2020 Automated Activity Surveys

- 3.30 A static passive recording broadband detector was deployed on site each month to supplement the activity transect survey. These automated logging systems, Wildlife Acoustics Inc. Song Meter SM4BAT FS detectors, herein referred to as SM4BAT detectors, save all recordings onto an internal storage device, which can be analysed following the survey.
- 3.31 In 2020 SM4BAT detectors were deployed each month (June – October 2020), each for a minimum period of five consecutive nights in line with the current guidance (BCT, 2016). The

static units were programmed to activate 30 minutes before dusk and record continuously until 30 minutes following sunrise. The output from this detector was subject to computer analysis using the AnlookW software package (Titley Electronics) and BatSound (Version 4.1.4).

- 3.32 The SM4BAT records sound files of up to 12 seconds in length before a new file is created. The analysis of the SM4BAT files recorded can highlight the presence of more than one bat if they are recorded simultaneously on the same sound file. However, it is not possible to determine whether consecutive sound files have been recorded as the result of a single bat passing the detector, as it commutes across the landscape or by one bat repeatedly triggering the detector as it forages in close proximity for an extended period (unlike the transect section above where the number of bats can often be visually identified). Therefore, each sound file is counted as a single bat pass or registration and the number of registrations provides an indication of the relative importance of the site / the detector location for bats.
- 3.33 The term 'registration' refers to a unique sound file created over the course of a number of seconds. Based on this, numerous 'registrations' does not necessarily refer to multiple bats (unlike the manual activity survey section above where the number of bats can often be visually identified), as one bat can create a number of registrations, for example a bat which is foraging in the area surrounding the microphone for a sustained period of time.
- 3.34 The timings for the 2020 static detector surveys undertaken are shown in *Table 4* below.

Table 4. 2020 Static Detector Survey Timings and Weather Conditions

Survey Occasion	Location/s (see Figure 3)	Date/Timings
Static Survey 1 – June 2020	One unit: S1 – Western boundary, Central H3.	26 th June to 1 st July – 5 nights
Static Survey 2 – July 2020	One unit: S2 – H6, South-western boundary, along H3.	23 rd to 28 th July – 5 nights
Static Survey 3 – August 2020	One unit: S3 – Northern boundary, dense scrub.	19 th to 24 th August – 5 nights
Static Survey 4 – September 2020	One unit: S4 – H3, South-western boundary corner.	17 th to 22 nd September – 5 nights
Static Survey 5 – October 2020	One Unit: S5 – Eastern boundary, mature tree along H1.	8 th to 13 th October – 5 nights

2023 Automated Activity Surveys

- 3.35 The timings for the 2023 static detector surveys undertaken are shown in *Table 5* below, please note that the 17th July static is still out in the field at the time of writing, therefore July and August data will be provide once completed.

Table 5. 2023 Static Detector Survey Timings and Weather Conditions

Survey Occasion	Location/s (see Figure 3)	Date/Timings
Static Survey 1 – May 2023	One unit: Northern extent of eastern boundary	16 th to 22 nd May – 5 nights

Survey Occasion	Location/s (see <i>Figure 3</i>)	Date/Timings
Static Survey 2 – June 2023	One unit: Northwest / of site, on Tree’.	15 th to 21 st June – 5 nights
Static Survey 3 – 17/07/2023	One unit: Location TBC	17 th to 23 rd July – 5 nights
Static Survey 4 – 14/08/2023	One Unit: Location TBC	14 th to 20 th August – 5 nights

Great Crested Newts (GCN)

- 3.36 A desk study in 2020 found there to be one waterbody within 250m of the site. DNA samples were taken from this waterbody where possible, and a HSIs carried out.

Reptiles

- 3.37 A strategic reptile presence / likely absence survey was undertaken in 2020 and 2023 within the site at specific locations identified as offering potential habitat suitability for reptiles. The survey was undertaken based on methodology detailed in the Herpetofauna Workers Manual¹³, the Froglife Advice Sheet 10 – Reptile Survey¹⁴ and Reptiles: Guidance for Developers¹⁵. Methods involved a search for basking reptiles on/under naturally occurring and strategically positioned artificial refugia. The artificial refugia which were placed in locations that offered the most suitability habitat i.e. structurally diverse ‘edge’ habitats with areas of bare ground/short vegetation.
- 3.38 Froglife recommends between five and ten refuges per hectare, the survey area measures approximately 0.7 hectares in size, where there were approximately 24 mats installed in 2020 and 29 distributed in 2023, with the locations shown in *Figure 4*. This is higher than the recommended five to ten refuges, this allowed refugia to be placed alongside suitable edge habitats across the site and provide a robust assessment.
- 3.39 The surveys within the site were carried out following those guidelines within the Froglife Advice Sheet, which recommend surveys undertaken:
- At temperatures of between 9°C-18°C;
 - On sunny / cloudy days with little or no wind; and
 - Between 8:30 & 11:00 and between 1600 & 18:30 hrs.
- 3.40 In addition, guidance also recommends:
- Using regularly spaced corrugated tin sheeting / similar (0.5m²) as artificial refugia with a black upper side.
 - Approaching refugia from downwind, casting no shadow and with care to avoid disturbing basking animals when completing checks.

¹³ Gent, T & Gibson, S (2003) Herpetofauna Worker’s Manual. JNCC, Peterborough.

¹⁴ Froglife (1999) Reptile Survey; an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife, Halesworth.

¹⁵ English Nature (2004) Reptiles: guidance for developers. English Nature, Peterborough.

- That lifting and replacing tins, to check for the presence of reptiles underneath in hot weather is undertaken with care, to avoid potential harm to any animals underneath; and
- That the location and number of tins are mapped to aid survey and avoid the possibility of leaving tins *in situ* after completion of the survey.

3.41 In some circumstances conditions may be more suitable but fall outside of the guidelines mention above; for example, sunny periods after rainfall but after 11am. Such conditions would be more favourable to reptiles and likely increase the likelihood of positive encounters. Therefore, the guideline are only suggestive periods, surveyors experience and weather assessment can prove to be fruitful outside guidance periods, but only where conditions are suitable.

3.42 Reptile populations are assessed in accordance with population level criteria as stated in the Key Reptile Site Register¹⁶. This system classifies populations of individual reptile species into three population categories assessing the importance of the population (*Table 6*). These categories are based on the peak number of adult animals observed during individual survey occasions.

Table 6. Key Reptile Site Survey Assessment Categories (Froglife Advise Sheet 10)

Species	Low Population (Number of Individuals)	Good Population (Number of Individuals)	Exceptional Population (Number of Individuals)
Adder	<5	5-10	>10
Common lizard	<5	5-20	>20
Grass snake	<5	5-10	>10
Slow worm	<5	5-20	>20

3.43 To confirm the presence / likely absence of reptiles within the site and inform the population assessment, seven reptile surveys were carried out between July and September 2020 and seven surveys have been carried out so far in 2023 between May and June; these were conducted within the recommended survey period and during conditions optimal for reptile sightings. Where the conditions optimal for reptile sightings fell outside of the recommended survey period (when it is too hot during the day for example) professional judgement was utilised to determine when would be optimal to conduct the survey. The 2020 dates of these surveys can be seen in *Table 7* and 2023 in *Table 8*.

Table 7. 2020 Reptile Survey Date and Weather Conditions

Survey Occasion	Date & Time	Weather
1	24/07/20 07:00	Rain earlier in the day, light breeze, cloud cover 90-100%, 17°C
2	28/07/20 19:30	Sunny conditions, light breeze, no rain, cloud cover 5%, 18°C
3	07/09/20	Sunny conditions, moderate breeze, no rain, cloud cover 0-10%, 16°C
4	14/09/20 08:14	Sunny conditions, moderate breeze, no rain, cloud cover 0-10%, 15°C

¹⁶ Kent Reptile and Amphibian Group. *Key Site Register* (Accessed 29/06/2023) Accessed via: [Key Site Register | Krag \(kentarg.org\)](https://www.kentarg.org/)

5	18/09/20 10:00	Sunny conditions, moderate breeze, no rain, cloud cover 0-10%, 16°C
6	22/09/20 08:10	Sunny conditions, light breeze, no rain, cloud cover 30-40%, 12°C
7	28/09/20 11:00	Sunny conditions, no wind, no rain, cloud cover 0%, 15°C

Table 8. 2023 Reptile Survey Date and Weather Conditions

Survey Occasion	Date & Time	Weather
1	16/05/23 16:30	Clear bright and sunny, light breeze, cloud cover 20-30%, 18°C
2	22/05/23 09:33	Bright conditions, moderate breeze, no rain, cloud cover 80-90%, 15°C
3	01/06/23 09:04	Clear and Sunny conditions, light breeze, no rain, cloud cover 0-10%, 13°C
4	07/06/23 10:04	Sunny conditions, light breeze, no rain, cloud cover 0-10%, 15°C
5	16/06/23 07:48	Clear bright and sunny, light breeze, cloud cover 0-10%, 17°C
6	21/06/23 07:27	Sunny conditions, light breeze, no rain, cloud cover 50-60%, 17°C
7	30/06/23 09:24	Clear, Bright conditions, no rain, cloud cover 70-80%, light breeze, 16 °C

Constraints and Limitations

- 3.44 Due to the variable properties of bat echolocation calls it is not always possible to identify a series of echolocation calls down to species level. In the majority of cases it was possible to identify to genus level which was suitable to allow potential affects to be assessed and appropriate mitigation designed. The lower amplitude of calls of species such as long-eared bat *Plecotus sp.* or barbastelle *Barbastella barbastellus* or the higher-pitched calls of species such as the horseshoe bats are more difficult to detect and calls may not have been received by the directional microphone at the time of recording. Therefore, it was possible that these species may have been under recorded.
- 3.45 The static (passive) recording units do not discern between individual bats or a single bat passing the microphone several times and therefore the data recorded can only provide an indication of bat activity as bat registrations per unit time.
- 3.46 It is considered that the overall dataset obtained once the full suite of surveys is complete will be representative of the level of bat activity within the application site during the survey period. Furthermore, it is unlikely that the above limitations will result in a significant detrimental impact upon the quality of the data and will have minimal effect on the subsequent conclusions and recommendations provided in the future.

4.0 RESULTS

Desk Study

- 4.1 Designated and non-designated sites are outlined in *Figure 1a* and detailed below.

Statutory and Non-Statutory Sites of Nature Conservation Importance

Statutory Sites of International Conservation Value

- 4.2 The Multi-Agency Geographic Information for the Countryside (MAGIC) website indicates that there are several internationally designated sites within 15km of the site.
- 4.3 Chichester and Langstone Harbours are situated approximately 2.9km south of the site and are designated as Special Protection Areas (SPA) and a Ramsar site. They are large, sheltered estuarine basins comprising extensive sand and mudflats exposed at low tide. These harbours are designated due to being a wetland of international importance and regularly supporting over 20,000 waterfowl.
- 4.4 Solent Maritime is a Special Area of Conservation (SAC) and is located approximately 7km south-east. This area is designated for containing many Annex I habitats, including estuaries, *Spartina* swards and Atlantic salt meadows.
- 4.5 Kingley Vale is situated approximately 7.5km south-east and is designated as a Special Area of Conservation (SAC). This area is designated due to being the largest area of yew woodland in Britain.
- 4.6 Singleton and Cocking Tunnels is located approximately 15km north-west and is designated as a Special of Conservation (SAC) due to supporting the Annex II species barbastelle bat *Barbastella barbastellus* and Bechstein's bat *Myotis bechsteinii*.

Statutory Sites of National Conservation Value

- 4.7 There are no Sites of Special Scientific Interest (SSSI) located within 2km of the site.

Non-Statutory Designated Sites

- 4.8 Data received from HBIC identified several non-statutory sites within 2km of the site. The closest of which was Barton's Copse and The Slip, located approximately 0.5km north, which is designated on account of it being a substantial area of ancient, semi-natural woodland.

Protected / Notable Species Records

- 4.9 The 2023 consultation with Hampshire Biodiversity Information Centre found several records of protected, notable, or local BAP species are present within 2km of the site, detailed in *Table 9* below and *Figure 1b*.
- 4.10 Bird records greater than 1km from the site can be found in *Appendix 2*.

Table 9. Protected and Notable Species Records

Species	Date	Conservation Status	Approximate Location Relative to Site
Mammals – Terrestrial (Non-bats)			
Eurasian Badger <i>Meles meles</i>	2006	PBA	Two records, closest 1.4 km S
Hazel Dormouse <i>Muscardinus avellanarius</i>	2017	EU_Hab_4 HabReg_s2 IUCN_GB_2001:VU NERC_s41 WCA_s5s94b WCA_s5s94c CI	One record 1.8 km N
West European Hedgehog <i>Erinaceus europaeus</i>	2013 – 2021	IUCN_GB_2001:VU NERC_s41	Multiple records, closest 0.45 km SE of site
Herpetofauna			
Slow worm <i>Anguis fragilis</i>	2014 – 2018	NERC_s41 WCA_s5s91(t)	Two records, closest 1.9 km SE
Grass snake <i>Natrix helvetica</i>	2018	NERC_s41 WCA_s5s91(t)	One record 2.3 km NW
Adder <i>Vipera berus</i>	2006	NERC_s41 WCA_s5s91(t)	One record 1.9 km NW
Common Lizard <i>Zootoca vivipara</i>	2018	NERC_s41 WCA_s5s91(t)	One record 1.9 km NW
Bats			
Western Barbastelle <i>Barbastella barbastellus</i>	2016 - 2021	EU_Hab_2np EU_Hab_4 HabReg_s2 IUCN_GB_2001:VU NERC_s41 WCA_s5s94b WCA_s5s94c CI	Multiple records, closest 0.20 km N
Serotine <i>Eptesicus serotinus</i>	2002 – 2022	EU_Hab_4 HabReg_s2 IUCN_GB_2001:VU WCA_s5s94b WCA_s5s94c	Multiple records, closest 0.20 km N
Alcathoe Bat <i>Myotis alcathoe</i>	2018	EU_Hab_4 HabReg_s2 IUCN_GB_2001:DD NERC_s41 WCA_s5s94b WCA_s5s94c	One record 0.20 km N
Bechstein's Bat <i>Myotis bechsteinii</i>	2005 - 2022	EU_Hab_2np EU_Hab_4 HabReg_s2	Multiple records closest 0.36 km E

Species	Date	Conservation Status	Approximate Location Relative to Site
		NERC_s41 WCA_s5s94b WCA_s5s94c CI	
Brandt's Bat <i>Myotis brandtii</i>	2009 - 2018	EU_Hab_4 HabReg_s2 IUCN_GB_2001:DD WCA_s5s94b WCA_s5s94c	Two records, closest 0.20 km N
Daubenton's Bat <i>Myotis daubentonii</i>	2015 - 2022	EU_Hab_4 HabReg_s2 WCA_s5s94b WCA_s5s94c	Two records, closest 1.56 km E
Whiskered Bat <i>Myotis mystacinus</i>	2017 – 2022	HabReg_s2 WCA_s5s94b WCA_s5s94c	Multiple records, closest 0.20 km N
Natterer's Bat <i>Myotis nattereri</i>	2009 – 2022	EU_Hab_4 HabReg_s2 WCA_s5s94b WCA_s5s94c	Multiple records, closest 0.20 km N
Lesser Noctule <i>Nyctalus leisleri</i>	2013 – 2020	EU_Hab_4 HabReg_s2 WCA_s5s94b WCA_s5s94c	Multiple records, closest 1.47 km E
Noctule <i>Nyctalus noctula</i>	2000 – 2022	EU_Hab_4, HabReg_s2 NERC_s4 WCA_s5s94b WCA_s5s94c	Multiple records, closest 0.20 km N
Nathusius's Pipistrelle <i>Pipistrellus nathusii</i>	2014 – 2021	EU_Hab_4 HabReg_s2 WCA_s5s94b WCA_s5s94c	Multiple records, closest 0.20 km N
Common Pipistrelle <i>Pipistrellus pipistrellus</i>	2000 – 2022	EU_Hab_4 HabReg_s2 WCA_s5s94b WCA_s5s94c	Multiple records, closest 0.20 km N
Soprano Pipistrelle <i>Pipistrellus pygmaeus</i>	2003 – 2022	EU_Hab_4 HabReg_s2 NERC_s41 WCA_s5s94b WCA_s5s94c	Multiple records, closest 0.20 km N
Long-eared <i>Plecotus</i> spp.	2008 – 2022	EU_Hab_4 HabReg_s2 IUCN_GB_2001:EN NERC_s41 WCA_s5s94b WCA_s5s94c CI	Multiple records, closest 0.36 km E

Species	Date	Conservation Status	Approximate Location Relative to Site
Brown Long-eared Bat <i>Plecotus auritus</i>	1997 – 2021	EU_Hab_4 HabReg_s2 NERC_s41 WCA_s5s94b WCA_s5s94c	Multiple records, closest 0.20 km N
Birds (Present within 1km from site)			
Skylark <i>Alauda arvensis</i>	2004 - 2020	BOCC_Red NERC_s41	Multiple records, closest 0.69 km E
Crossbill <i>Loxia curvirostra</i>	2020	WCA_s1p1 CS	Multiple records, closest 0.3km NE
Cuckoo <i>Cuculus canorus</i>	2004 - 2020	BOCC_Red NERC_s41	Multiple records, closest 0.3 km W
Yellowhammer <i>Emberiza citrinella</i>	2005 – 2020	BOCC_Red NERC_s41	Multiple records, closest 0.3 km W
Peregrine <i>Falco peregrinus</i>	2004 - 2020	EU_Bird_1 WCA_s1p1 CR	Multiple records, location sensitive
Hobby <i>Falco subbuteo</i>	2004 – 2018	WCA_s1p1 CI	Multiple records, location sensitive
Herring Gull <i>Larus argentatus</i>	2004 - 202020	BOCC_Red CR	Multiple records, closest 0.5 km SW
Mediterranean Gull <i>Larus melanocephalus</i>	2004 – 2020	EU_Bird_1 WCA_s1p1 CR	Multiple records, closest 0.3 km W
Linnet <i>Linaria cannabina</i>	2004 - 2020	BOCC_Red	Multiple records, closest 0.3 km W
Red Kite <i>Milvus milvus</i>	2004 – 2020	EU_Bird_1 WCA_s1p1 CR	Multiple records, closest 0.67 km E
Spotted Flycatcher <i>Muscicapa striata</i>	2006 – 2018	BOCC_Red NERC_s41	Multiple records, closest 0.69 km N
House Sparrow <i>Passer domesticus</i>	2004 – 2020	BOCC_Red NERC_s41	Multiple records, closest 0.9 km S
Honey-buzzard <i>Pernis apivorus</i>	2010 – 2016	EU_Bird_1 WCA_s1p1 CR	Multiple records, location sensitive
Marsh Tit <i>Poecile palustris</i>	2005 – 2018	BOCC_Red	Multiple records, closest 0.1 km N
Firecrest <i>Regulus ignicapilla</i>	2004 - 2018	WCA_s1p1 CS	Multiple records, closest 0.56 km N
Whinchat <i>Saxicola rubetra</i>	2004 - 2018	BOCC_Red CR	Multiple records, closest 0.71 km N

Species	Date	Conservation Status	Approximate Location Relative to Site
Starling <i>Sturnus vulgaris</i>	2004 – 2020	BOCC_Red	Multiple records closest 0.9 km S
Goshawk <i>Accipiter gentilis</i>	2020	WCA_s1p1 CR	One record, location sensitive
Mistle Thrush <i>Turdus viscivorus</i>	2007 – 2020	BOCC_Red	Multiple records, closest 0.68 km E
Barn Owl <i>Tyto alba</i>	2005 - 2010	WCA_s1p1	Two records, closest 1.1 km NW
Lapwing <i>Vanellus vanellus</i>	2004 – 2020	BOCC_Red NERC_s41	Multiple records, closest 0.3 km W

Key to Conservation Status: **NERC41** – Section 41 of the Natural Environment and Rural Communities Act 2006; **HabsDirA2** – Habitats Directive Annex II species, **HabReg** – The Conservation of Habitats and Species Regulations 2017(as amended); **UKBAP** – UK Biodiversity Action Plan Species; **LBAP** – Local Biodiversity Action Plan; **WCA1/ WCA5/WCA9**– species listed on Schedule 1, 5 or 9 of the Wildlife and Countryside Act 1981 respectively; **IUCN GB 2001** – IUCN 2001 guidelines; **CR** – County rare; **CS** – county sparse; **CI** - county interest.

Field Results- Habitats and Flora

- 4.11 Habitat descriptions of the site are provided below. The locations of the habitats described below can be found on *Figure 2 – Phase 1 Habitat Plan*.

Other Neutral Grassland – Poor condition / Poor Semi-Improved Grassland

- 4.12 The site predominately comprises poor condition other neutral grassland. This habitat had limited botanical interest that was mainly due to the regime cutting regime that was implemented across the site. Species present included Yorkshire fog *Holcus lanatus* cock's-foot *Dactylis glomerata*, cut-leaf water parsnip *Berula erecta*, cut-leaf geranium *Geranium dissectum*, soft-rush *Juncus effusus*, meadow buttercup *Ranunculus acris*, common ragwort *Jacobaea vulgaris*, perennial rye *Lolium perenne*, spear thistle *Cirsium vulgare*, purple dead-nettle *Lamium purpureum*, common nettle *Urtica dioica*, dandelion *Taraxacum* sp., and yarrow *Achillea millefolium*.
- 4.13 Around the peripheries of the site, along hedgerow headlands and along tree lines there was approximately 1-2m in width where the cutting regimes were not as intense or regular as the central regions; although these contained the same species there were of greater structural diversity. Along the southern boundary areas of scrub had developed.

Scattered / Dense Bramble Scrub

- 4.14 Along the southern extent of the site the area under the canopy of the southern treeline had succeeded into scattered scrub with the southeastern corner of the site comprising more dense bramble scrub. Species within the scattered scrub were comprised of predominantly bramble *Rubus fruticosus* agg., with patches of more marginal hedgerow or woodland species such as ivy *Hedera helix*, cuckoo-pint *Arum maculatum*, lesser celandine *Ficaria verna*, germander speedwell *Veronica chamaedrys*, and cleavers *Galium aparine*. Bramble was the

dominant species within the dense scrub but also featured blackthorn *Prunus spinosa*, hawthorn *Crataegus monogyna*, with common nettle and cut-leaf geranium at its margins.

Tall Forbs

- 4.15 Along the eastern boundary of the site, adjacent to a treeline along its extent, the grassland appeared to have succeeded into tall forbs. It is likely that this area is extant woodland as evident by the tree stumps and log piles present at the time of survey. Species within this habitat comprised: cleavers, broadleaved dock *Rumex obtusifolius*, cuckoo-pint, butcher's broom *Ruscus aculeatus*, bramble, foxglove *Digitalis purpurea*, hogweed *Heracleum sphondylium*, and greater burdock *Arctium lappa*.

Trees / Tree lines

- 4.16 Aerial photography and the presence of tree stumps and log piles at the time of survey in 2023, as well as what was reported in the 2020 report, has concluded that the southern and eastern boundary habitats of previously woodland strips, have been removed and all that remains are tree lines TL1 and TL2 respectively. TL1 comprised predominately of cherry *Prunus avium* trees and crack willow *Salix x fragilis* with some buddleia present also. TL2 at the eastern boundary of the site was comprised of pedunculate oak *Quercus robur*, ivy, blackthorn, ash *Fraxinus excelsior*, and yew *Taxus baccata*.
- 4.17 Two individual trees of note are present on the site, T1 is a medium-sized, mature/ semi-mature oak in the west of the site, and T2 is a large mature oak within the eastern boundary. Both trees have Tree Protection Orders (TPOs)

Hedgerows

- 4.18 In the previous Ecological Appraisal completed by FPCR in 2020 the boundary habitats are described as hedgerows on the eastern, southern and western extents of the site (H1, H2 and H3). Based on the 2023 walkover survey, the western boundary is comprised of woodland which is outside of the red-line boundary and cannot be classified as a hedgerow as it is greater than 5m wide at its base. As this woodland is outside of the red line boundary it has not been included in *Figure 2 – Phase One Habitat Map*. The composition of the southern and eastern boundaries does not indicate that are hedgerows, rather tree lines TL1 and TL2 respectively.
- 4.19 A species poor, non-native hedgerow is present in the northeast corner of the site. This hedgerow was no more than 2m tall and comprised entirely of cherry laurel *Prunus laurocerasus*.

Fauna

Badger

- 4.20 During the 2020 and 2023 surveys there was no field signs to suggest that the site is used by badgers, this includes an absence of setts, latrines, runs and squeezes.

Bats

- 4.21 The ground assessment 2020 found only three trees had suitable roosting features, which were T37, T3 (as per the arboricultural report) and a dead tree¹⁷. Nocturnal surveys undertaken in July 2020 on those trees with Hampshire Ecological Services, during which no bats were seen emerging. T37 and the dead tree have since been removed, leaving only T3 (T2 on *Figure 2*) at the time of survey in 2023.
- 4.22 The remaining tree, located on the eastern boundary was scoped out of being directly impacted by the development in the 2023, as the construction footprint had moved and it was to be retained. T2 (T3 on arboricultural report) was found to have a single rot hole feature on a limb during the 2023 walkover survey, so indirect effects should still be assessed.

Manual Activity Surveys (2020)

- 4.23 A total of seven bat species / species groups were recorded on site. Common pipistrelle were the most frequently recorded bat species during the transect surveys, accounting for c. 67.21% of the total contacts, followed by soprano pipistrelle with c. 19.67%, and then unidentified *Plecotus* species with c. 4.92% of all activity recorded. Unidentified *Myotis* species and serotine both accounted for c. 3.28% and *Nyctalus* species accounted for 1.64% of activity recorded.
- 4.24 Over the course of surveys undertaken, a peak amount of activity was recorded during the 1st September survey with 19 contacts recorded. Across each of the transects, areas of activity were found to be similar with concentrations occurring within the south-western and south-eastern corners of the site, and along the eastern boundary. Detailed descriptions of bat activity encountered during manual activity surveys is reported in *Table 10* below.
- 4.25 No Annex II listed species were recorded during the transect surveys.

¹⁷ Hampshire Ecological Services (July 2020). *Letter report: results of bat emergence surveys on three trees in Bartons road, Havant*. Accessed via: [John Poland \(havant.gov.uk\)](http://johnpoland.havant.gov.uk) 29/06/2023

Table 10. Bat Transect Surveys Summary of Results 2020

Month	Total Contacts	Species Recorded (No. contacts)	Activity Summary
2 nd July 2020 <i>Figure 5</i>	11	Common pipistrelle (19) Soprano pipistrelle (2)	Activity was sporadically recorded across the site with small increases in activity recorded along the western boundary and centrally along the eastern boundary. The majority of activity was identified as common pipistrelles undertaking single commuting passes. Foraging activity was recorded at two locations, once in the south-eastern corner identified as a common pipistrelle, and once along the western boundary by a soprano pipistrelle continuously foraging.
28 th July 2020 <i>Figure 6</i>	5	Common pipistrelle (3) Soprano pipistrelle (1) <i>Plecotus</i> sp. (1)	The majority of activity was recorded on the southern boundary of the site. The majority of activity was identified as common pipistrelle. Continuous foraging was recorded within the south-eastern corner of the site and along the western boundary of the wider survey area. An unidentified <i>Plecotus</i> species was recorded within the south-eastern corner of the site making a single commuting pass.
1 st September 2020 (DUSK) <i>Figure 7</i>	19	Common pipistrelle (9) Soprano pipistrelle (5) <i>Myotis</i> sp. (2) Serotine (2) <i>Plecotus</i> sp. (1)	Activity was widespread with slight concentrations of activity recorded within the south-western corner and along the eastern boundary of the wider survey area. Continuous foraging was recorded at two locations, once in the south-eastern corner and once along the western boundary, both of these contacts were identified as common pipistrelle. Commuting passes identified as serotine, <i>Myotis</i> species, and <i>Plecotus</i> species were also recorded in the south-western corner, along the eastern boundary of the wider survey area and near the western boundary of the site.
2 nd September 2020 (DAWN)	0	0	No Bats Recorded.
17 th September 2020 <i>Figure 8</i>	11	Common pipistrelle (9) Soprano pipistrelle (1) <i>Plecotus</i> sp. (1)	Common pipistrelle were the most frequently encountered species with activity largely concentrated along the eastern boundary of the site. Foraging activity, identified as common pipistrelle, was recorded sporadically around the site. Commuting passes by soprano pipistrelle and <i>Plecotus</i> species were also recorded.
8 th October 2020 <i>Figure 9</i>	10	Common pipistrelle (7) Soprano pipistrelle (2) <i>Nyctalus</i> sp (1)	Activity, largely identified as common pipistrelle, was sporadically recorded across the site with five contacts recorded within the site and five contacts recorded within the larger survey area. Continuous foraging identified as a common pipistrelle was recorded within the north-western corner of the site. All other contacts comprised commuting passes, including a single <i>Nyctalus</i> species pass along the northern boundary of the wider survey area.

Automated Activity Surveys (2020)

- 4.26 A total of 1,491 registrations were recorded over the five survey occasion (June to October), with common pipistrelle (approximately 64.72% of total data), soprano pipistrelle (15.90%), *Myotis* sp (14.42%), serotine (1.48%), *Nyctalus* sp (0.81%), *Plecotus* sp (0.81%), barbastelle (0.74%), *Pipistrellus* sp (0.40%) and nathusius pipistrelle (0.34%).
- 4.27 *Appendix 3* summarises the activity levels recorded and the locations of the units; from these surveys, there appears to be two particular areas (northern boundary and hedgerow H3) that had higher numbers of registrations in comparison to other locations. The August static on the northern boundary recorded 681 registrations and the July and September statics on hedgerow H3 recorded 253 and 399 registrations, respectively.
- 4.28 The most notable species recorded during surveys was barbastelle (Annex II species). Barbastelle bats were recorded during the September surveys with a total of 11 registrations. The barbastelle activity only made up 0.74% of the dataset.
- 4.29 Please see *Figure 3* for static detector unit locations and *Appendix 3* for summary of results.

2023 Manual and Automated Surveys

- 4.30 Update monthly automated and manual surveys are being carried out in 2023. Surveys have been carried out for May and June 2023 and the results of these are found below and in *Appendix 3*. Surveys in July and August 2023 are scheduled to take place on the 17th of July and the 14th/15th of August (dawn/dusk).
- 4.31 The manual transect survey carried out on 16th May 2023 (*Figure 10*) found there to be 19 contacts from five different species. The species found and the number of contacts were as follows: common pipistrelle (9), soprano pipistrelle (4), serotine (3), barbastelle (2), *Plecotus* sp. (1).
- 4.32 The automated survey carried out across five nights between the 16th of May and the 21st of May found a total of 188 registrations comprising seven species of bat. No annexe 2 species were found during this period.
- 4.33 The manual transect survey carried out on 15th June 2023 (*Figure 11*) had 28 contacts from five different species. Species found and the number of contacts were as follows: common pipistrelle (16), soprano pipistrelle (10), *Nyctalus* sp. (2), barbastelle (2), *Plecotus* sp. (1).
- 4.34 The automated survey which took place between June 15th and June 20th recorded 753 registrations comprised of 11 species. These were comprised predominately of common and widespread species, but did register 27 registrations of barbastelle with a peak of 13 registrations on the night of the 16th/17th. Most of the registrations on this night (11) were recorded in a one-hour period between 00:40 am and 01:30 am.

Great Crested Newt

- 4.35 Attempts were made to eDNA sample the off-site waterbody found during the desk study in 2020, to the east of the site. This was 212m from the site. The waterbody 212m east was dry at the time of survey and so eDNA could not be collected.
- 4.36 Due to the waterbody's distance from the site and features such as roads, and sub-optimal habitat forming barriers to dispersal, it is unlikely that the terrestrial habitat of the site would be utilised by any great crested newt populations found in this waterbody and therefore it has been scoped out of this report.
- 4.37 As such, this species group is considered no further in the assessment of potential impacts resulting from development of this site.

Reptiles

2020 Results

- 4.38 A good population of slow worms were recorded with a peak of nine adults. These were found between July and September 2020 and the locations can be seen in *Figure 4*.

Table 11. Summary of 2020 Reptile Survey Results

Survey Date	Slow Worms Recorded
24/07/20	0
28/07/20	1 x adult (unknown sex)
07/09/20	9 x adults (unknown sex)
14/09/20	2 x adults (unknown sex)
18/09/20	4 x adults (unknown sex) – 1 found dead at the time of survey
22/09/20	1 x female adult
28/09/20	0

2023 Results

- 4.39 Surveys undertaken between May and June 2023 have also confirmed that there remains a good population of slow worms. Survey results so far are included in *Table 12* below.

Table 12. Summary of 2023 Reptile Survey Results

Survey Date	Slow Worms Recorded
16/05/23	5 x adults (3 x male, 2 x female), 3 x juvenile
22/05/23	6 x adults (4 x male, 2 x female), 3x juvenile

Survey Date	Slow Worms Recorded
01/06/23	13 x adults (3x male, 10x female), 1 juvenile
07/06/23	1 x adult female
16/06/23	0
21/06/23	4 x adults (2x male, 2 x female)
30/06/23	8 x adults (1x male. 7x female)

5.0 BIODIVERSITY NET GAIN ASSESSMENT

- 5.1 Baseline and proposed habitats are shown in *Figures 2* (phase one plan) and *Figure 13* (proposed site plan). And the biodiversity value units are summarised in *Table 13*.
- 5.2 The baseline and proposed habitat types and conditions in a UKHabs context are discussed below and can be seen in the BNG outputs *Figure 14* to *Figure 18*.

Existing Habitats

- 5.3 Existing habitats are outlined in sections 3.7-3.10. Conditions of the existing habitats as per the UKHabs condition assessment sheets were as follows:
- Other Neutral Grassland – poor condition. According to the condition sheets utilised for the biodiversity metric 4.0 the first condition, to closely match the characteristics and indicator species of the specific habitat type, is essential for achieving moderate or good condition. This area of grassland does not meet this criterion due to its species composition and sward structure, as a result of previous management onsite and therefore is of poor condition despite meeting three of the other criteria requisite for moderate condition.
 - Scrub – N/A. The existing scrub found on the site is bramble scrub and is therefore not subject to a condition assessment for the biodiversity metric.
 - Tall forbs – moderate condition. While this habitat parcel does contain a number of plant species beneficial to insect communities and lacks invasive species and a high cover of detrimental species (which constitute two conditions), the parcel is comprised of predominately ruderal herbs (thereby failing the first condition) due to the previous management of the site.
 - Individual trees – T1 is a medium-sized, good-condition tree, while T2 is a large moderate-condition tree. T1 achieves moderate condition through being native, showing no signs of adverse impacts and oversailing vegetation underneath. T2 passes the condition assessment criteria for individual trees and is therefore good condition.
 - Line of trees - TL1 is of poor condition due to only passing the presence of more than 70% native species and having a continuous canopy. TL2 was assessed as good condition passing all 5 assessment criteria.
 - Hedgerow – Non-native hedgerow is automatically considered of poor condition under the metric.

Proposed Habitats

- 5.4 Habitat creation proposed as per the proposed site plan (*Figure 13*) and their target conditions are outlined below:
- Modified Grassland – poor condition. This comprises areas of grasscrete incorporated into the scheme which will have specific management (plug planting) to promote grass growth.
 - Other Neutral Grassland – moderate condition. This comprises both existing other neutral grassland which is being enhanced through wildflower seed sowing in places such as surrounding T1, and the creation of species rich other neutral grassland which can achieve moderate condition, through the use of a high-quality seed mix and management.

- Mixed Scrub – Moderate condition. A mix of shrub species such as hazel, guelder rose *Viburnum opulus*, wild privet *Ligustrum vulgare*, elderberry, buckthorn *Rhamnus cathartica* and dogwood planted in the boundary areas, where with proper structural management moderate condition is attainable.
- Biodiverse green roof – moderate condition. An area of the roof of the care home is being left without solar panels in order to allow for the provision of a section of biodiverse green roof. This section of green roof will utilise a range of native herb to create a diverse structure. Provision of enhancement features such as deadwood log piles should be included to maximise the areas utilisation by invertebrate species.
- Other green roof – N/A. Sedum roof planting in areas around solar panels and on small roof areas such as on top of a bike store.
- Introduced shrub – N/A. Comprises both areas of medium-sized shrub planting around tree planting and areas of smaller standalone shrub planting.
- Individual trees – Moderate. Planting of 63 small trees around the whole of the site, and 11 medium trees planted within the retained greenspace. Trees have only been counted as medium in size where it looks possible for them to not be limited in size due to surroundings and management as many urban trees are. As such these trees are found predominately in the south of the site, with some in the strip of greenspace to the east.

Table 13. Biodiversity Net Gain Calculation Summary.

Net project biodiversity units (Including all on-site & off-site habitat retention / creation)	<i>Habitat units</i>	0.97
	<i>Hedgerow units</i>	0.39
	<i>Watercourse units</i>	0.00
Total project biodiversity % change (Including all on-site & off-site habitat creation + retained habitats)	<i>Habitat units</i>	26.05%
	<i>Hedgerow units</i>	82.18%
	<i>Watercourse units</i>	0.00%

Though a positive net gain score has been achieved, the trading rules have not been satisfied. This is due to the extent of the development footprint removing medium distinctiveness grassland broad habitat type. Though this is replaced in kind, with another type of medium distinctiveness habitat (1.46 units of grassland lost, 2.02 units of rural tree gained). A reasonable effort has been made to create and enhance grassland habitat wherever possible within the proposed landscaping on the site, and with a site of this size it would arguably not be possible to satisfy the trading rules with grassland with any meaningful development footprint. It is therefore considered that the landscape proposals will provide sufficient biodiversity net gain and increased habitat diversity to the overall site, outweighing the requirement to satisfy the trading rules.

6.0 DISCUSSION AND RECOMMENDATIONS

- 6.1 The following section provides an evaluation of the site and identifies the likely ecological constraints associated with the proposed development. Where appropriate, measures for the avoidance, mitigation, and compensation of any likely potential impacts together with any enhancements are discussed.

Site Proposals and Effects of Development

- 6.2 The aims of ecological work used to inform the planning process are to minimise harm and to maximise benefits for biodiversity resulting from development. The generally accepted way of doing this, is to follow the “mitigation hierarchy”. This seeks as a preference to avoid impacts then to mitigate unavoidable impacts, and, as a last resort, to compensate for unavoidable residual impacts that remain after avoidance and mitigation measures.
- 6.3 Development will primarily result in the loss of neutral grassland, that makes up the significant site area, and an area of tall forbs though this will be enhanced into a similar habitat type of better condition as per the BNG section.
- 6.4 In consideration of the hierarchy, and with regard to the sites existing allocation, mitigation would be required for impacts resulting in loss of habitats of site for local wildlife.
- 6.5 Further details of the significance of this and the likely impacts to ecology and nature conservation is also set out below.

Statutory and Non-Statutory Designated Sites

- 6.6 No SSSIs lie within 2km of the site.
- 6.7 The closest of which is Chichester and Langstone Harbours Ramsar/SPA is located 2.9km south of the site.

Solent Mitigation Recreation Strategy

- 6.8 The Draft Havant Borough Local Plan 2036¹⁸ Policy E16 Solent Special Protection Area, which covers the Chichester and Langstone Harbour. This states that planning permission will be granted where net increases in populations are mitigated, through a) financial contribution; b) a developer provided package of measures associated with the proposed development designed to avoid or mitigate any likely significant effect on the SPAs; or c) A combination of measures in (a) and (b) above.
- 6.9 Havant Borough Council in a letter to Brackley Investments Ltd of the 22nd June 2020 confirms that the LPA have had due regard to the Solent Recreation Mitigation Strategy – December 2017, which can be found at the following link: https://solent.birdaware.org/media/29372/Bird-Aware-Solent-Strategy/pdf/Solent_Recreation_Mitigation_Strategy.pdf. This letter is available on request.
- 6.10 This document sets out the rationale for the strategy and associated contributions policy. Research on the effects of meeting housing locally confirms that residential development

¹⁸ Havant Borough Council (2019). Havant Borough Local Plan – Submission version . chrome-extension://efaidnbmnnnibpcajpcgclcfndmkaj/https://cdn.havant.gov.uk/public/documents/Submission%20Local%20Plan.pdf

could lead to more people visiting the coast for recreation, potentially causing additional disturbance to these birds. *Paragraph 6.9* of this document outlines that:

“The need for mitigation for the recreational impact of other types of residential accommodation will be assessed on a case-by-case basis by the local planning authority. The key ‘test’ is based around the likelihood of the proposed development generating additional recreational visits to the SPA(s). For example, in respect of residential accommodation designed specifically for elderly people, a developer contribution (or bespoke mitigation) will be required for apartments for the active elderly, but not for secure accommodation such as a residential nursing home for people who are unable to independently leave that accommodation and which does not provide residents parking or allow pets (this would also apply to people living with conditions that limit their mobility). However, mitigation may be required for any staff living on-site. Retirement properties designed for independent living with parking provision and which allow pets will be treated the same as C3 residential properties”.

- 6.11 In the above letter the Principal Planning Officer noted in the pre-application submission that the proposal was for a two storey 64 bed CQC-regulated Care Centre (C2 use), which will provide 24 hour nursing, personal and dementia care for a range of acuities. The facility would also follow the best practice ‘household’ model whereby guests reside in eight bedroom wings of accommodation and would be both self-contained and secure – on-site facilities would include hair salon, café, gym and cinema, together with various lounge and dining areas, balconies and terraces all set around landscaped grounds. The Officer also noted that the facility is focussed on end-of-life care – the average age of entrants being 85, and the average length of stay around 18 months. Residents have reduced mental and/or physical abilities and would only leave the premises when accompanied by staff or their guests.
- 6.12 As such the Planning Officer confirmed that a financial contribution to the Solent Recreational Mitigation Strategy (SRMS) would only be appropriate for any staff living on-site. The LPA would need to understand these arrangements in any planning application, to advise the relevant contribution, and undertake an Appropriate Assessment. To confirm there are to be no live-in staff.
- 6.13 The LPA in consultation with the applicant has confirmed that a contribution toward SRMS is not therefore likely to be required.

Nitrate Neutrality and Mitigation Plan for Nutrient Neutral Development

- 6.14 It is noted that Havant Borough benefits from its position on the Solent coast which is internationally designated for its wildfowl and wading species. This creates a high-quality natural environment highly worthy of protection for both its intrinsic value as well as its value in making Havant Borough an attractive place to live, work and study (*extract from Position Statement and Mitigation Plan for Nutrient Neutral Development August 2020, Havant Borough Council*). The Council has an ambitious regeneration agenda and development strategy set out in the Havant Borough Local Plan and Regeneration Strategy. Nonetheless, the Council is also committed to development only taking place if it is sustainable development that includes relevant environmental protections. Part of the consideration of this is whether there would be a detrimental impact on the water quality on any European Designated Nature Conservation Sites.

- 6.15 The Local Plan (2019) Emerging Policy EX1 Water Quality impact on the Solent European Sites provides explicit expectations for all new development:

“New dwellings and/or net gain in overnight accommodation which would cause a likely significant effect on the designated sites will need to provide a nutrient budget. Planning permission will therefore only then be granted if a mitigation package is provided which will remove the likely significant effect. This mitigation can be provided through either:

- *A financial contribution towards the Council’s strategic mitigation package; or*
- *A developer provided package of measures associated with the proposed development supported by evidence that it will avoid or mitigate any likely significant effect on the Solent European Sites; or*
- *A combination of measures in (a) and (b) above. “*

- 6.16 Within the Havant Borough Local Plan Habitats Regulations Assessment (2021)¹⁹ this also highlights the importance of the nutrient neutrality assessment and concludes that ‘*new development within the Borough could increase nutrient inputs to the Solent above consented levels. Resulting nutrient enrichment would result in a likely significant effect on the Solent International sites.*’

- 6.17 A nutrient neutrality calculation has been carried out by FPCR following the Natural England methodology and utilising their Nutrient Neutrality Budget Calculator. This calculation found the total annual nitrogen load to mitigate to be 26.06kg TN/year for the new scheme of 78 beds. The client/landowner has already entered into a S106 agreement in 2021 for the 64 bed scheme which had a 36.87kg TN/year, where a financial agreement of £33,244 will be paid to the council for the provision of offsetting nutrient levels at Warblington Farm (attached in *Appendix 4 & 5*). The betterment of just over 10kg TN/year means that the contribution can be reduced to reflect this, discussions are currently underway with the council to clarify this.

- 6.18 Kingley Vale SAC is 7.5km from site, owing to the distance this located from the site, it is unlikely that there will be any likely significant effects; this was echoed within the Havant HRA, which although this site is not allocated in, does fall within the catchment areas, within this in mind it is concluded that ‘*likely significant effects are considered to be unlikely due primarily to the distance between them and any potential impact pathways arising from the Local Plan. The initial screening exercise therefore assumes no impacts arising from individual proposals or policies and proposals alone or in combination.*’

- 6.19 Singleton and Cocking Tunnels SAC are 15km from the site, and there is a suitable separation from the Core Sustainance zone (CSZ) which has been calculated by the bat Conservation Trust, which for Bechstein’s is approximately 3km. Owing to the distance and the urban context between these areas with the lack of connecting habitats, this development will not have a significant effect of on the integrity of the SAC or the bat species that utilise it.

- 6.20 It is the competent authority, Havant Brough Council, to undertake an HRA/AA; however, the information provided he can be used to inform this assessment or they may request that a site specific shadow HRA is undertaken to assist them. As it stands with the mitigation measures

¹⁹ Havant Borough Council. Habitat Regulations Assessment (May 2021). chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://cdn.havant.gov.uk/public/documents/CD13a%20Havant%20Borough%20Local%20Plan%20Habitat%20Regulations%20Assessment%20(May%202021)_0.pdf

mentioned above, there are no likely significant effects of the integrity of the designated sites mentioned above.

- 6.21 There are a number of local Wildlife Sites (LWS) within 1km of the site, namely Bartons Copse & The Slip SINC and Southleigh Forest (South) SINC. No impacts are anticipated on these sites from the proposed development due to the development being an end-of life care home, where residents will not actively leave and utilise the local area.

Effects on Habitats/Flora

- 6.22 The other neutral grassland habitat, which comprises most of the site, were found to be of low intrinsic and conservation importance, this was also reflected within the BNG calculation where the majority of the areas were of poor condition. The smaller patches of tall forbs were also limited in coverage and had limited species diversity. These were all thought to be of no more the site value.
- 6.23 The tree lines present within the site boundary provided some connectivity between habitats on site, although these were generally poor, as there is only approximately 0.14km of linear features currently. Due to the isolated nature of the site, the hedgerows provide a limited amount of connectivity in terms of the wider landscape. Though tree removal has previously taken place on the site under the previous application (APP/20/00761), both tree lines will be retained and enhanced with additional tree planting within the proposals.

Mitigation, Habitat Creation and Enhancement Proposals

Trees & Retained Linear Features

- 6.24 The lines comprising TL1 and TL2 as well as individual trees T1 and T2 (which have Tree Protection Orders placed on them) will be subject to Root Protection Area (RPA) which will be identified via fencing to prevent damage to trees during construction/ site works.
- 6.25 Where possible planting within the site will seek to provide additional habitat for urban and suburban wildlife. The provision of 63 small trees across the site and 11 medium-sized trees within the areas of greenspace in the east and south of the site has been outlined in the proposed site plans and incorporated into the BNG calculations. These trees will be comprised of native tree species wherever possible. While native species are often of value to biodiversity generally, it is now clear that many cultivated varieties and exotic plants are also good for wildlife provided that their flowers are not too complex or that hybrid varieties, which may produce little or no pollen or nectar and so are not of interest to bees, butterflies or other pollinating insects, are not used.
- 6.26 The planting strategy, both within formal and informal areas, will therefore combine a range of native species and where appropriate, such as in gardens and more formal areas, with a range of ornamental species with an accepted value for biodiversity. A range of small shrubs, low-growing woody species, grasses and perennials, would provide a range of forms, sizes and finer scale variation to enhance the future structural and three-dimensional complexity of the site (essential also given the need to use all available undeveloped land for nature conservation).

- 6.27 Approximately 0.12km of new native hedgerows are proposed at this indicative stage, which will provide a betterment over the existing features as the aim is to provide a moderate condition, which exceeds the current non-native dominated features.

Formal/Informal Gardens

- 6.28 These will make up most of the areas around the main building and will contain native grassland (high-quality wildflower mix) which will extend available seminatural habitat in the south and west of the site. The grassland can be further augmented by plug plants and bulbs such as crocuses which will attract bees. This will be separated from more formal planting beds using step over apples and pear species, and/or short ornamental hedges made from yew or an open flowering variety of English rose (hedging varieties are available and will attract bees, hoverflies). Along paths/accesses small standard trees (such as apple, crab apple, hazel, dogwood, field maple with various *Crataegus* species; all species chosen for fruit, berries, and nectar rich flowers attractive to insects, birds and small mammals. Some of the planting beds would be made into rockeries and would allow additional plants preferring drier conditions such as oregano, marjoram's, rock roses, heathers to provide additional nectar sources and colour to the grounds (see Appendix 1 for additional species).
- 6.29 A water feature whilst designed to be more ornamental, will support open water and marginal/emergent native species to attract damsel, dragon flies, etc and provide a source of water for birds and insects. Species would include bogbean *Menyanthes trifoliata*, yellow flag *Iris pseudacorus*, water plantain *Alisma lanceolatum*, mare's tail *Hippuris vulgaris*, water forget me not *Myosotis scorpioides*. An area of cobbles will be provided to enable insects to reach the water.

Living Roof Design

- 6.30 A mixture of biodiverse green roof and sedum roof will be utilised within the scheme. The biodiverse roof will cover the southern extent of the main building, with the sedum roof covering the remaining roof space such as between solar panels and on the bike storage building.
- 6.31 A green roof designed for biodiversity should include:
- a varied substrate depth
 - planted and or seeded with a wide range of drought tolerant wildflowers (sedums can also be added)
- 6.32 By applying these principles many interesting native invertebrate species will be attracted to green roofs. Wildflower green roofs are particularly good for pollinators such as bees. A wide range of insects associated with dry grasslands will find their way to an extensive green roof. green roofs can also provide important foraging habitat for birds.

Effects on Fauna

Badger

- 6.33 No badger setts or other field signs were found on site or within the immediate surrounding area, therefore this species is not a constraint to the development proposals.
- 6.34 Badgers are transient species and their dispersal dependant on the population dynamics within the clan, it is advised that surveys are updated prior to works to ensure the site is still void of badgers. Precautionary measures should be put into place during construction to avoid badgers and other mammals becoming trapped and or injured. Any excavations such as ditches or foundations should be covered overnight, or a means of escape provide which should include sloping banks. Also, any piping such as that used for drainage, should also be covered, and inspected before use, to ensure that mammals have not become trapped.

Bats

- 6.35 All bat species and their habitats are protected under the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017 (as amended). In summary, these make it an offence to damage, destroy or obstruct any place used by bats for breeding and shelter, disturb a bat, or kill, injure, or take a bat.
- 6.36 The overall bat assemblages consisted of mainly common and widespread species that were to be expected within the edge of an urban area. During the activity transect few contacts were recorded through the survey period, whereby an average of 9.3 contact were recorded each visit. The activity was isolated to the edge habitats as these provide opportunities for linear corridors of movement into the surroundings. The overall bat assemblages are no more site/local level.
- 6.37 In 2020, the static surveys only recorded a total of 1491 registrations over the entire survey period, with common and wider spread species recorded. The only exception was the eleven registrations for barbastelle bats, which are an Annex II species of the Habitats Directive and are species of Principal Importance under S41 of the NERC Act (2006). Barbastelle bats have also been recorded within the 2023 manual and automated surveys undertaken so far in slightly higher numbers than in 2020, but still not in an assemblage that would be considered significant.
- 6.38 Though 2023 update surveys are ongoing, the results of the May 2023 survey suggest similar assemblages of bats to that which were found in 2020, where barbastelle bats were also recorded. The results of the June 2023 survey indicate slightly higher numbers of registrations when compared to 2020, although not dramatically different. Barbastelle numbers do not suggest significant usage or reliance on the site, owing to the low numbers recorded.
- 6.39 The consultation with Hampshire Biodiversity Information Centre found there to be records of Barbastelle bats within 1km of the site, with the closest being found 0.2km north.
- 6.40 Barbastelle bats are known to utilise woodland, streams and rivers; the immediate habitats on and around the site are predominately lacking these habitat types, however, the site is located within close proximity to Southleigh Forest, approximately 1km north-east, which could provide foraging opportunities for this species.

- 6.41 It is unlikely that the site is of significant value to barbastelles, as it would be expected that there would be more regular occurrences and in higher numbers. It is known that this species does change its foraging patterns through the year, and can forage over large distances. BCT has suggested that the CSZ for this species is 6km. As mentioned above the Singleton and Cocking Tunnels SAC does support a number of roosting bat species including barbastelle bats, however, due to the distance involved it is highly unlikely that individuals recorded on site were from that roost. The barbastelle bat is a rarer bat within the context of the legislation, but its use of the site is very limited and owing to the habitats present it is unlikely that they are reliant on those habitats. This species is of local significance.
- 6.42 In addition, another key potential constraint identified initially was that Bechstein's bats were known to occur locally and consultations also had the presence of rarely recorded Alcahoes bat, this was one record in 2018.
- 6.43 Over the 2020 static survey period of 278 recording hours, only 215 *Myotis* bat species registrations were recorded. This can be deemed as relatively low numbers given that the total number of registrations was 1491. It is considered unlikely that should Bechstein's *Myotis bechsteinii* be present on site, that any significant proportion of these registrations are such species, and that the site is not a significant resource, it certainly does not provide roosting or optimal foraging opportunities.
- 6.44 Consultations have one record of a Alcahoes bat in 2018. Less is known in general about the distribution and behaviour of this species as it is very rare and hardly recorded/studied. No Alcahoes bat calls were identified during the manual call analysis work. These species have a distinctive cut-off frequency which other *Myotis* bat species do not present. It is concluded that this species is currently absent from the site.
- 6.45 The retention and enhancement of the tree lines on site will ensure connectivity is maintained and foraging/commuting opportunities will be enhanced with the proposed new planting. The proposals will enhance the eastern and southern boundaries with regard to the tree lines through additional planting of medium-sized trees and mixed scrub with a number of individual trees within the wider GI within this area, although limited in size they will strengthen any corridors of movement for bats that will continue to use the site.
- 6.46 The development footprint is smaller than the initial planning application (APP/20/00761), this has provided further opportunities for a buffer of habitat to be created between the built structure and the natural habitats around the peripheries. To minimise impacts on bats, proposals will adopt a sensitive external lighting scheme which will be designed to minimise light spill on retained and proposed habitats of value to commuting and foraging bats. The lighting scheme would be designed to current guidance provided by the Bat Conservation Trust and the Institution of Lighting Professionals and adopt the following principles:
- The avoidance of direct lighting of linear features and maintain dark corridors where possible.
 - During the construction period, no lighting should be used in proximity to boundary features, if needed lights will be directional focuses/shrouded.
 - Lighting that is incorporated into the development design should comprise low pressure sodium lights, as they emit at one wavelength so attract less insects.

- Directional lighting and avoidance upward lighting and / or light spillage.
 - Lighting columns to be as short as possible, although in some locations taller columns would allow reduced horizontal spill; and
 - Security lighting near to sensitive habitats will be low wattage LED, and ideally timed to allow for period of dark.
- 6.47 Roosting opportunities should be enhanced through the installation of bat boxes on retained trees or incorporated on to selected new buildings. These could include Ibstock bat bricks or Schwegler 1FR Bat Tubes which can easily be incorporated into the walls of the new buildings and Schwegler 1F and 2FN bat boxes for trees. The provision of such features would be in accordance with National and Local Planning Policy helping to enhance biodiversity within the local area.
- 6.48 The site location falls within range of a known Bechstein's roost (known to roost within Bartons Corpse and Southleigh Forest designated sites, the closest of which is 0.5km from the site). The consultation data also found Bechstein's to be present 0.36 km E from the site at their closest. However, given the context of the site providing mostly grassland foraging habitat, and the lack of Bechsteins recordings found in survey data to date, the site does not function as important habitat for this species which are known to prefer woodland.
- 6.49 The proposed enhancements and habitat creation will enhance the limited features that are already present which will have a minor beneficial effect at a site / local level.

Reptiles

- 6.50 The site is predominantly managed (cut/mown)) grassland which although provides some suitable habitat it is sub-optimal. More suitable areas were generally confined to the margins of the site and which provided foraging, commuting and basking opportunities, though limited in extent. The proposed development will result in the loss of habitat.
- 6.51 Reptile surveys undertaken during 2020 and 2023 have confirmed the site supports a good population of slow-worms. As previously mentioned, a peak count of thirteen has been recorded.
- 6.52 Retained habitats on site and new areas of planting will be enhanced to provide suitable connected habitat mosaics for reptiles.
- 6.53 In the absence of mitigation, construction operations could result in accidental killing or injury of reptiles, which would be an offence under the Wildlife & Countryside Act 1981 (as amended). To prevent this, it will be necessary to passively displace any reptiles present from proposed works areas that contain suitable habitat. This will involve small scale habitat manipulation at appropriate times of the year. This will involve the cutting of grassland vegetation to different heights during towards surrounding habitats that will provide refuge for the species while construction is undertaken. Once the period of cutting has been completed the areas of habitat to be lost for construction will be removed under ecological supervision, making sure that habitats are unsuitable for recolonisation.
- 6.54 There are areas within the development where construction measures will be limited, with a focus on the grassland habitats to the west of the site. To ensure that the favourable conservation status (FCS) of the reptile local population within the site, the passive

displacement is a temporary measure to ensure no offence is committed, but the retained habitats to the west will be enhanced with a favourable grass cutting regime that will create the grassland mosaics that reptile's favour. Structural enhancements in such areas will include hibernaculum and logs, which will also be spread around the site to increase refuge opportunities for a variety of fauna. It is thought that such measures and management of habitat would ensure optimal habitats are created, thus have a long term beneficial effect at site level.

Other Fauna Mitigation Measures

- 6.55 As part of the design bird boxes, bug boxes and bird tables can add additional interest for staff and residents and would be valuable for local wildlife attracting beneficial insects, overwintering solitary bees and lady birds amongst other insects, and more garden birds.

Bird boxes, hedgehog boxes, bird baths, and bug hotels, wood piles, stone walls, sheds, and compost areas

- 6.56 The value of such installations cannot be underestimated particularly in more formal settings, these can be made to add interest to garden spaces. Proprietary bird and bat boxes, the former with different openings and types which should include colony nesting, open and enclosed boxes, and boxes for martins, swifts, and swallows. The benefit of these installations will be to provide residents with the opportunities to view species that they might not otherwise encounter, while also creating a benefit for biodiversity.
- 6.57 Bug hotels can be made of different materials and can also be bought off the shelf. However, larger installations can be used as garden sculptures and able to accommodate a larger number of insects and their requirements.
- 6.58 The inclusion of areas of dry-stone walls or retaining walls using sleepers would provide additional hibernacula sources. Also, the creation of a compost area to the west of the site would be attractive to slow worms as well as providing refuge for hedgehogs and small mammals. Whilst hedgehog boxes may be purchased, suitable places of refuge can be created near to compost areas by creating separate leaf litter heaps which when rotted can be used to mulch flower beds (also good for attracting insects involved in the decay process which in turn will attract garden birds. Wooden structures such as sheds and pavilions could also attract wildlife that use areas under such structures and these will also be used to attach feeding stations, additional bird boxes and have climbers planted to grow up and increase the available planting and structure of the grounds.

Mitigation and Measures to enhance on site biodiversity

- 6.59 Under NPPF development should seek to contribute a net gain in biodiversity. The Environment Act (2021) is not yet mandatory, but is likely to be in November 2023, and will then identify a 10% gain as the standard for all developments. Notably Havant Borough Council do not yet have a policy on what percentage net gain would be required in the Adopted local plan and subsequent local plan reviews has been withdrawn. Biodiversity Net Gain (BNG) has three aims.
- minimising losses of biodiversity

- restoring ecological networks
- leaving biodiversity in a better state than before (or in applying BNG principles schemes are brought forward that provide an overall increase in habitat and ecological features)

6.60 Hence there is an emphasis on developments that can improve ecological networks and linkages where possible and that can achieve quantifiable enhancements. With the above objectives in mind and the nature of the development the following approach to mitigation is considered necessary to achieve these objectives.

6.61 To this end, the development proposals have been designed to achieve a measurable net gain in biodiversity, the result of which has been calculated at 26.06% or 0.97 unit gain in biodiversity, this meeting future aspirations of the Environment Act.

6.62 The trading rules have not been satisfied due to the loss of medium distinctiveness grassland, however, this was of poor condition at baseline and a reasonable effort has been made to offset this loss through enhancement of retained grassland and provision of gains in medium distinctiveness habitats of other broad habitat types.

6.63 This net gain is contingent on a number of habitats reaching a target condition, and as such is only an indicative score. The score calculated assumes that grassland areas, biodiverse green roof and scrub areas can achieve a moderate condition, all of which require specific management prescriptions to achieve. This is due to the management of these habitat types having an intrinsic effect on the structure of them which is evaluated during the condition assessment process. For example, grassland condition assessment assesses how varied sward length is a one of the conditions.

7.0 CONCLUSIONS

- 7.1 The likely significant effects of on statutory and non-statutory sites (*Figure 1a*) within 15km of the site had been scoped out owing to the distance from site. Discussions with the LPA had ruled out the need for any financial contribution on the grounds of the type of development that is proposed towards the Solent SRMS, although this was agreed for the previous granted planning permission, the strategy is the same with this new application. The absence of mitigation measures with regards to nutrients created from the scheme, would have an adverse effect on the Solent. A S106 agreement was signed between the council and the land owners in March 2021 for the 64 bed scheme, that detailed the contribution of £33,244.50 towards a Council strategic site, Warblington Farm, where the additional credits where to be purchased to offset nutrient neutrality (NN), this will ensure that there is no likely significant effect on the Chichester and Langstone Harbours (SPA, RAMSAR). Currently, discussions are being undertaken with HBC, as the new scheme of 78 beds has created a betterment reducing the offsetting requirements from 36.87kg TN/yr to 26.04kg TN/yr, which therefore should reduce the financial contribution current identified within the existing S106 agreement.
- 7.2 The existing habitats are of limited conservation value, and the limited number of bat contacts/registrations confirm this, as they do not provide suitable foraging and refuge/roosting. A good population of slow worms were found and will be passively displaced during the construction phase to ensure that any offences are committed. Passive displacement involves two cuts of suitable habitats towards retained boundary habitats, which effectively 'push' reptiles away from construct activities to surrounds that are unaffected. The proposed scheme will increase the suitable GI for reptiles and will allow recolonisation; management regimes and specific features such as log piles and hibernaculum will promote refuge and hibernation opportunities, which in the long term will have a beneficial effect on their conservation status.
- 7.3 Under NPPF and Local Policies such as E15 Ecological Conservation & Policy E18 Protected Species, there is a requirement for developments to protect and enhance habitats and to ensure further linkages for wildlife. These policies also state that development should have a net gain where possible, with fragmentation and isolation avoided. The mitigation measures provided within the scheme will ensured that no offences will be committed and that once construction has been completed, new habitats will continue to support the favourable conservation status of the species found, with opportunities for the site to attract new species that are currently absent.
- 7.4 A net gain of 26.05% or 0.97 biodiversity units has been calculated using the current illustrative landscape proposals, this fulfils the measurable net gain as required under the current NPPF and local policies. The current 26.05% gain will also meet the suggested 10% net gain as required under Environment Act (2021), however this is not current required until it becomes mandatory in November 2023.
- 7.5 The landscape proposals will maximise wildlife habitats through adopting good design principles and measures routinely and successfully used to attract wildlife in more urban settings. The provision of a Living green roof maximises the potential for wildlife friendly features and extends available habitat on site.

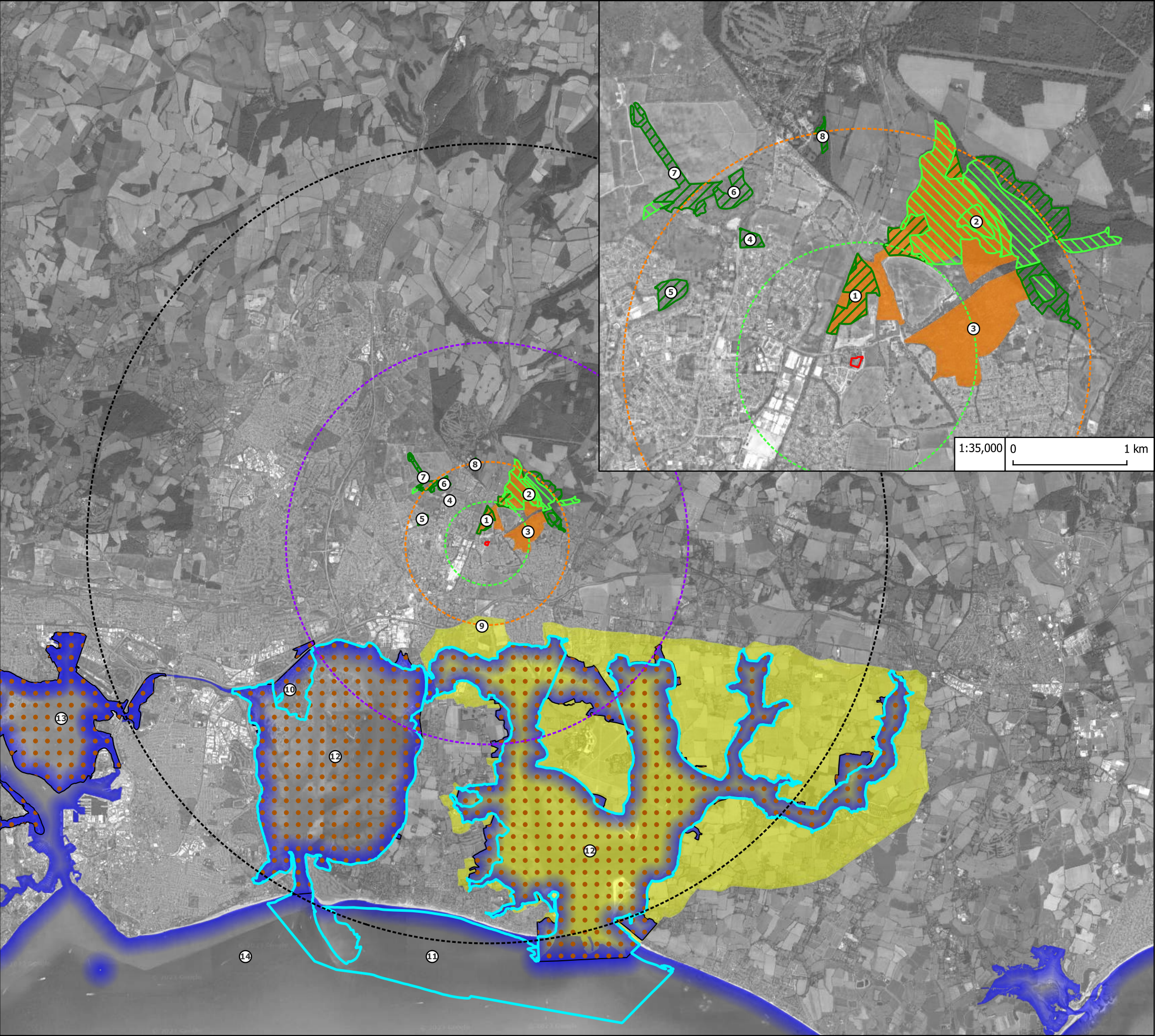
- 7.6 The proposals as described above would improve the quality and quantity of habitats on site for the benefit of local wildlife and provide an opportunity to create a valuable and attractive setting for residents and staff of the proposed care home.
- 7.7 The development will ensure that important ecological features such as bats and reptiles will be protected for injury and death via the mitigation measure mentioned, and that their FCS will be maintained and enhanced owing to the specific habitats and management regimes provided. Although large areas of limited value grassland will be lost, the habitats created will increase biodiversity and ecological function over time, whereby the development will result in a minor beneficial effect in the long term at site level.

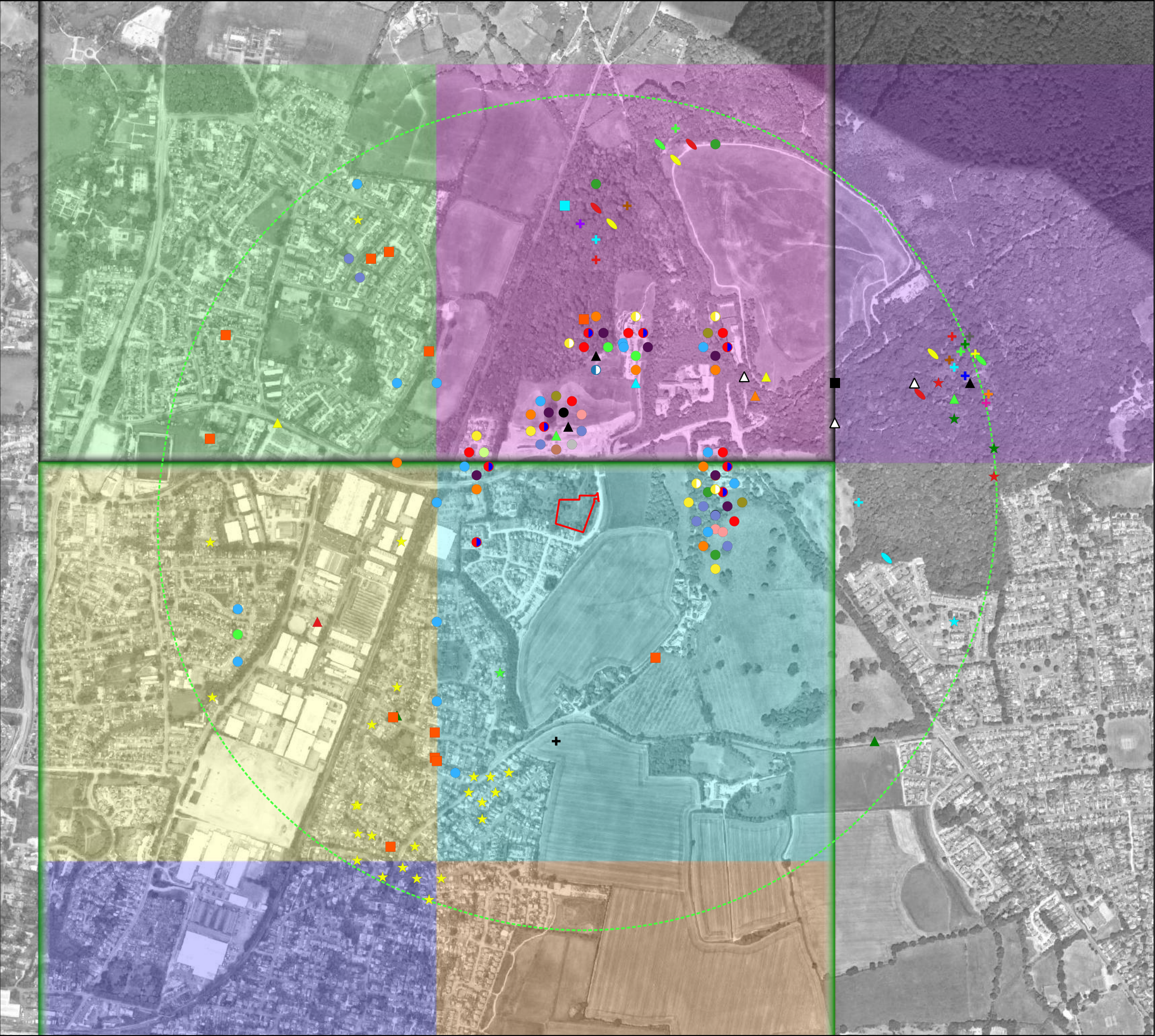
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Key

- Site Boundary
 - 1km Buffer
 - 2km Buffer
 - 5km Buffer
 - 10km Buffer
 - Area of Outstanding Natural Beauty (AONB)
 - Ancient Semi-Natural Woodland (ASNW)
 - Replanted Ancient Woodland (PAWS)
 - RAMSAR
 - Special Area of Conservation (SAC)
 - Special Protection Area (SPA)
- 1 - Barton's Copse & The Slip SINC, ASNW
2 - Southleigh Forest SINC / Emsworth Common, Blackbush Coppice ASNW, PAWS
3 - Southleigh Forest (South) SINC
4 - Wakeford's Copse ASNW
5 - Great Copse ASNW
6 - Hammond's Lands Copse ASNW
7 - Unnamed ASNW, PAWS
8 - Unnamed ASNW
9 - Chichester Harbour AONB
10 - Solent & Isle of Wight Lagoons SAC
11 - Solent Maritime SAC
12 - Chichester and Langstone Harbours RAMSAR, SPA
13 - Portsmouth Harbour RAMSAR, SPA
14 - Solent and Dorset Coast SPA



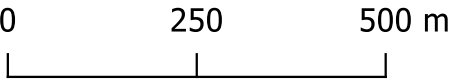


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Key

- Site Boundary
- 1km Buffer
- Bats
- Alcathoe
- Barbastelle
- Bechstein's
- Brandt's
- Brown Long-eared
- Common Pipistrelle
- Leisler's
- Long-eared sp.
- Myotis sp.
- Nathusius's Pipistrelle
- Natterer's
- Noctule
- Pipistrelle sp.
- Serotine
- Soprano Pipistrelle
- Unidentified bat sp.
- Whiskered
- Birds
- Crossbill
- Firecrest
- Herring Gull
- Marsh Tit
- Mediterranean Gull
- Red Kite
- Snipe
- Song Thrush
- Invasive and Non-Native Species (INNS)
- Cherry Laurel
- Cotoneaster sp.
- Evergreen Oak (Holm Oak)
- Fallow Deer
- Lawson's Cypress
- Montbretia
- Muntjac
- Portugal Laurel
- Rhododendron
- Three-cornered Garlic
- Turkey Oak
- Mammals
- Hedgehog
- Notable Invertebrates
- Dingy Skipper
- Silver-washed Fritillary
- Small Heath
- Stag Beetle
- White Admiral
- Notable Plants
- Butcher's-broom
- Crosswort
- Heather
- Knotted Hedge-parsley
- Sanicle
- Tormentil
- Wood-sorrel
- Species Records of 1km Accuracy
- Species within SU7208: 9 notable bird species; Horse chestnut leaf miner; Kent bent-wing
- Species within SU7308: Dark giant horsefly; Early oak piercer; Mediterranean gull; red kite
- Species within SU7408: 9 notable bird species; Purple emperor; Silver-washed-fritillary; Small heath; White admiral
- Species within SU7207: Bay; Box; Kerria; Virginia creeper
- Species within SU7307: Butcher's-broom; Butterfly bush; Cherry laurel; Green-sandpiper; Japanese knotweed; Red kite; Rhododendron; Spanish bluebell
- Species within SU7206: 13 notable bird species
- Species within SU7306: 9 notable bird species
- Species Records of 2km Accuracy
- Species within SU701: Hobby
- Species within SU70J: Hobby



fpcr

client

Brackley Investments

project

Bartons Road,
Havant

drawing title

SITE LOCATION AND CONSULTATION
RESULTS PLAN - SPECIES RECORDS

scale @ A3
1:10000

drawn
LG /JG

issue date
28/6/2023

drawing / figure number

Figure 2

rev

-

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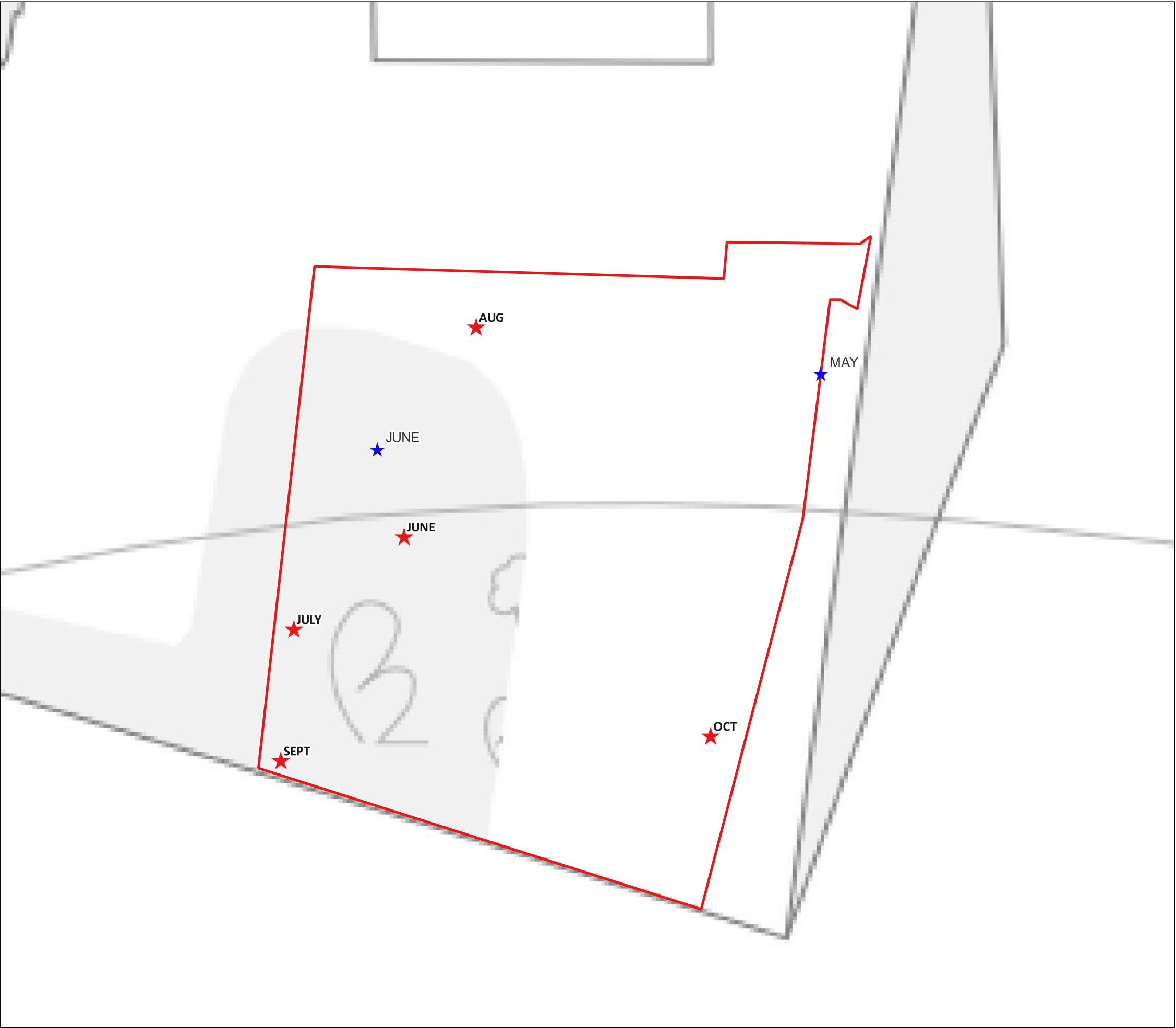
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Key

-  Site Boundary
-  Broadleaved woodland - semi-natural
-  Built Environment: Buildings/hardstanding
-  Neutral grassland - semi-improved
-  Other tall herb and fern - ruderal
-  Poor semi-improved grassland
-  Scrub - dense/continuous
-  Scrub - scattered
-  Broadleaved trees
-  Intact hedge - species-poor
-  Target note
-  Broadleaved tree
-  Log pile
-  Woodchip pile





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Key:

Site Boundary

Static locations

2020 Static Locations

2023 Static Locations



Brackley Investments Ltd.

Bartons Road,
Havant

STATIC DETECTOR LOCATION PLAN

scale @ A3
1:504.352008

drawing / figure number

Figure 3

drawn

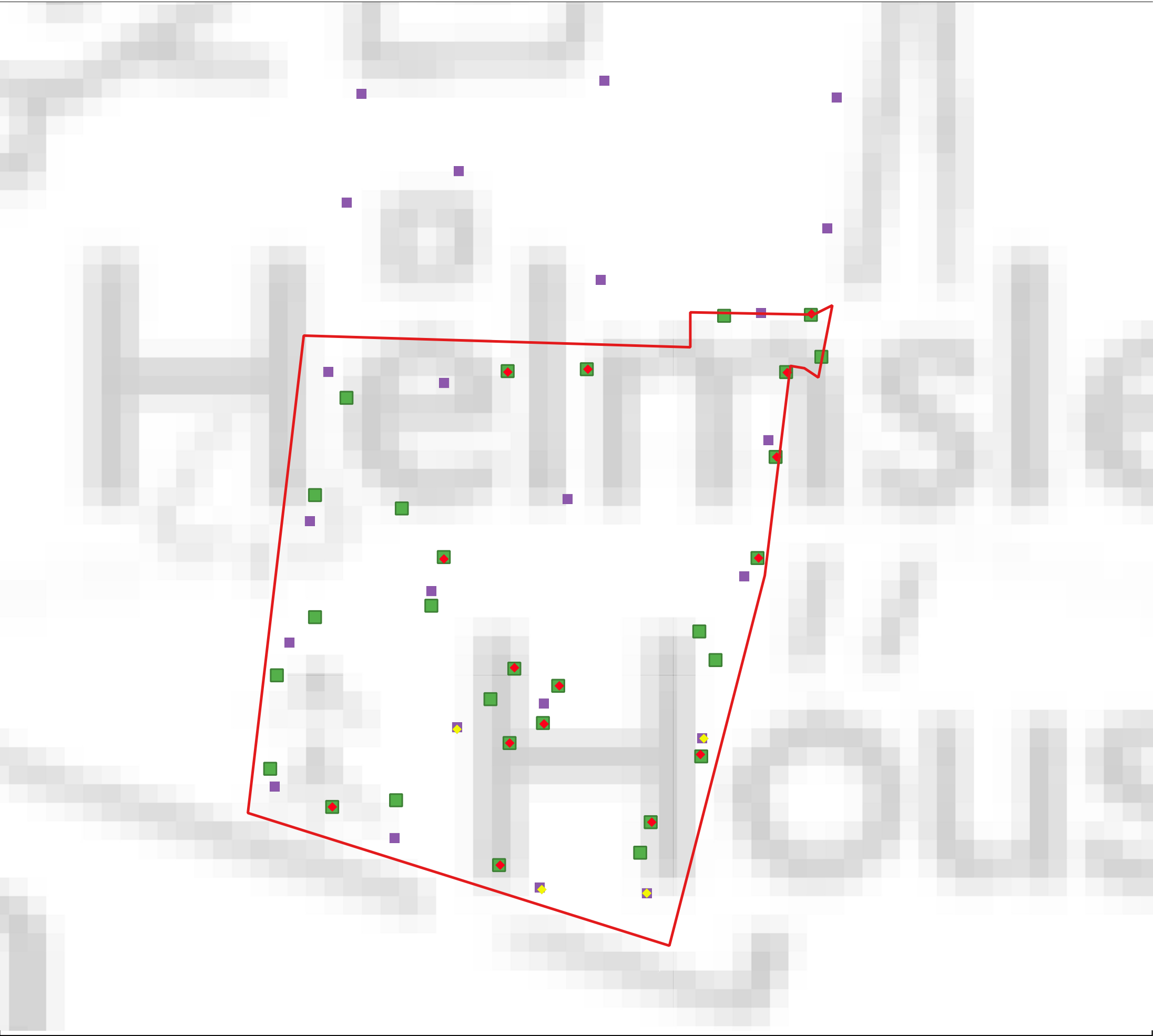
JG

issue

06/6/2023

rev

9594 - E - 01



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Key

-  Site Boundary
-  2023 Refugia Locations
-  2020 Indicative Refugia Locations
-  Locations 2020 Slow worms were found
-  Locations 2023 Slow worms were found



Bartons Road,
Havant
REPTLE SURVEY PLAN



scale
1:15,000

drawn
JG

issue
30/6/2023

drawing / figure number

Figure 4

rev

9594-E-01

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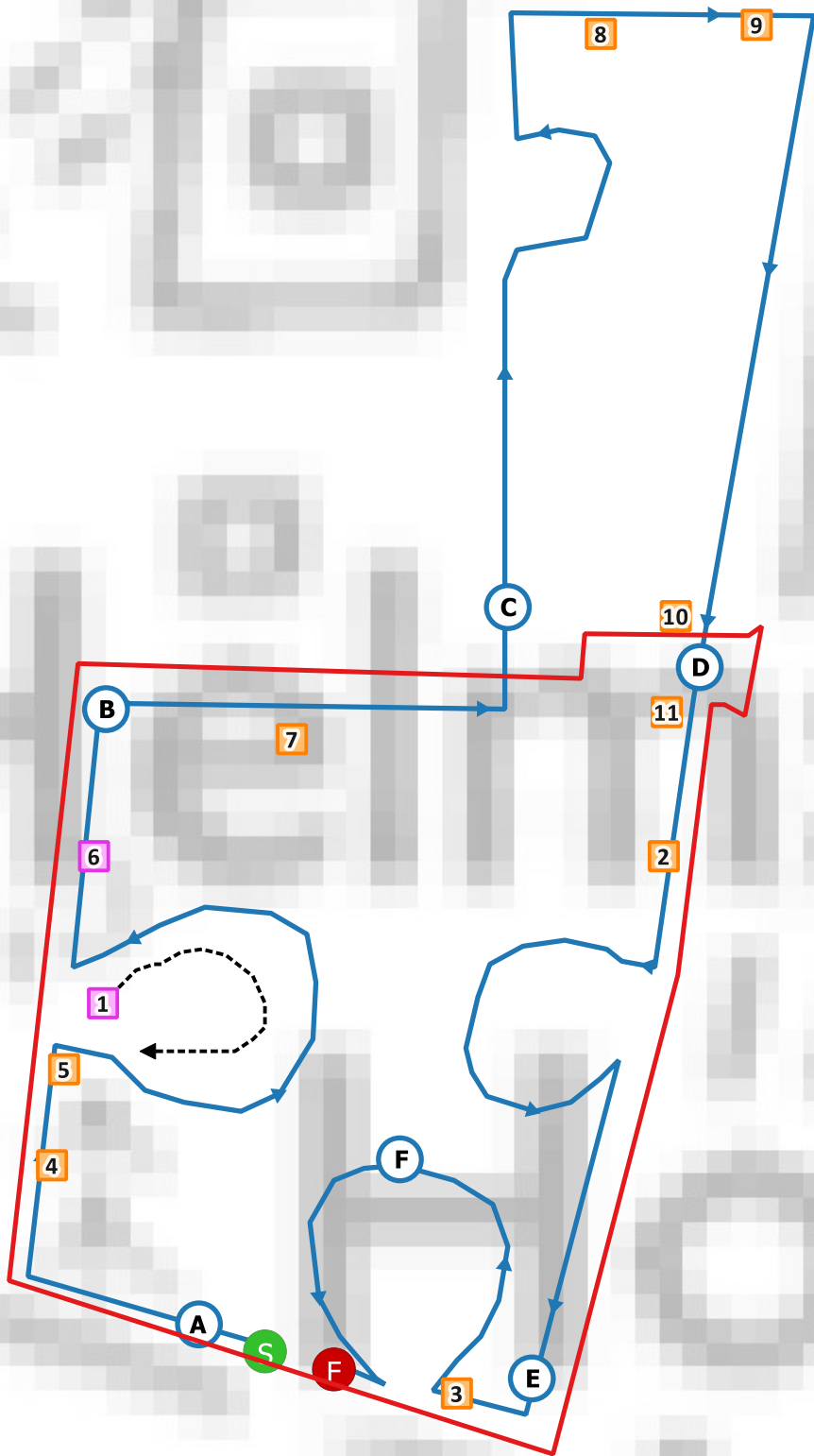
Key:

Site Boundary

- S Start point
- F Finish point
- Point Count (with ref.)
- Transect Route
- Flight Path

Bat Contacts

- Common Pipistrelle
- Soprano Pipistrelle

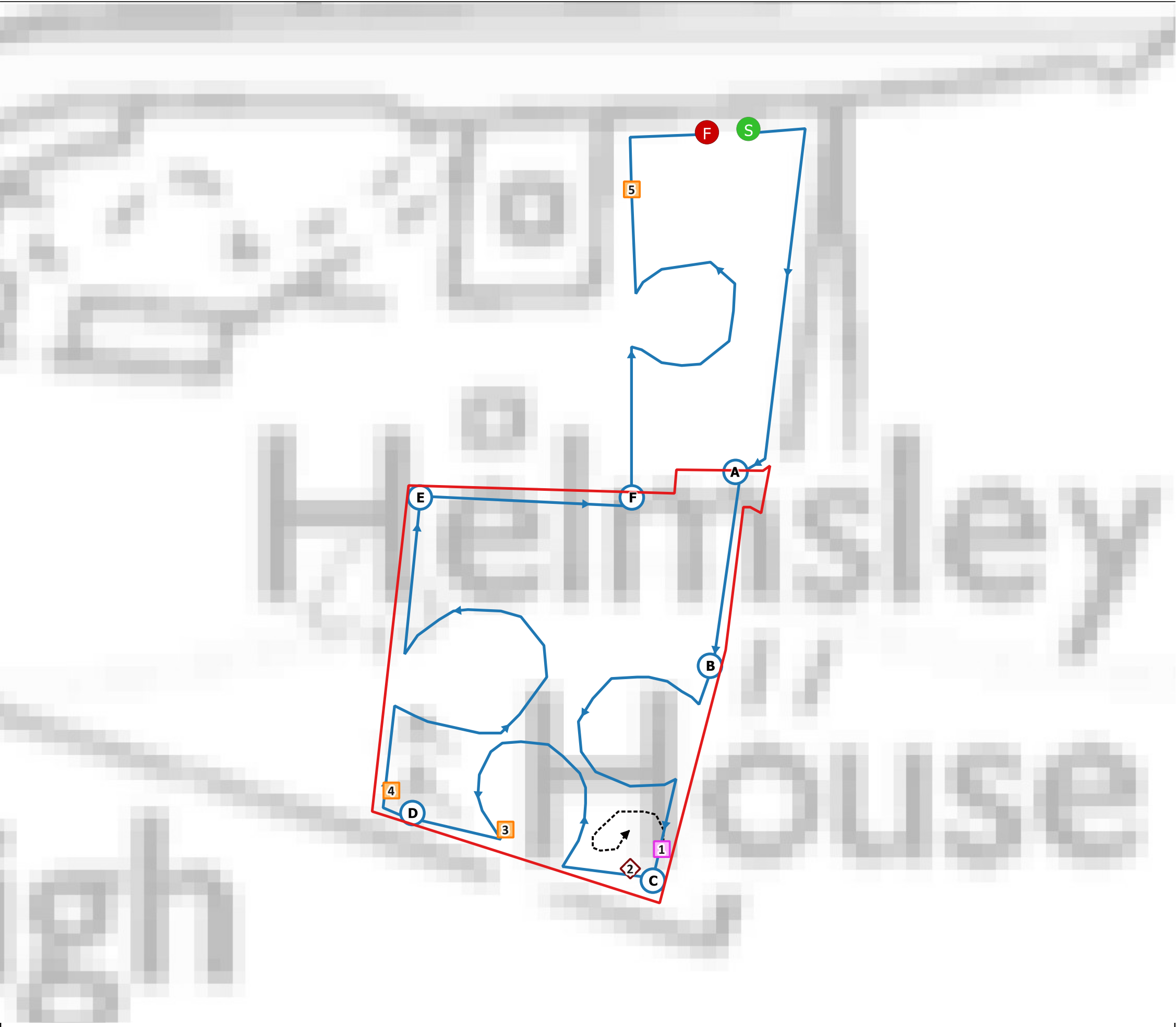


Plan Reference	Time	Species	Passes	Behaviour
Start	21:20			
PCA	21:20-21:25			
PCB	21:32-21:37			
1	21:34	Soprano pipistrelle	continuous	foraging
PCC	21:42-21:47			
PCD	21:52-21:57			
2	21:58	Common pipistrelle	1	passing
PCE	22:02-22:07			
3	22:09	Common pipistrelle	continuous	foraging
PCF	22:12-22:17			
4	22:16	Common pipistrelle	1	passing
5	22:21	Common pipistrelle	2	passing
6	22:23	Soprano pipistrelle	1	passing
7	22:25	Common pipistrelle	1	passing
PCA2	22:27-22:32			
8	22:32	Common pipistrelle	1	passing
9	22:35	Common pipistrelle	1	passing
PCB2	22:37-22:42			
10	22:40	Common pipistrelle	1	passing
PCC2	22:45-22:50			
11	22:47	Common pipistrelle	1	passing
PCD2	22:58-23:03			
PCE2	23:10-23:15			
Finish	23:20			



Bartons Road,
Havant
BAT TRANSECT PLAN (02.07.20)

scale @ A3
1:1497
drawing / figure number
Figure 5
drawn
SG
issue
29/10/2021
rev
9594-E-01



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Key:

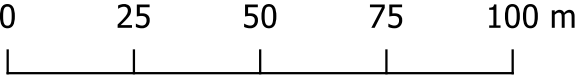
Site Boundary

- S Start point
- F Finish point
- Point Count (with ref.)
- ▶ Transect Route
- - -▶ Flight Arrow

Bat Contacts

- Common Pipistrelle
- Soprano Pipistrelle
- ◊ Plecotus Species

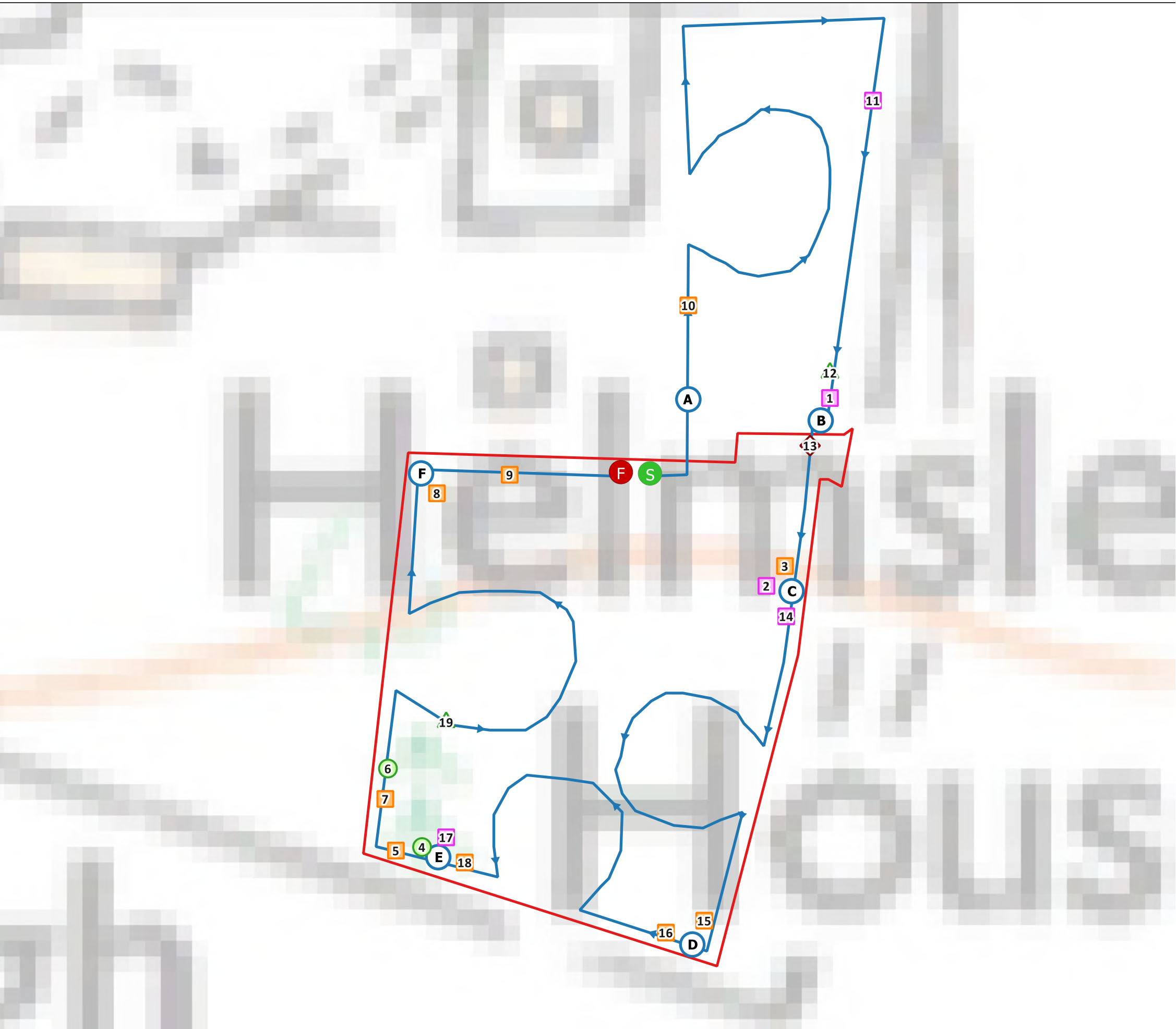
Plan Reference	Time	Species	Passes	Behaviour
Start	20:55			
PCA	20:59-21:04			
PCB	21:06-21:11			
PCC	21:14-21:19			
1	21:19	Soprano pipistrelle	continuous	Foraging
PCD	21:24-21:29			
PCE	21:35-21:39			
PCF	21:41-21:55			
PCA2	21:55-22:00			
PCB2	22:03-22:08			
PCC2	22:12-22:17			
2	22:12	Plecotus sp	1	passing
PCD2	22:21-22:26			
3	22:26	Common pipistrelle	2	Foraging
4	22:28	Common pipistrelle	1	Foraging
PCE2	22:31-22:36			
PCF2	22:38-22:43			
5	22:48	Common pipistrelle	continuous	Foraging
Finish	22:55			



Bartons Road,
Havant
BAT TRANSECT PLAN (28.07.20)

scale @ A3 drawn SG issue 29/10/2021

drawing / figure number **Figure 6** rev **9594-E-01**



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Key:

Site Boundary

- S Start point
- F Finish point
- O Point Count (with ref.)
- > Transect Route
- > Flight Arrow

Bat Contacts

- Common Pipistrelle
- Soprano Pipistrelle
- △ Myotis Species
- ◇ Plecotus Species
- Serotine

Plan Reference	Time	Species	Passes	Behaviour
Start	19:48			
PCA	19:51-19:56			
PCB	20:05-20:10			
1	20:08	Soprano pipistrelle	1	Passing
PCC	20:13-20:18			
2	20:14	Soprano pipistrelle	3	Foraging
3	20:15	Common pipistrelle	2	Passing
PCD	20:22-20:27			
PCE	20:30-20:35			
4	20:30	Serotine	1	Passing
5	20:36	Common pipistrelle	1	Passing
6	05:37	Serotine	2	Passing
7	20:37	Common pipistrelle	continuous	Foraging
PCF	20:42-20:47			
8	20:46	Common pipistrelle	1	Passing
9	20:49	Common pipistrelle	3	Passing
PCA2	20:51-20:56			
10	21:00	Common pipistrelle	continuous	Foraging
11	21:03	Soprano pipistrelle	2	Foraging
12	21:04	Myotis	1	Passing
PCB2	21:06-21:11			
13	21:09	Plecotus spp	1	Passing
PCC2	21:14-21:19			
14	21:18	Soprano pipistrelle	1	Passing
PCD2	21:23-21:28			
15	21:26	Common pipistrelle	2	Passing
16	21:27	Common pipistrelle	2	Foraging
PCE2	21:31-21:36			
17	21:32	Soprano pipistrelle	1	Passing
18	21:35	Common pipistrelle	2	Passing
19	21:38	Myotis	1	Passing
PCF2	21:42-21:47			
Finish	21:48			



Bartons Road,
Havant

BAT TRANSECT PLAN (01.09.20)

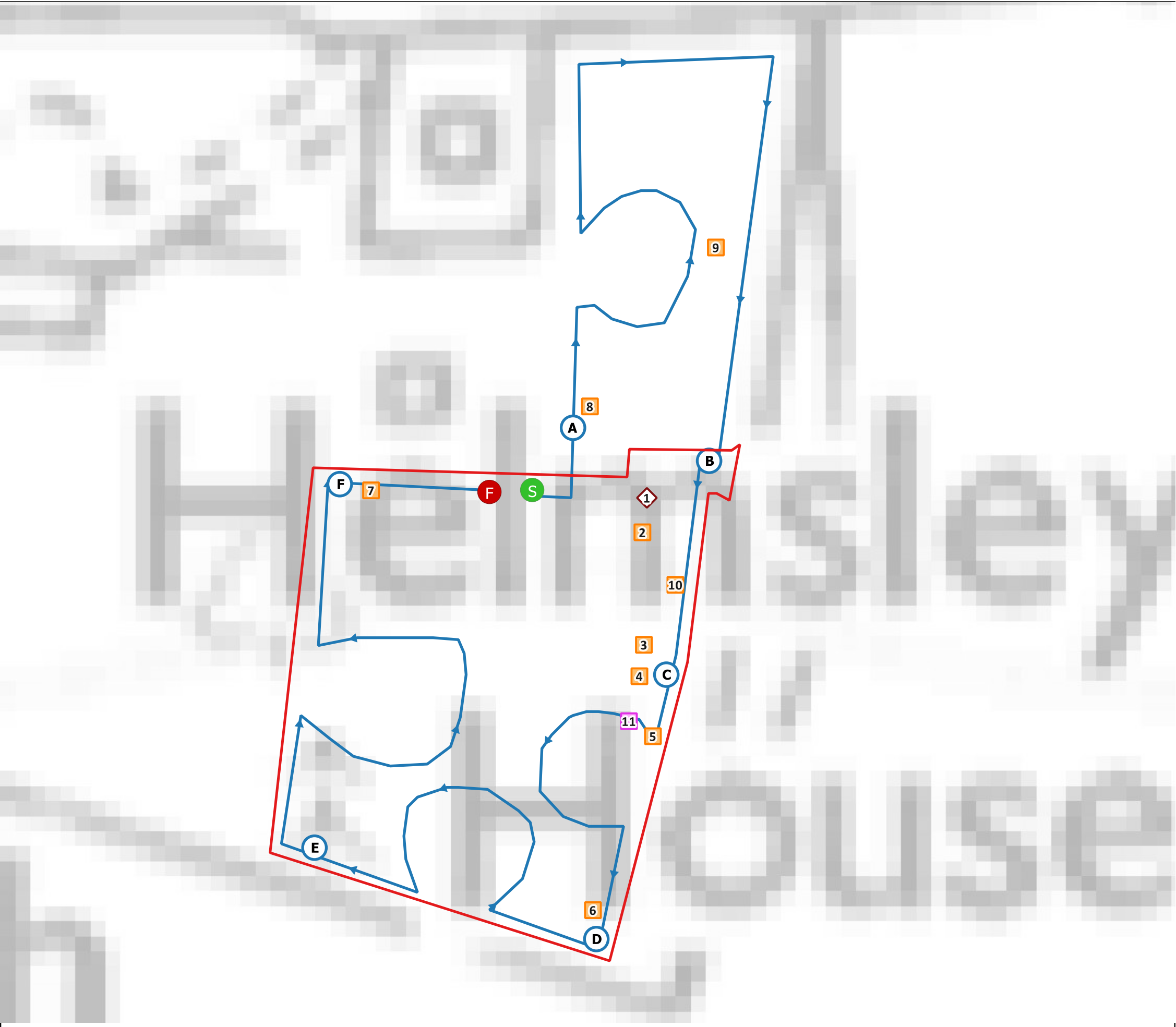
scale @ A3
1:1497

drawing / figure number
Figure 7

drawn
SG

issue
29/10/2021

rev
9594-E-01



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Key:

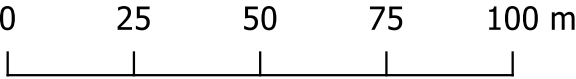
Site Boundary

- S Start point
- F Finish point
- Point Count (with ref.)
- ▶ Transect Route
- - -▶ Flight Arrow

Bat Contacts

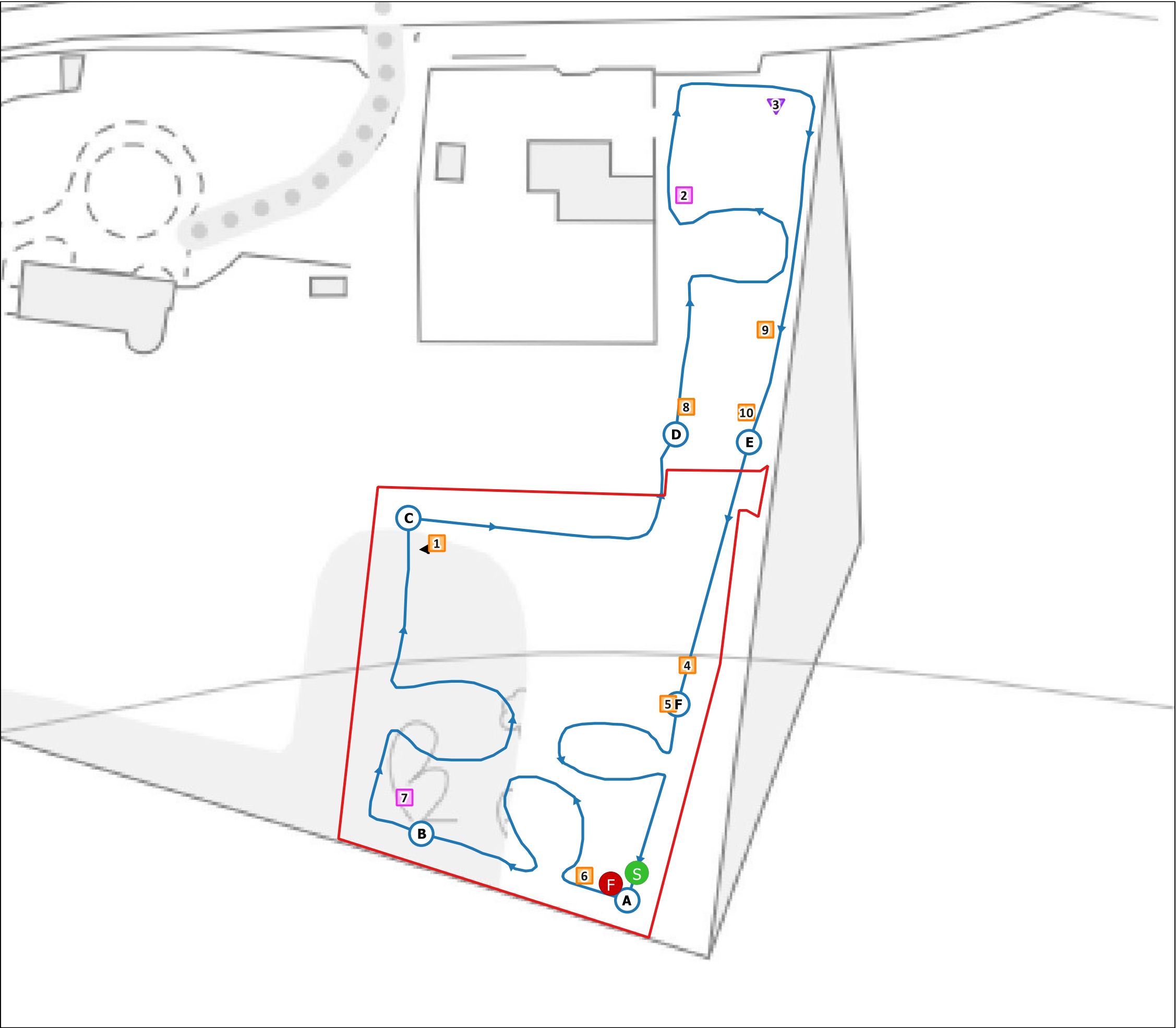
- Common Pipistrelle
- Soprano Pipistrelle
- Plecotus Species

Plan Reference	Time	Species	Passes	Behaviour
Start	19:12			
PCA	19:12-19:17			
PCB	19:30-19:35			
1	19:31	Plecotus sp	1	commuting
2	19:34	Common pipistrelle	1	commuting
3	19:42	Common pipistrelle	continuous	foraging
PCC	19:42-19:47			
4	19:46	Common pipistrelle	1	commuting
5	19:48	Common pipistrelle	1	commuting
PCD	19:54-19:59			
6	19:55	Common pipistrelle	3	foraging
PCE	20:04-20:09			
PCF	20:18-20:23			
7	20:23	Common pipistrelle	3	social
PCA2	20:26-20:31			
8	20:29	Common pipistrelle	continuous	foraging
9	20:38	Common pipistrelle	continuous	foraging
PCB2	20:42-20:47			
10	20:48	Common pipistrelle	2	foraging
PCC2	20:53-20:58			
11	20:59	Soprano pipistrelle	2	commuting
PCD2	21:04-21:09			
PCE2	21:12-21:17			
Finish	21:17			



Bartons Road,
Havant
BAT TRANSECT PLAN (17.09.20)

scale @ A3
drawing / figure number
drawn SG
issue 29/10/2021
rev
Figure 8
9594-E-01



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Key:

- S

Start point

F

Finish point

Point Count (with ref.)

Transect Route

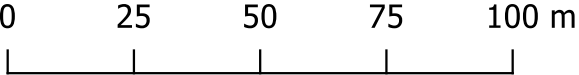
Flight Arrow
- Bat Contacts

Common Pipistrelle

Soprano Pipistrelle

Noctule

Plan Reference	Time	Species	Passes	Behaviour
Start	18:26			
PCA	18:26 - 18:31			
PCB	18:35 - 18:40			
PCC	18:43 - 18:48			
1	18:46	Common Pipistrelle	Cont.	Foraging
PCD	18:49 - 18:54			
2	18:57	Soprano Pipistrelle	1	Commuting
3	18:58	Noctule	1	Commuting
PCE	19:00 - 19:05			
4	19:08	Common Pipistrelle	1	Commuting
PCF	19:09 - 19:14			
5	19:14	Common Pipistrelle	1	Commuting
PCA2				
6	19:21	Common Pipistrelle	1	Commuting
PCB2	19:27 - 19:32			
7	19:30	Soprano Pipistrelle	1	Commuting
PCC2	19:37 - 19:42			
PCD2	19:44 - 19:49			
8	19:48	Common Pipistrelle	2	Commuting
9	19:52	Common Pipistrelle	1	Commuting
PCE2	19:53 - 19:58			
10	19:57	Common Pipistrelle	1	Commuting
PCF2	20:00 - 20:05			
Finish	20:26			





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Key:

Site Boundary

Transect Route

Point Count Locations

Start point

Finish point

Flight Arrow

Static Detector Location

Bat Contacts

Common Pipistrelle

Daubentons

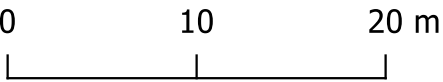
Soprano Pipistrelle

Barbastelle

Plecotus Species

Serotine

Plan Ref.	Time	Species	Behaviour	Passes
Start	20:48			
PCA	20:52-20:57	No bats		
PCB	21:01-21:06	No bats		
1	21:11	C. Pip x2	Foraging	Continuous
PCC	21:14-21:19	No bats		
2	21:23	Serotine	Commuting	1
PCD	21:27-21:32	Ref. 3-4		
3	21:29	C. Pip	Commuting	1
4	21:31	C. Pip	Foraging	Continuous
5	21:33	Serotine	Commuting	1
6	21:36	C. Pip	Commuting	2
7	21:37	S. Pip	Foraging	2
8	21:39	Serotine	Commuting	1
9	21:41	C. Pip	Commuting	1
PCE	21:45-21:50	No bats		
PCF	21:59-22:04	No bats		
10	22:05	Barb	Commuting	1
11	22:05	S. Pip	Commuting	1
12	22:09	C. Pip	Commuting	2
PCG	22:11-22:16	Ref. 13-14		
13	22:11	Barb	Commuting	2
14	22:16	C. Pip	Commuting	3
15	22:19	C. Pip	Foraging	4
PCH	22:24-22:29	Ref. 16		
16	22:30	PLESPP	Commuting	1
17	22:30	S. Pip	Commuting	1
18	22:35	C. Pip	Foraging	2
PCI	22:41-22:46	Ref. 19		
19	22:44	S. Pip		2
Finish	22:48			



client

Brackley Investments Ltd.

project

Bartons Road,
Havant

drawing title

BAT TRANSECT PLAN (MAY 2023)

scale @ A3
1:400

drawn
EB

issue date
18/7/2023

Figure
10

9594-E-01



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Key:

- Site Boundary
- Transect Route
- Start point
- Finish point
- Point Count Locations
- Static Detector Location

Transect Instructions

Walk around transect route 4 times, stopping at point counts as follows:

- 1st time - A, B
- 2nd time - C, D, E
- 3rd time - F, G
- 4th time - H, I



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Key

- Site Boundary
- Pond (No Access)
- Dry Ditch



Bartons Road,
Havant
WATERBODY LOCATIONS PLAN



scale
1:17,326.378369

drawn
SG

issue
10/7/2023

Figure
12

rev
9594-E-01