

Steeple Renewables Project

Appendix 7.7: Bat report

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Appendix 7.7: Bat report

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Appendix 7.7: Bat report

Issuing office

3 Brunel House | Hathersage Park | Station Approach | Hathersage | Derbyshire | S32 1DP
T: 01433 651869 | W: www.bsg-ecology.com | E: info@bsg-ecology.com

Client	Steeple Solar Farm Limited
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1 Introduction

- 1.1 This report is a technical appendix to accompany the Environmental Statement (ES) Chapter 7: Ecology and Biodiversity [EN010163/APP/6.2.7] and includes the following information:
- Methods
 - Results including relevant Figures
 - Summary interpretation
- 1.2 For ease of reference the following will be terms referred to within this report to define areas within the Site:
- Proposed Solar Areas: areas within the Site which have been identified for locating the solar panels, battery storage and other associated infrastructure.
 - Biodiversity Mitigation Areas (Eastern and Western): areas of the Site that would not be used for development, and identified for use as biodiversity mitigation and enhancement.
 - The Site: collectively including the Proposed Solar Areas and Biodiversity Mitigation Areas.

2 Methodology

Desk study

- 2.1 A data search for records of protected and notable species, including bats, within 2 km of the Site was requested from Nottinghamshire Biodiversity Records Centre (NBRC) and Lincolnshire Environmental Records Centre (LERC) in March 2024. Records up to twenty years old from the request date are included within this report as older records are less likely to be representative of the current baseline in the local area. Older records were reviewed as part of the desk study but are only included where considered to be directly relevant to the Site, for example they occur on or adjacent to the Site.
- 2.2 The Multi-Agency Geographic Information for the Countryside database (MAGIC) was accessed on 27 June 2024 to identify any granted European Protected Species licences for bats within 2 km of the Site (Defra, 2024).
- 2.3 Aerial photographs and mapping (Bing Maps, 2025; Google and Image Landsat / Copernicus, 2025) of the Site and its surroundings were examined to further assist in understanding the local context of the Site, in particular, to identify connectivity with potential bat roosting and foraging habitats offsite.
- 2.4 Available ecology reports relevant to the Site were reviewed as part of the desk study work. This included Nottinghamshire County Council planning application reference 1/46/06/00014, which is a quarry scheme (not yet implemented) adjacent to the Site's northeast boundary on the farmland between the Site and the River Trent. The survey boundary for the quarry application included areas of the Site to the south of West Burton Power Station in the Proposed Solar Area and part of the Eastern Biodiversity Mitigation Area. The ecology report for that application (ESL Ltd, 2010) presents the results of bat surveys undertaken in 2009 / 10.

Field survey

- 2.5 Surveys for bats at the Site have been undertaken in the Proposed Solar Areas and immediate surrounding areas, where considered appropriate. Surveys have not been undertaken in the Biodiversity Mitigation Areas (Eastern and Western) as there will not be any negative effects on bat foraging / commuting habitats or potential roost locations

Preliminary ground level assessment

- 2.6 A daytime ground-level inspection of buildings, bridges and trees within the Proposed Solar Areas was carried out to identify potential features that may be suitable for roosting bats. Offsite trees and buildings situated within 50 m of the Proposed Solar Areas were also considered as part of the bat roost assessment, details of which are provided below.
- 2.7 The survey was completed with reference to current industry guidance (Collins, 2023).
- 2.8 Locations of features with potential roosting habitat for bats are shown on Figures 7.7.3.1 – 7.7.3.7 [EN010163/APP/6.4.7] in Section 6, including building and tree reference numbers. Tree references are taken from the Arboricultural Survey Report Tree Survey Plan (Barton Hyett Associates, 2025).
- 2.9 The survey was predominantly undertaken between March / April 2024 and February 2025¹, prior to foliage obscuring visibility². Surveys were carried out by Fiona Shuttle (Senior Ecologist, BSG Ecology), Emily McVean (Senior Ecologist, BSG Ecology), Sidney Vickress (Ecologist, BSG Ecology)

¹ Following revisions to the red line boundary, additional trees located within the updated boundary were surveyed in February 2025.

² Survey of trees within west Burton Power Station was undertaken in July 2024 due to access restrictions.

and Emma Bruce (Freelance Ecologist, EJB Ecology); of whom Fiona³, Sidney⁴ and Emma⁵ hold Natural England Bat Class Licences.

Assessment of buildings & bridges (on-Site)

- 2.10 A total of nine buildings, two railway bridges and nine culverts / bridges over drains which are present within or along the boundaries of the Proposed Solar Areas were included in the preliminary bat roost assessment.
- 2.11 All buildings / bridges / culverts were inspected externally for evidence of roosting bats as well as to identify potential access points and features with bat roosting potential. A high-powered torch and binoculars were used to assist with the inspection. An internal inspection of the buildings was also undertaken (where possible) to search for bats or evidence of bats, such as bat droppings.
- 2.12 All buildings / structures were assigned a category defining their potential to support roosting bats ('high', 'moderate', 'low' or 'negligible' potential suitability), with reference to Bat Conservation Trust survey guidance (Collins, 2023).

Assessment of trees (on-Site)

- 2.13 All trees within and immediately adjacent to the Proposed Solar Areas were included in the preliminary bat roost assessment.
- 2.14 During the survey, trees or groups of trees were inspected from the ground, using binoculars and a high-powered torch as necessary to look for potential roosting features suitable for bats, such as woodpecker holes, rot holes, splits or cracks, dead limbs, ivy cover and/or flaking bark. Any evidence of the use of these features by bats, such as droppings, was also recorded.
- 2.15 With reference to Collins (2023), trees were classified by the presence of different types of potential roost features suitable for different types of roosting, in order to guide assessment of likely impacts and mitigation measures:
- PRF-I: Potential roosting features are only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
 - PRF-M: Potential roosting features are suitable for multiple bats and may therefore be used by a maternity colony.
- 2.16 Trees with no potential roosting features are not suitable to support roosting bats; a photo of each was taken for reference (not included within this report) and their locations are shown on Figures 7.7.3.1 – 7.7.3.7 [EN010163/APP/6.4.7] in Section 6.

Offsite buildings and trees

- 2.17 Offsite trees and buildings were considered as part of the bat roost assessment given the potential presence of off-site bat roosts that could, in the absence of mitigation, be indirectly affected by the proposed development.
- 2.18 A desk-based search was undertaken to identify all buildings and trees situated within 50 m of the Proposed Solar Area using aerial photography (Google and Image Landsat / Copernicus, 2025). The proposals were then assessed to identify areas where potential off-site impacts are anticipated, such as lighting, noise or construction related disturbances, or from significant habitat fragmentation.
- 2.19 The construction and operation of the proposed solar arrays, which make up the majority of the development footprint, are not anticipated to result in any increase in disturbances (such as lighting or noise) that are likely to spill beyond the Site boundaries to an extent which may affect off-site bat

³ Natural England Bat Class Licence reference 2021-51224-CLS-CLS.

⁴ Natural England Bat Class Licence reference 2022-10969-CL18-BAT.

⁵ Natural England Bat Class Licence reference 2022-10318-CL17-BAT.

roosts. However, some elements of the proposals, particularly the substation and the BESS area, could result in localised indirect disturbances to off-site habitats in the absence of mitigation, for example through permanent lighting close to the Site boundaries.

- 2.20 Detailed survey of off-site potential bat roosting habitat (buildings and trees) was not considered necessary as the designed-in mitigation measures which are set out in the ES Chapter 7: Ecology and Biodiversity [EN010163/APP/6.2.7] are anticipated to be sufficient to minimise the risk of disturbance to potential off-site bat roosts, should they be present, to an acceptable level (i.e. a negligible risk of disturbance). As such, off-site trees and buildings are not considered further in this report.

Bat activity surveys

- 2.21 An initial assessment of the Site concluded that it provides medium potential suitability for foraging and commuting bats, with reference to industry standard guidance (Collins, 2023). Arable farmland is the dominant habitat within the Proposed Solar Areas, which is typically considered to provide poor opportunities for foraging bats; however the hedgerows, streams and field drains provide linear foraging resources and connectivity across the Site and local area. Small, isolated pockets of woodland are also present that provide potential foraging habitat.
- 2.22 As recommended in Collins (2023), activity surveys for sites of moderate suitability for bats should include seasonal Night-time Bat Walkover (NBW) surveys and monthly static bat detector surveys between April and October.
- 2.23 Survey details are summarised in Appendix 7.7.1, including dates, surveyors present and weather conditions during each survey.

Night-time bat walkover (NBW)

- 2.24 Three seasonal NBW surveys were undertaken in May, June and September 2024.
- 2.25 During each survey visit, five routes were walked on the same night to provide appropriate survey coverage across the Proposed Solar Areas. Each route was walked by two ecologists. Each route was designed to follow field boundaries, drains and other habitat features that are most likely to be used by foraging and commuting bats. The direction of the transect was varied on each occasion; this helped to understand the temporal use of different parts of the Proposed Solar Areas by bats.
- 2.26 At the start of each NBW, pairs of surveyors were positioned on potential flight lines close to potential roost sources (both on and offsite) such as woodland, groups of buildings or mature trees. Each survey started at sunset and surveyors remained in position for at least 30 minutes, recording behaviour of any bats observed. Following which, surveyors walked at a slow pace for two to three hours after sunset along pre-determined routes. NBW start locations and walked routes are illustrated on Figure 7.7.1 [EN010163/APP/6.4.7] in Section 6.
- 2.27 Anabat Scout bat detectors were used to aid bat identification along each route. Where bat activity was recorded, the time and species were noted on a map. In addition, the flight direction and behaviour of the bat(s) was also recorded where this could be determined (e.g. foraging, commuting or social calling). Bat calls were later analysed using Kaleidoscope software (Wildlife Acoustics, 2024) to allow identification of the bat species present.

Static bat detector survey

- 2.28 Static remote bat detectors were deployed every month between April and October (seven surveys) and left *in situ* for a minimum of five consecutive nights to record bat activity. Survey details are summarised in Appendix 7.7.1, including dates and weather conditions during each survey period.
- 2.29 A total of 16 bat detectors were deployed each month (13 SM4 and three Song Meter Mini detectors – these detectors are both made by Wildlife Acoustics). The detector locations are summarised in Appendix 7.7.2 and illustrated on Figure 7.7.2 [EN010163/APP/6.4.7], Section 6.

- 2.30 The bat detectors were located so that they sampled representative habitats across the Proposed Solar Areas, including habitats where bat activity was most likely to be focussed, considering bat ecology and behaviour of most species considered likely to be encountered (i.e., next to features such as woodland edge and watercourses). Note that Static Location 16 and the north-eastern section of transect Route 5 fall within the Eastern Biodiversity Mitigation Area (see Figures 7.7.1 [EN010163/APP/6.4.7] and 7.7.2 [EN010163/APP/6.4.7]); this part of the Site was removed from the Proposed Solar Areas after commencement of the bat activity surveys. The data collected from this location has been included in the analysis given its proximity to the Proposed Solar Areas (it is 420 m to the north-east).
- 2.31 Three of the detectors (Locations 3, 7 and 10) were positioned in the middle of arable fields and each were 'paired' with a static detector which was positioned on the closest field boundary, within a hedgerow (Locations 4, 6 and 9). The purpose was to provide comparative data between the field centre and the field boundary hedgerow. As less bat activity is typically expected in the field centres, the pairing of detectors allows comparison on a selection of fields to see whether evidence aligns with this concept and to gain an indication of the use of different parts of the fields, considering that the field centres would be the typical habitat type directly impacted by the Proposed Development. Given the physical limitations of installing SM4 bat detectors in field centres (mainly due to their size), Song Meter Mini detectors were deployed in the three field centre locations. This is given further consideration in the Consideration of potential limitations section below. Detectors were attached to a pole approximately 1 m high so that the microphone was not obscured by crops which could potentially reduce the detectability of bats.
- 2.32 For each deployment period, the detector was set to record from half an hour before sunset to half an hour after sunrise.
- 2.33 Bat calls were analysed using *Kaleidoscope* software (Wildlife Acoustics, 2024) to allow identification of the bat species present, where possible, and their relative levels of activity.
- 2.34 For *Pipistrellus* species the following criteria based on measurements of peak frequency were used to classify calls:
- Common pipistrelle ≥ 42 and <49 KHz
 - Soprano pipistrelle ≥ 51 KHz
 - Nathusius pipistrelle <39 KHz
 - Common / soprano pipistrelle ≥ 49 and <51 KHz
 - Common / Nathusius pipistrelle ≥ 39 and <42 KHz
- 2.35 In addition, the following categories are used for calls which cannot be identified with confidence due to the overlap in call characteristics between species or species groups:
- *Myotis* sp.
 - *Nyctalus* sp. (either Leisler's bat or noctule)
- 2.36 All other species identification followed the parameters described in Russ (2012).
- 2.37 The data provided by automated bat detectors were entered into and analysed using a Microsoft Excel spreadsheet to determine the total number of bat registrations recorded and also the pass rate (i.e. the average number of bat registrations recorded per hour of night). It is challenging to assess actual bat numbers from the information collected by static bat detectors. Where multiple bat calls are recorded these could, for example, either have been produced by a single bat repeatedly flying back and forth past the detector or by multiple bats, each flying past on a single occasion. The data obtained therefore provides a relative measure of bat activity at different locations and at different times, rather than a measure of population size.

Consideration of potential limitations

- 2.38 Internal access to Buildings 2 and 5 were not possible during the ground level assessment. The exterior of each building was surveyed for suitable access/egress points for bats, and a search was undertaken around the exterior for signs such as droppings or staining. Building 5 is located within the railway line verges and as such a survey of the exterior was limited to the northern, western and southern elevations from the boundary fence. These limitations have been considered as part of the assessment of potential suitability of each building for bats and a precautionary assessment has been made where necessary. These buildings will not be directly impacted by the Proposed Development.
- 2.39 During the April, August and September static surveys, some of the static detectors did not record for the full five night survey period; Location 4 in April (three nights data missing), Locations 1, 2, 4, 5, 6, 7, 8, 13, 14, 15 and 16 in August (between one and four nights missing data at each location) and Locations 5 & 6 in September (both two nights data missing). Investigation determined that the likely cause was equipment failure in April and September (e.g. from drained batteries) and in August, vast quantities of noise was recorded on each detector (likely from crickets) which filled the SD cards memory capacity before the end of the five day survey period. Once the issue was identified (upon collection of the detectors in late August), all detectors were re-deployed at the soonest opportunity (early September). The same issues were encountered during the early September survey period on five of the detectors and so these were re-deployed later on in September, returning a more complete data set, presented above. It is considered that reasonable efforts were made to resolve the missing data and equipment was repaired ahead of further survey visits where possible.
- 2.40 The gaps in the static bat activity data set were taken into account during analysis calculations. This is not considered to be a significant constraint on the bat activity surveys as data from the majority of survey periods was collected successfully and overall provided an adequate data set with which to evaluate the importance of the Proposed Solar Areas for foraging and commuting bats. A minimum of 269 hours of survey data was collected from each Static Location between April and October (up to 26 hours of missing data). The missing data accounted for a maximum of 8.8% of the total survey period between April and October for any Static Location. Overall, this minor data gap is not considered to be a significant constraint to the assessment.
- 2.41 During the April static survey, minimum overnight temperatures recorded were between 2 – 10 °C and in both September and October surveys, minimum temperatures were 6 – 12 °C. Overnight temperatures below 10 °C are typically considered to be sub-optimal for bat surveys, with reference to the Bat Conservation Trust survey guidance (Collins, 2023), due to reduced activity of invertebrate prey. The temperatures recorded in the April, September and October survey periods were typical for the time of year. This is not considered to be a significant constraint on the bat activity surveys as the overnight temperature during the remainder of the survey periods exceeded 10 °C.
- 2.42 During the static surveys at paired detector locations, Song Meter Mini detectors were deployed in field centres (Locations 3, 7 and 10), whilst Song Meter SM4 detectors were deployed at the paired locations in adjacent field boundary hedgerows (Locations 4, 6 and 9) due to physical limitations of installing SM4 detectors in the central field locations. The two types of detector are considered to have comparable recording quality; they both record in full spectrum, are produced by the same manufacturer, the same recording settings were used (e.g. sample rate and filters) and bat calls were analysed using the same software. For the purpose of giving an indication of the use of different part of the fields, this is not considered to be a significant limitation.

3 Results

Desk study

- 3.1 The data search of MAGiC identified no European Protected Species Licence granted by Natural England for bats within 2 km of the Site.
- 3.2 The data search with NBGRC and GLNP provided 331 records of bats within 2 km of the Site. Records were for eight species: common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, Nathusius' pipistrelle *Pipistrellus nathusii*, noctule *Nyctalus noctula*, Leisler's bat *Nyctalus leisleri*, Daubenton's bat *Myotis daubentonii*, brown long-eared bat *Plecotus auritus* and whiskered bat *Myotis mystacinus* or Brandt's bat *Myotis brandtii*⁶. Additionally of note, no records of Natterer's bat *Myotis nattereri* were provided within the last 20 years, but two records were provided within 2 km of the Site from 1993.
- 3.3 Records of four roosts were associated with buildings within West Burton Power Station situated immediately north of the Site; three common pipistrelle roosts (up to two bats per roost; all recorded in 2023) and a brown long eared roost (single bat, recorded in 2006).
- 3.4 Other notable desk study records include a record of a *Myotis* species emerging from a tree within the Eastern Biodiversity Mitigation Area in 2010 (grid reference SK 81744 83374). Additionally, Littleborough church, situated adjacent to the southern boundary of the Eastern Biodiversity Mitigation Area, has records of brown long eared bat droppings and a grounded bat (also brown long eared), as well as common pipistrelle droppings, from 2018. Both records are situated over 400 m from the Proposed Solar Areas.
- 3.5 Static detector surveys were undertaken in June and July 2010 as part of the Steeple quarry application (ESL, 2010), which concluded that the hedgerows and drains provided the best feeding and commuting corridors and the arable farmland was not attractive to bats. The species assemblage was considered to be unremarkable; five bat species were recorded in total, with common and soprano pipistrelle the only two species present in increased numbers (other species recorded were *Myotis* species and noctule). Two emergence surveys were also undertaken of trees as part of the application, during which one bat (unknown species) was observed to emerge from a tree. This was situated outside the Steeple Renewables Project boundary, located approximately 170 m from the Eastern Biodiversity Mitigation Area (grid reference SK 81620 83662).

Field survey

Ground level assessment

Buildings and bridges (on-Site)

- 3.6 Of the nine buildings within the Proposed Solar Areas, one building has high potential to support roosting bats, one building has moderate potential and four buildings have low potential, whilst the remaining three buildings have negligible potential for roosting bats. Bat droppings (unidentified species) were found within Building 3, but given that it is an open-sided building, it is unclear whether bats roost within the building, or if they use it for foraging / as a sheltered feeding perch.
- 3.7 Two railway bridges with potential roosting features are situated along the Proposed Solar Area boundaries; the bridge on the western boundary has low potential to support roosting bats whilst the bridge along the southern boundary has moderate potential. Additionally, nine small bridges / brick-enforced culverts are present along field drains which have low potential to support roosting bats.
- 3.8 Detailed descriptions of the buildings / bridges, potential roost features and photos are presented in Appendix 7.7.3. Locations are shown on Figure 7.7.3 [EN010163/APP/6.4.7] in Section 6.

⁶ Two records of 'whiskered / Brandts' were provided from 2003 and 2006.

- 3.9 The results of the preliminary roost inspections of built structures are summarised in Table 7.7.1 below.

Table 7.7.1 - Summary of building bat roost inspection results

Building number	Summary description	Location	Roost suitability
B1	Open sided agricultural shelter	Within west of Proposed Solar Area	Negligible
B2	Agricultural store / barn	Within west of Proposed Solar Area	Low
B3	Open-sided brick-built garage	Within west of Proposed Solar Area	High
B4	Small flat roof signal building in woodland	Within west of Proposed Solar Area, adjacent to railway	Low
B5	Small flat roofed wooden railway line building	Within south-west of Proposed Solar Area, adjacent to railway	Low
B6	Flat roofed office cabins	West Burton Power Station, in the north of Proposed Solar Area	Low
B7	Single storey brick built, flat roof 'café house'	West Burton Power Station, in the north of Proposed Solar Area	Moderate
B8	Double storey flat roof offices	West Burton Power Station, in the north of Proposed Solar Area	Negligible
B9	Substation warehouse	West Burton Power Station, in the north of Proposed Solar Area	Negligible
Railway bridge - south	Tall brick-built bridge beneath railway line	Along the southern Proposed Solar Area boundary	Moderate
Railway bridge - west	Tall brick-built bridge beneath railway line	Along Proposed Solar Area boundary in the south-west	Low
Bridges over field drains (x 9)	Bridges / brick built culverts over field drains	Two brick culverts within north-west of Proposed Solar Area; the rest along Proposed Solar Area boundaries	Low

- 3.10 All potential roosting features recorded within buildings, railway bridges and bridges over field drains are likely to be fairly common in the local area given the abundance of agricultural buildings, buildings in villages and arable fields with field drains in the surrounding landscape.

Trees (on-Site)

- 3.11 The preliminary ground level tree assessment identified 71 trees and four groups of trees within the Proposed Solar Area with PRF-M features (potentially suitable for multiple bats), 51 trees and two groups of trees with PRF-I features (potentially suitable for individual bats). The remaining trees were considered to have negligible potential for roosting bats.
- 3.12 The results of the preliminary ground level tree assessment are summarised in Table 7.7.2 below.

Table 7.7.2. Summary of ground level tree assessment results

Bat suitability	Tree references (see Figures 7.7.3.1 – 7.7.3.7 [EN010163/APP/6.4.7])
PRF-M	T20, T26, T33, T39, T46, T51, T67, T72, T74, T80, T83, T97, T117, T150, T195, T197, T229, T230, T235, T237, T246, T250, T281, T328, T330, T333a, T342, T343, T350, T351, T352, T353, T355, T356, T357, T358, T360, T365a, T365b, T368, T370, T372, T373, T374, T377, T378, T379, T380, T390b, T391, T395, T398, T400, T402, T403, T406, T424, T499, T502, G14, G16, G19.1, G19.2, G26, G28.1, G28.2, G77, G99, G106.1, G108.2, G109.1, G109.5, G113.5, H107, H244.1

PRF-I	T30, T31, T32, T35, T36, T37, T55, T68, T73, T75, T76, T78, T89, T234, T246, T248, T252, T347, T348, T354, T359, T371, T386, T390, T390a, T390c, T390d, T396, T397, T404, T405, T425, unnamed tree west of T500, T501, G25, G80, G81, G105.2, G106.3, G106.4, G106.5, G106.6, G109.2, G109.3, G109.4, G112.1, G118, H244.2, H373.1, H373.2, H434, H435, H438.
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3.13 Typical PRF-M features recorded on trees within the Proposed Solar Area include: woodpecker holes, knot holes leading into a branch / stem cavity, tear out wounds and dead / hollow stems. Typical PRF-I features recorded include: shallow desiccation cracks, shallow hazard beams, lifted bark, shallow knot holes and small wounds to the stem. These features are all considered to be fairly common in the local area given the abundance of hedgerows containing trees in the surrounding landscape.

3.14 The location of these features are shown on Figures 7.7.3.1 – 7.7.3.7 [EN010163/APP/6.4.7].

Bat activity surveys

3.15 The Proposed Solar Area provides foraging and commuting habitat for bats, particularly the hedgerows, streams, field drains, scattered trees and small areas of woodland edge. However, the primary habitat is arable cropland which is considered to be of low value for foraging bats: monoculture crops typically provide limited structural and species diversity of vegetation and are subject to application of agricultural chemicals (including herbicides, pesticides and fertilisers) which typically limit the abundance of invertebrate prey.

3.16 Habitats within the Proposed Solar Area are connected to other foraging, commuting and roosting resources in the wider landscape; in particular, vegetated railways are adjacent to the boundaries (centrally and to the south) which provide linear commuting corridors for bats; and the River Trent is adjacent to the Eastern Biodiversity Mitigation Area and situated 1.1 km to the east of the Proposed Solar Areas, but with some habitat connectivity typically along hedgerows and drains.

Night-time bat walkover

3.17 Three NBW surveys were undertaken in early May, mid-June and mid-September 2024, following each of the five routes shown on Figure 7.7.1 [EN010163/APP/6.4.7], Section 6. The results of which are summarised below and shown on Figures 7.7.4.1 – 7.7.4.6 [EN010163/APP/6.4.7] in Section 6 and further detail is provided in Appendix 7.7.4.

3.18 Low numbers of bats were recorded across all NBW routes during all surveys. Common pipistrelle was the most frequently recorded species from all transects and soprano pipistrelle was recorded occasionally, with the exception of the September survey where no soprano pipistrelle were recorded along any route. Overall, eleven passes of unidentified *Myotis* species were identified across the three surveys, whilst a total of seven passes of noctule, two of Leisler's and two of unidentified *Nyctalus* species were recorded. Bats were typically seen as individuals or in small numbers commuting or foraging along linear and boundary habitat features such as hedgerows and field drains.

3.19 Bat activity was highest during the May NBW survey; between nine and 30 passes were recorded during any route, whilst between eight and 16 passes were recorded during the June survey and between nine and 20 passes during the September survey.

3.20 Bat activity levels were fairly similar across the routes. Slightly lower numbers of bats were recorded on Route 1 in the north-west of the Proposed Solar Area during both May and June NBW surveys (a total of eight and nine bat passes recorded), whilst Route 5 recorded the lowest number of bat passes in September (nine passes). Route 4, the north-eastern most route, recorded the most activity with a total of 30 passes of four species (common pipistrelle, soprano pipistrelle, noctule and *Myotis* species) in May and 20 passes of two species (common pipistrelle and *Myotis*) in September. Route 2, in the south-west of the Proposed Solar Area, recorded the highest level of bat activity in June; a total of sixteen bat passes of three species (common pipistrelle, soprano pipistrelle and *Myotis* species). The railway line in the southwest of the Proposed Solar Area was well used for foraging by individual / low numbers of common pipistrelle, as was the road / track to the east of Fenton, in the

south-east. Increased levels of bat activity (predominantly foraging and commuting individual common pipistrelle bats) were also recorded along Cross Common Lane in the north-east of the Proposed Solar Area and along nearby hedgerows.

- 3.21 Common pipistrelle, soprano pipistrelle and *Myotis* activity was fairly widespread across all Routes. The majority of noctules were observed in the north-west of the Proposed Solar Area on Route 1 (five of seven passes), which were foraging high above the arable fields, and the two Leisler's passes recorded were along the railway in the south-west. The two passes of unidentified *Nyctalus* species were observed in the south-east of the Proposed Solar Area on Route 5.
- 3.22 No bats were recorded within the first 30 minutes of any of the stationary observations during the May and June surveys. During the May NBW survey, the first bat recorded was a common pipistrelle at 21:19 (33 minutes past sunset) and in June, the first recorded was common pipistrelle at 22:11 (37 minutes past sunset). However, during the September survey, the first bat recorded was an unidentified *Nyctalus*, recorded 19 minutes after sunset and located on the corner of a wooded copse in the south-east of the Proposed Solar Area (but not seen). All other bat passes were recorded at least 27 minutes after sunset for all routes.
- 3.23 A summary of bat activity recorded during each NBW survey, including species and numbers of bats recorded, is provided in the table in Appendix 7.7.4 and shown on Figures 7.7.4.1 – 7.7.4.6 [EN010163/APP/6.4.7].
- 3.24 Overall, bat activity was predominantly recorded along the tracks (each lined with two hedgerows), scrub and trees along the railway and field drains that intersect the Proposed Solar Area or adjacent to the boundaries. Increased activity was also found along field boundary hedgerows. Little activity associated with the open arable fields was recorded.

Static bat detector survey

- 3.25 A summary of the data obtained from the automated bat detector survey is provided in Tables A to E in Appendix 7.7.5 and shown on Figures 7.7.5.1 – 7.7.5.3 [EN010163/APP/6.4.7]. Results of the seven survey periods (April – October 2024) are summarised below.
- 3.26 A total of 70,028 passes were recorded throughout the entire survey (data was analysed across 521 nights, between 16 locations and seven survey periods).

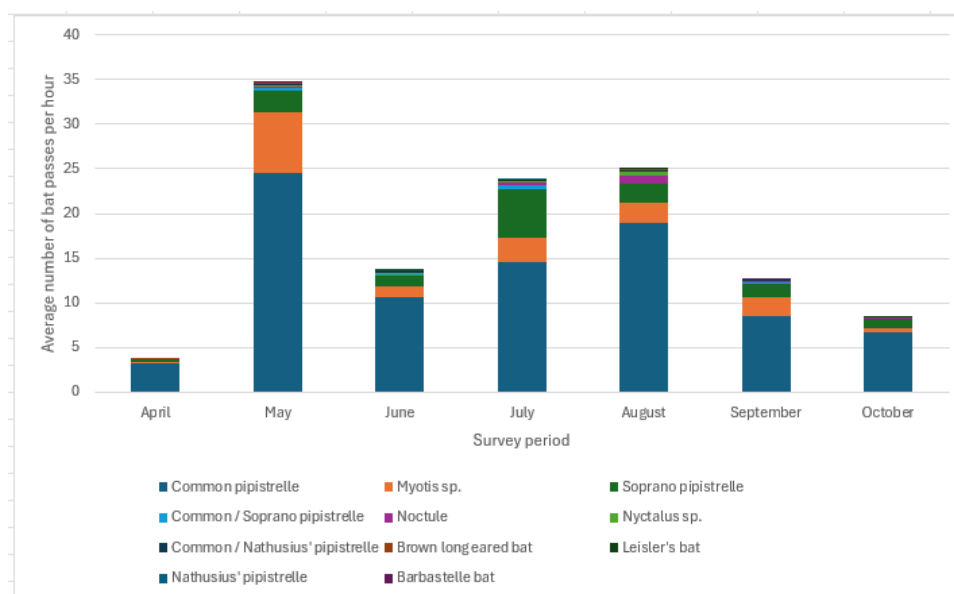
Species recorded

- 3.27 At least eight species of bat were recorded within the Proposed Solar Area during the static surveys (across all sixteen detectors and seven survey periods; a total of 4584 hours across all detectors). These were:
- Common pipistrelle (49,936 passes / 10.9 bat passes per hour across all recorded hours).
 - *Myotis* species (9,425 passes / 2.1 passes per hour).
 - Soprano pipistrelle (8,185 passes / 1.8 passes per hour).
 - Noctule (743 passes / 0.2 passes per hour).
 - Brown long-eared bat (180 passes / 0.04 passes per hour).
 - Leisler's bat (154 passes / 0.03 passes per hour).
 - Nathusius' pipistrelle (12 passes / 0.003 passes per hour); and
 - Barbastelle bat *Barbastella barbastellus* (8 passes / 0.002 passes per hour).
- 3.28 There were additionally passes corresponding to either a common or soprano pipistrelle (772 passes / 0.20 passes per hour), noctule or Leisler's bat (402 passes / 0.1 passes per hour), and either common or Nathusius' pipistrelle (211 passes / 0.05 passes per hour).
- 3.29 Common pipistrelle accounted for 71% of bat passes, whilst *Myotis* species accounted for 13%, soprano pipistrelle 12% and the remainder accounting for 1% or under of all bat passes.

Bat activity throughout the season

- 3.30 The highest bat activity levels across all locations was recorded in May, (overall average pass rate of 34.7 passes/hour) followed by August (25.0 passes/hour), July (23.7 passes/hour), June (13.7 passes/hour), September (12.6 passes/hour), October (8.4 passes/hour) and April (3.72 passes/hour). The relative pass rate of each species broadly followed this overall pattern.
- 3.31 Graph 7.7.1 below shows the activity of each species recorded at each survey period across all locations. Table D in Appendix 7.7.5 presents supporting data, including the average bat pass rate values.

Graph 7.7.1. Graph to show average number of bat passes per hour recorded in each month across all detectors (Locations 1-16)



- 3.32 Lower bat activity was recorded at the start and end of the season (in April and October), with increased activity recorded during the summer months (July and August). This is to be expected due to lower overnight temperatures during April and October (minimum overnight temperatures between 2 and 12°C were recorded); colder conditions are typically considered to be sub-optimal for bats due to reduced availability of invertebrate prey.
- 3.33 The peak in bat activity was recorded in May, which does not appear to fit in the seasonal distribution trend otherwise recorded (see Graph 7.7.1). Upon further investigation of data collected during this survey period, the increase in activity levels was predominantly associated with common pipistrelle, which was fairly evenly distributed across the Proposed Solar Area (Static Locations 2, 8, 11 and 12 recorded between 1,000 – 1,600 passes within this survey period of five nights, whilst Locations 13 and 16 recorded 4126 and 4878 common pipistrelle passes respectively; this is in line with spatial distribution observed throughout the survey season, detailed below). However, a higher number of Myotis calls were recorded at Static Location 1 in May; 3295 passes were recorded at this location during the May survey period across five nights, which accounts for 35% of all Myotis species recorded throughout the entire survey (across seven survey periods and sixteen locations). Following May, the numbers of Myotis species passes dropped with a maximum of 56 passes recorded at Location 1 during the remainder of survey periods (across five nights in April).
- 3.34 Overnight temperatures were much warmer in May (between 10 – 13 °C) than April, so prey availability likely increased following the colder winter months. Consequently, the majority of bat activity recorded in May is considered likely to be associated with foraging, as this is a peak time of year of intense feeding to recover weight lost during the winter and prior to the maternity period

(Collins, 2023). The majority (80%) of *Myotis* passes at this location in May were also recorded during the 'middle of the night' period, indicating that the majority of passes are likely to be associated with foraging or commuting activity, rather than indicating the presence of a significant roost on-site.

Spatial distribution of bat activity

- 3.35 The bat activity recorded at each Static Location is summarised in Table 7.7.3 below. Table B in Appendix 7.7.5 presents supporting data, including the bat pass rate values for each species.

Table 7.7.3 showing average bat pass rates at each static location, in ascending order of activity (for all bat species between April - October)

Static Location	Location summary description	Average no. of bat passes per hour	Percentage of all bat calls
16	Along a hedgerow within the Eastern Biodiversity Mitigation Area	52.5	22
13	On the corner of a small wooded copse and at the intersection of four hedgerows	41.6	17
8	Along a tree-lined stream in the south of the Site	26.6	11
2	Adjacent to a small woodland in the north-west of the Site, adjacent to arable fields	22.2	9
15	Adjacent to a small woodland in the south-east of the Site	19.9	8
11	Along Catchwater Drain; an open, mostly unvegetated wet ditch situated centrally within the Site	19.9	8
12	At a hedgerow intersection between arable fields	18.8	8
1	In a hedgerow along Oswald Beck; a tree-lined stream in the north-west of the Site	17.8	7
5	In a hedgerow, next to a wet ditch and access track	6.6	3
14	Along a hedgerow in the south of the Site	5.4	2
9	In a hedgerow in the north of the Site	5	2
6	In a hedgerow, at the intersection of three arable fields	3.5	1
4	Along a hedgerow directly east of Location 3	1.1	0
10	Paired with Location 9, in the middle of a field directly east of Location 9	1.1	0
7	Paired with Location 6, located within the middle of an arable field directly south of Location 6	0.6	0
3	Paired with Location 4, located in the middle of an arable field in the west of the Site	0.5	0

- 3.36 Overall, activity was fairly evenly spread throughout the Proposed Solar Area and higher levels of bat activity were recorded along the streams, next to small parcels of woodland and at hedgerow intersections. These features are types of habitat that are typically considered to be of increased habitat suitability for bats within the Proposed Solar Area, and the increased levels of activity at these locations is not unexpected

Timing of bat activity recorded

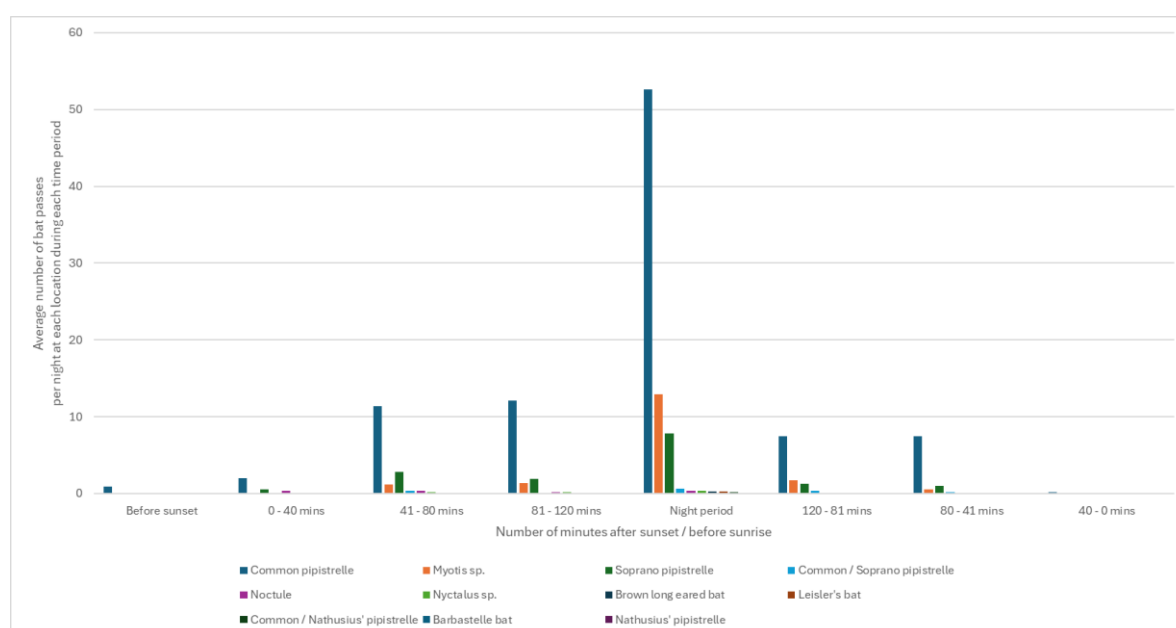
- 3.37 Analysing time periods through the night of bat activity gives an indication of how the Proposed Solar Area is likely to be used. For example, where bat passes are recorded close to emergence times, the data can give an indication that nearby roosts may be present. Passes recorded outside of the

emergence periods may indicate that a site is more likely to be used by foraging bats (travelling to a site from more distant roosts).

3.38 Approximately 3.0% of all bat activity was recorded before / within the first 40 minutes after sunset (an average of 4.1 passes per night at each location during this time period); of which common pipistrelle accounted for the majority (72% of bat activity in this time period). 5.6% of overall bat activity was recorded between 41 – 60 minutes after sunset (an average of 7.5 passes per night at each location); of which common pipistrelle accounted for the majority (73%). The highest numbers of overall bat activity (57% of all bat passes recorded) were during the middle of the night period (over two hours after sunset / before two hours before sunrise, with an average of 76.8 passes per night per location during this time period).

3.39 Graph 7.7.2 below shows the bat activity recorded throughout each of the survey periods. Table E in Appendix 7.7.5 provides supporting data, including the total number of bat passes of each species at each time period.

Graph 7.7.2. Graph to show the average number of bat passes recorded at each time period through a night (across all survey periods and locations)



3.40 The overall low bat activity recorded around peak emergence times, between seven minutes and 60 minutes after sunset (Collins, 2023), indicates that the majority of bat activity likely relates to foraging behaviour from bats associated with offsite roosts.

Middle of field locations (paired detectors)

3.41 The three Static Locations which recorded lowest bat activity, Locations 3, 7 and 10, are all situated in the middle of arable fields, at least 150 m from the closest hedgerow, indicating the central areas of arable fields are not regularly used by bats for foraging or commuting. Across the seven survey periods, Location 3 recorded an average of 0.48 passes per hour, Location 7 recorded 0.58 passes per hour and Location 10 recorded 1.09 passes per hour. Common pipistrelle was the most commonly recorded species at these locations (a maximum of 46 passes during a single night at Location 10 in June), followed by noctule, Leisler's and unidentified Nyctalus species (up to 19 passes of any Nyctalus species on a single night at Location 7 in September), whilst soprano pipistrelle, Myotis species and brown long eared bats were very rarely recorded in the middle of field locations .

3.42 A comparison of these middle of the field locations (Locations 3, 7 and 10) with their associated hedgerow detectors (Locations 4, 6 and 9) indicates much lower bat activity in the open fields, as

shown in Table 7.7.4 below. Overall, the middle of the field locations recorded approximately a quarter (23%) of the bat activity levels (of all species) than that recorded at the paired hedgerow locations.

Table 7.7.4 showing average bat pass rates of paired static detectors (for all bat species between April - October)

Static bat detector location		Average bat pass rate (passes per hour)	
Middle of arable field	Paired detector in hedgerow	Middle of arable field	Paired detector in hedgerow
3	4	0.48	1.10
7	6	0.58	3.46
10	9	1.09	5.01

- 3.43 The species and number of passes recorded when comparing the detectors in the centre of fields and the paired hedgerow detectors reflect the habitat preferences of each species. Common pipistrelle and *Myotis* species were the most commonly recorded species within the Proposed Solar Area as a whole. The preferred foraging habitat for these species include structured vegetation such as trees and hedgerows, relative to open habitats (Collins, 2023). These preferences are consistent with the fewer number of bat passes recorded at the middle of field locations relative to the field margin hedgerow locations.

Interpretation of species activity

- 3.44 An interpretation of the current understanding of bat activity within the Proposed Solar Area for each species recorded is provided below, taking into consideration all data collected including; desk study information, results of the preliminary ground level assessment and results from the static and NBW bat activity surveys.

Common pipistrelle, soprano pipistrelle, brown long eared bat and noctule

- 3.45 These species are common, widespread bat species in the UK which are commonly recorded throughout Nottinghamshire (Nottinghamshire Bat Group, 2024). Common pipistrelle was the dominant bat species recorded during the bat activity surveys (averaging 10.9 passes per hour and accounting for 71% of all passes across all recorded hours during the static activity surveys), whilst soprano pipistrelle were regularly recorded (1.8 passes per hour and 12% of all passes); these species were recorded throughout the Proposed Solar Area with activity typically comprising individual bats along hedgerows, around watercourses and the small woodlands. Noctule and brown long-eared bat were less regularly recorded (averaging 0.2 and 0.004 passes per hour respectively and each accounting for under 0.5% of all bat passes). Both species were recorded in low numbers across much of the Proposed Solar Area, with individual noctule bats recorded typically flying higher above the Site, including occasional foraging above hedgerows and the arable fields, whilst brown long eared bat activity was sparsely distributed along hedgerows, streams and woodland edge.
- 3.46 Suitable roosting habitat for all four species is present within the Site and Proposed Solar Area, including tree features (crevice-like gaps and larger cavities) and some small gaps within buildings / built structures (predominantly missing mortar in brickwork). However, only three buildings / structures are present which were assessed to be of moderate or high suitability for roosting bats, none containing loft voids. As buildings are the preferred roosting habitat of maternity roosts of common and soprano pipistrelle (Collins, 2023), the Proposed Solar Area provides limited suitable roosting habitat for maternity roosts of these species.
- 3.47 It is considered unlikely that noctule or brown long eared bats are roosting within the Proposed Solar Area in significant numbers. Across all activity surveys, 12% of noctule bat passes were recorded within the first 20 minutes of sunset (a total of 91 passes), whilst their peak emergence time is approximately seven minutes after sunset (Collins, 2023). Under 2% of brown long-eared bat passes were recorded within the first 60 minutes after sunset (a total of three passes) and 17% within the first two hours (31 passes); the peak emergence time for this species is 61 minutes after sunset

(Collins, 2023). The low numbers of noctule and brown long eared bat passes recorded overall and the time of night their activity was recorded indicate that some roosts may be present in the off-site local area, but the significant roosts are unlikely to be present near to the Proposed Solar Area.

- 3.48 It is possible that the Proposed Solar Area supports small roosts of common pipistrelle and soprano pipistrelle given the large size of the Site, the higher activity levels recorded and the presence of potential roost features for these species. However, the bat activity survey found no evidence indicative of maternity roosts such as large numbers of passes recorded at peak emergence times (across all activity surveys, 9% of pipistrelle bat passes were recorded in the first hour after sunset, whilst their peak emergence time is approximately 25 – 35 minutes after sunset). In addition, low numbers of common pipistrelle and soprano pipistrelle bats were recorded during the NBW. Also taking into account the limited maternity roosting habitat (buildings) within the Proposed Solar Area, any roost of common and / or soprano pipistrelle which may be present are considered likely to be of small numbers of non-breeding bats.

Myotis species

- 3.49 *Myotis* species bat calls cannot reliably be separated to a species level based on calls alone due to overlapping characteristics. Alcathe *Myotis alcathoe*, Bechstein's *Myotis bechsteinii* and greater mouse-eared bat *Myotis myotis* (which are the rarest *Myotis* species in the UK) have not previously been recorded in Nottinghamshire and are not known to be present in the East Midlands region of England; on this basis, the presence of these species is unlikely and they are not considered further. Desk study records of more common *Myotis* species were provided within 2 km of the Proposed Solar Area, including Daubenton's bat, whiskered bat or Brandts bat⁷ and Natterer's bat⁸.
- 3.50 It is likely that a high proportion of the *Myotis* passes recorded within the Proposed Solar Area are associated with Daubenton's bat, as this species is more common in the county and is commonly found along aquatic habitats such as the streams and field drains intersecting the Proposed Solar Area. However, the taller hedgerows, small woodlands and tree-lined Oswald Beck (where increased numbers of *Myotis* species passes were recorded in May) also provide potential habitat for Natterer's, whiskered and Brandt's bat.
- 3.51 *Myotis* bats were the second-most common species / species group recorded throughout the Proposed Solar Area and were recorded at every Static Location with an average of 2.1 passes per hour and accounting for 13% of all passes across all recorded hours during the static activity surveys.
- 3.52 Suitable roosting habitat for the four *Myotis* species found in Nottinghamshire (Daubenton's, Natterer's, whiskered and Brandt's bat) is available within the Proposed Solar Area in trees and buildings (see Sections 3.6 – 3.14 above). Given the large size of the Proposed Solar Area, the activity levels recorded and the availability of potential suitable roost features, it is possible that there are roosts of Daubenton's, Natterer's, whiskered and / or Brandt's. However, only 2% of all *Myotis* bat activity recorded during the static activity surveys was from within the first hour of sunset and 15% of activity was from the middle of the night survey period, whilst their peak emergence time is between 27 – 56 minutes after sunset (Collins, 2023). As such, should roosts be present, they are considered likely to be of small numbers of non-breeding bats.
- 3.53 Approximately 35% of all *Myotis* passes recorded during the static activity surveys were from the May survey period at Location 1, situated along Oswald Beck in the north-west of the Proposed Solar Area (3,295 passes were recorded in total during this five night survey period). The majority (>80%) of *Myotis* passes at this location in May were recorded during the 'middle of the night' period, indicating that the majority of passes are likely to be associated with foraging or commuting activity. No *Myotis* passes were recorded within 60 minutes after sunset (at Location 1 in May), suggesting it is highly unlikely that this peak in activity was related to a *Myotis* roost within the Proposed Solar Area.
- 3.54 Of all *Myotis* passes recorded, 37% were recorded at Location 1, 15% were recorded at Location 13 at an intersection of hedgerows and next to a small wood copse, 10% were recorded at Location 15

⁷ Two records of 'whiskered / Brandts' were provided from 2003 and 2006.

⁸ Noting that a total of two desk study records of Natterer's were provided; both of which are over 20 years old, from 1993.

located along the edge of a small wood and the remainder of locations each accounted for <10% of all *Myotis* passes recorded. This suggests a habitat preference of *Myotis* bats for hedgerows, small wooded copses and streams (including Oswald Beck) within the Proposed Solar Area.

Barbastelle

- 3.55 The Proposed Solar Area is located at the known northern edge of the range for barbastelle in the UK, which is one of the rarest bat species in the UK and Nottinghamshire (Nottinghamshire Bat Group, 2024). Only eight passes of this species were recorded throughout the bat activity surveys. Most of which were recorded in the west of the Proposed Solar Area during the May static survey; a single pass was recorded on 10 May 2024 at Location 2 on the corner of a small wooded copse, a single pass on 13 May 2024 at Location 6 at an intersection of hedgerows and three passes on 13 May 2024 at Location 8 along a tree-lined stream. An additional three passes were recorded during the September survey at Location 15 on the edge of a small wood in the east of the Proposed Solar Area.
- 3.56 All barbastelle passes were recorded in the middle of the night survey period (after two hours past sunset), indicating they are not likely to be roosting close by. The Site and Proposed Solar Area provides limited roosting habitat for this species, which prefers large bark plates and splits / cracks for roosting and they typically choose roosting sites in woodland trees in undisturbed locations amongst thick vegetation cover (Collins, 2023); such roost features are not commonly present within the Proposed Solar Area or wider Site. As such, there is considered to be a low likelihood of roosts of barbastelle in the Site.
- 3.57 The Proposed Solar Area also provides limited riparian habitat, woodland and unimproved grassland, which are this species' preferred foraging habitats (Collins, 2023). Given the very low number of barbastelle passes recorded (an average of 0.002 passes per hour during the static detector surveys), the Proposed Solar Area is not considered likely to be an important habitat resource for barbastelle.

Nathusius' pipistrelle

- 3.58 *Nathusius pipistrelle* bats were recorded in low numbers during the surveys; this species is uncommon at a county and national level (Nottinghamshire Bat Group, 2024). A total of twelve passes of this species were recorded throughout the bat activity surveys (noting that additional passes were recorded which could have been attributed to common or *Nathusius' pipistrelle*; see methods). A maximum of four passes were confirmed to be recorded during any night at any location during the static surveys (on 17 May at Location 16 in the Eastern Biodiversity Mitigation Area and 21 June at Location 12 along a hedgerow in the north-east of the Proposed Solar Area). The Site provides limited roosting opportunities for *Nathusius' pipistrelle* – they typically choose buildings as roost sites (Nottinghamshire Bat Group, 2024), of which there are few present. The earliest *Nathusius' pipistrelle* recorded during static surveys was at 69 minutes past sunset, noting that the peak emergence time for this species is 30 minutes after sunset (Collins, 2023).
- 3.59 *Nathusius' pipistrelle* is typically considered to be a long-distance migrant and exhibits seasonal patterns of activity, with the peak migration period for this species in late summer / autumn or in spring with an influx of bats entering England from continental Europe (Nottinghamshire Bat Group, 2024). This species was recorded throughout the season in May (four passes), June (six passes), July (one pass) and September (one pass), indicating it is likely that there is a resident population in the local area. However, given the limited opportunities for roosting and considering the timing of bat passes recorded, it is considered unlikely that *Nathusius' pipistrelle* roosts are present on the Site. The number of passes recorded during the surveys indicates that the Proposed Solar Area does not provide a significant habitat resource for the species locally.

Leisler's bat

- 3.60 This species is rare / has a restricted distribution within the UK and is uncommon within Nottinghamshire (Nottinghamshire Bat Group, 2024). *Leisler's* bats were infrequently recorded within the Proposed Solar Area during the static surveys, a total of 154 bat passes were recorded throughout the bat activity survey. They were recorded at most Static Locations (absent from middle

of the field Locations 3 and 10, as well as Location 6 located centrally within the Proposed Solar Area) with an average of 0.003 passes per hour during the static activity surveys. A maximum of 14 passes were recorded during any night at any location (on 16 June at Location 8 along the stream passing through the south of the Proposed Solar Area).

- 3.61 There are trees within the Proposed Solar Area that provide roosting opportunities for Leisler's bats, whilst the woodland edges, hedges and field drains provide foraging habitat for this species. The peak emergence time of Leisler's bat from roosts is approximately 18 minutes after sunset but can be up to one hour after sunset (Collins, 2023). A total of seven Leisler's bat passes were recorded within the first 60 minutes after sunset. Given the low number of passes recorded overall, it is unlikely that significant roosts are present within the Proposed Solar Area and it does not provide a significant habitat resource for the species locally.

4 Summary & key points

- 4.1 The desk study returned no records of bats situated within the Proposed Solar Areas. Records within 2 km of the Proposed Solar Area included small numbers of roosting common pipistrelle and brown long eared bat within 25 m of the Proposed Solar Area and a *Myotis* species (undefined roosting) within the Eastern Biodiversity Mitigation Area. Other species of note identified within 2 km of the Site included Nathusius' pipistrelle, Leisler's bat, and up to four *Myotis* species; Daubenton's, Natterer's whiskered and / or Brandt's bats.
- 4.2 The preliminary ground level building assessment identified one building with high potential to support roosting bats, one building with moderate potential, four buildings with low potential and nine brick culverts / bridges over field drains with low potential to support roosting bats within the Proposed Solar Area. Two railway bridges are also present along the Proposed Solar Area boundaries and these have low to moderate potential to support roosting bats. Bat droppings were found in Building 3, which could be associated with a roost or potentially foraging activity within the building given that it is open sided. The preliminary ground level tree assessment identified 71 trees and four groups of trees within the Proposed Solar Area which have PRF-M features (potentially suitable for multiple bats), as well as 51 trees and two groups of trees with PRF-I features (potentially suitable for individual bats). No other evidence of roosting bats was found during the daytime surveys, however noting that lack of evidence does not indicate absence of roosting bats.
- 4.3 During the NBW surveys, low numbers of bat passes were recorded across the Proposed Solar Area during all surveys, and a total of five species of bat were recorded. Bats were typically seen as individuals or in small numbers commuting or foraging along linear and boundary habitat features such as hedgerows and field drains. Little activity associated with the open arable fields was recorded.
- 4.4 During the static bat detector surveys, at least eight species of bat were recorded within the Proposed Solar Area: common pipistrelle accounted for the majority of bat activity (71% of all passes), with a *Myotis* species (likely Daubenton's, Natterer's, Brandt's and / or whiskered bats) and soprano pipistrelle commonly present (13% and 12% of all passes). Leisler's, noctule, brown long eared, Nathusius' pipistrelle and barbastelle each accounted for 1% or under of all bat activity. The maximum overall activity was of 174 passes per hour (of all species recorded at Location 16 in July), however the average activity recorded was of 15 passes per hour across all survey periods and Locations. Commuting and foraging bat activity was fairly evenly distributed throughout the Proposed Solar Area, with increased levels found associated with the hedgerows, field drains, small pockets of woodland and along the railway in the west of the Proposed Solar Area. Low levels of bat activity were recorded within the arable fields. Overall, bat activity levels are considered to be typical for the geographic location of the Site and the habitats present.
- 4.5 In summary, no roosts have been identified within the Proposed Solar Area to date, although features are present which may provide potential roosting opportunities for bats. No nocturnal presence / likely absence surveys for bat roosts have been undertaken as all buildings and trees with bat roost suitability are being retained, and significant impacts have been avoided through designed-in measures. Overall, given the potential roosting resources available within the Proposed Solar Area and considering the bat activity observed during the activity surveys, the roosting assemblage is likely to be typical for the size of the Site, its geographic location and the habitats and roosting opportunities present. Should roosts be present within the Proposed Solar Area, they are likely to be small roosts of common, widespread species associated with trees or buildings. No evidence has been recorded to suggest that roosts of high conservation significance, such as maternity roosts, are present in the Proposed Solar Area.

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6 Figures

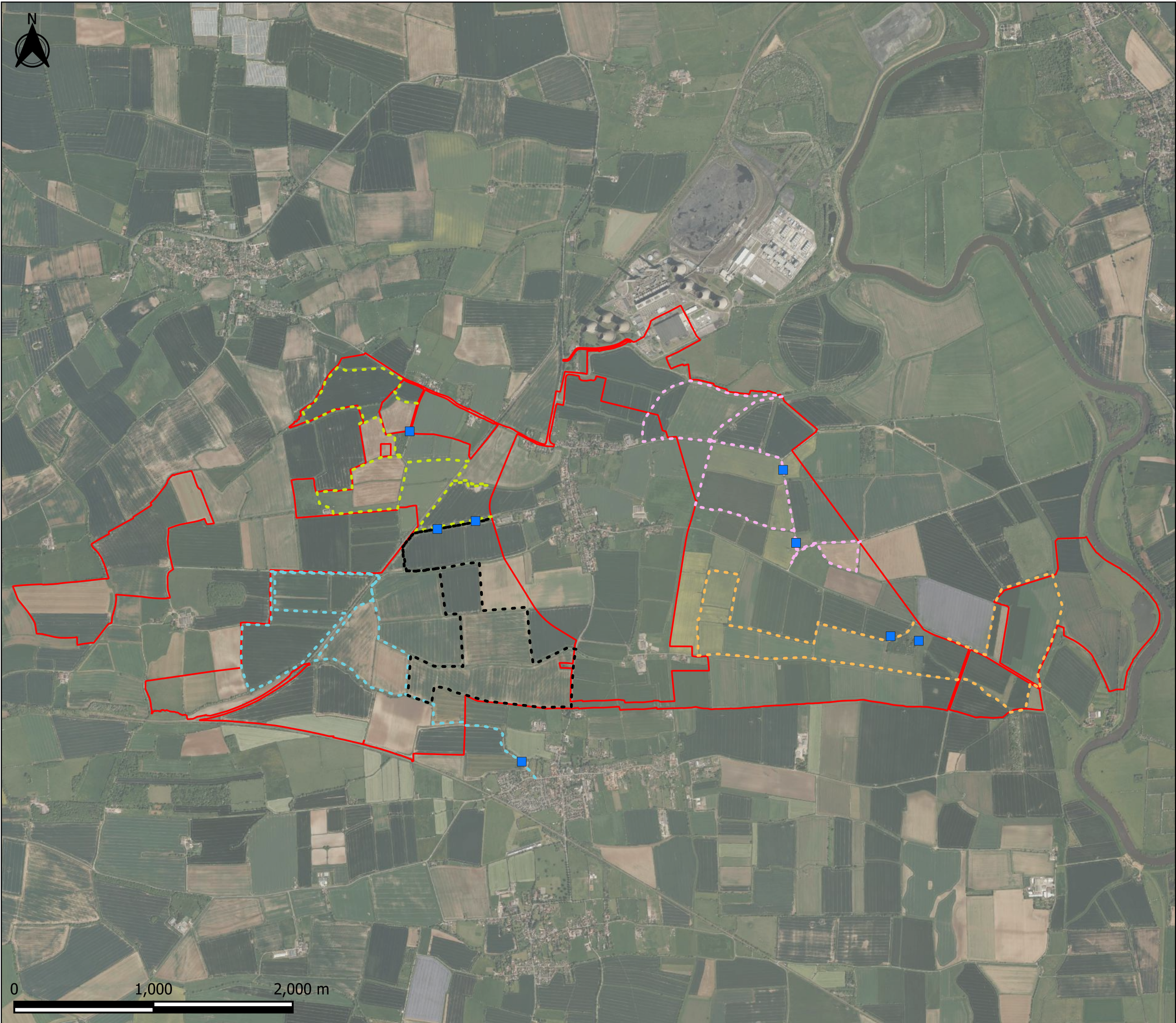
Figure 7.7.1 – Night-time bat walkover survey routes

Figure 7.7.2 – Static bat detector locations

Figures 7.7.3.1 to 7.7.3.7- Ground level tree and building assessment results

Figures 7.7.4.1 to 7.7.4.6 – Night-time bat walkover results

Figures 7.7.5.1 to 7.7.5.3 – Static bat detector results



Legend

- Site boundary
- Start locations of NBW surveys

Night-time Bat Walkover routes

- Route 1
- Route 2
- Route 3
- Route 4
- Route 5

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ecology

OFFICE: DERBYSHIRE

T: 01433 651869

JOB REF: P22-761

PROJECT TITLE

STEEPLE RENEWABLES PROJECT

DRAWING TITLE

Figure 7.7.1: Night-time bat walkover survey routes

DATE: 11/03/2025

CHECKED: FS

SCALE: 1:26,000

DRAWN: SP

APPROVED: EM

VERSION:1.7

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Area measurements for indicative purposes only.

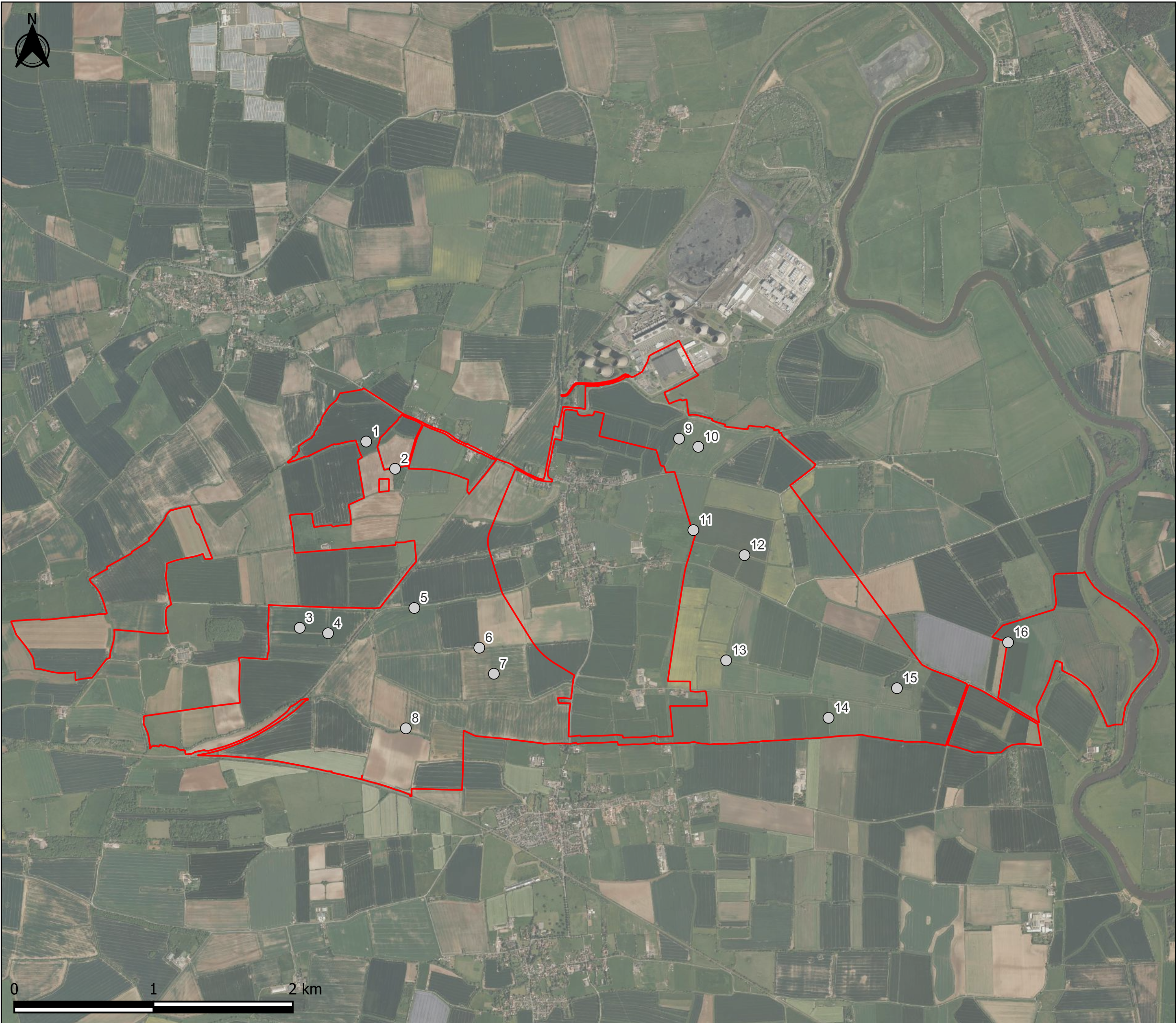
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Sources: BSG Ecology survey data

Graphics Ref. No.: 07316



- Legend
- Site boundary
 - Static Point

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PROJECT TITLE
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DRAWING TITLE
Figure 7.7.2: Static bat detector locations

DATE: 11/03/2025	CHECKED: FS	SCALE: 1:26,000
DRAWN: SP	APPROVED: EM	VERSION:1.7

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Legend
 Site boundary



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PROJECT TITLE
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DRAWING TITLE
Figure 7.7.3.1: Overview of GLTA Figures

DATE: 07/03/2025	CHECKED: EM	SCALE: 1:28,363
DRAWN: SP	APPROVED: EM	VERSION:1.7

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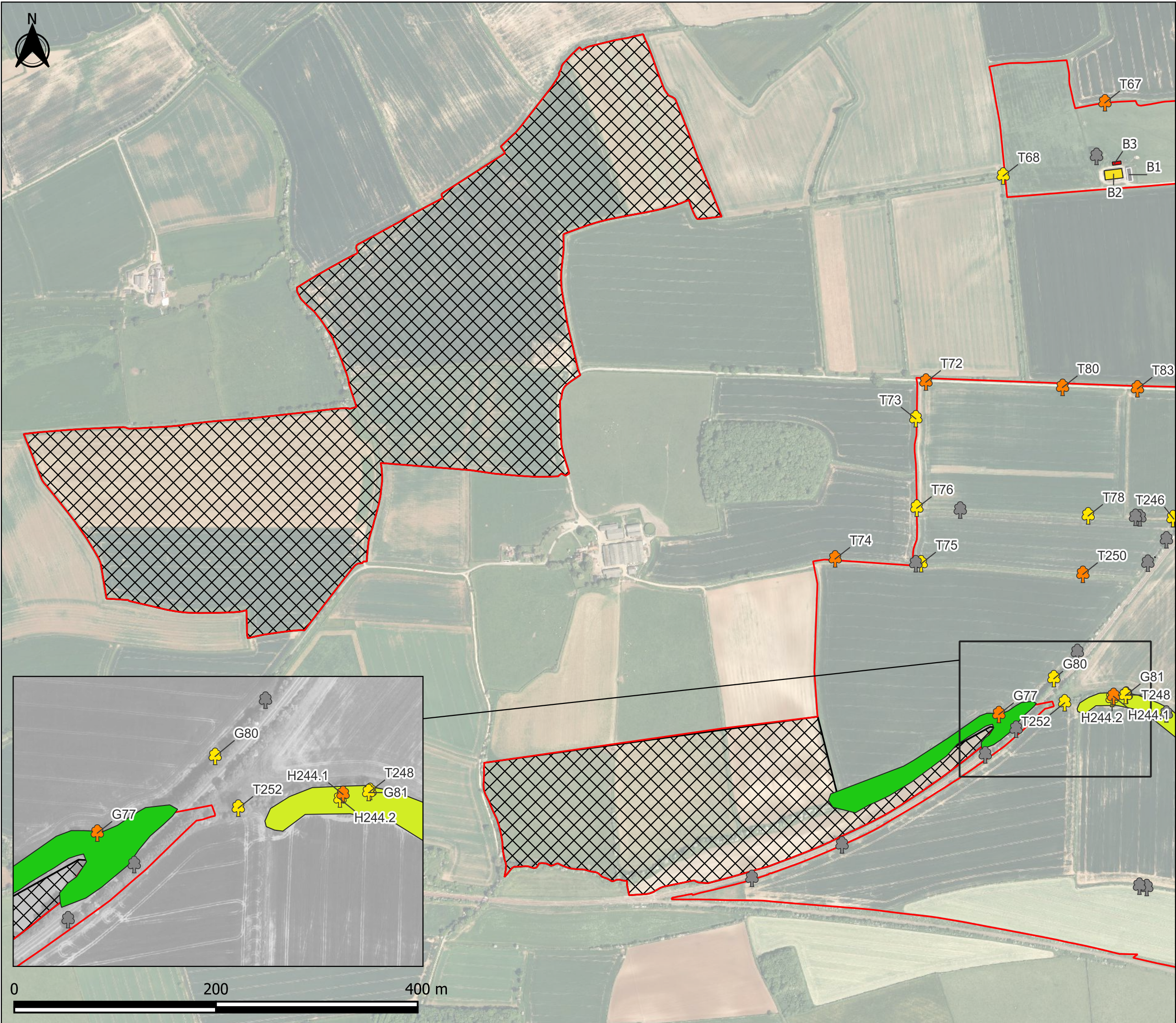
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Legend

- Site boundary
- Areas not subject to GLTA
-
-

Building Assessment

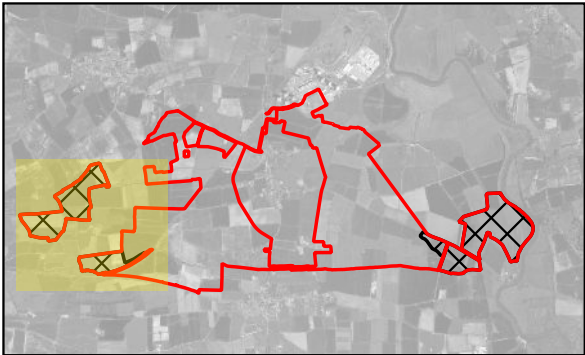
-
- Low potential
- High potential

Ground Level Tree Assessment

-
- PRF-I
- PRF-M

Tree Groups

-



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PROJECT TITLE
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DRAWING TITLE
Figure 7.7.3.2: Ground Level Tree Assessment
Results Map 1 of 6

DATE: 07/03/2025
DRAWN: SP
CHECKED: FS
APPROVED: EM
SCALE: 1:7,500
VERSION:1.7

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Legend

- Site boundary
- Areas not subject to GLTA

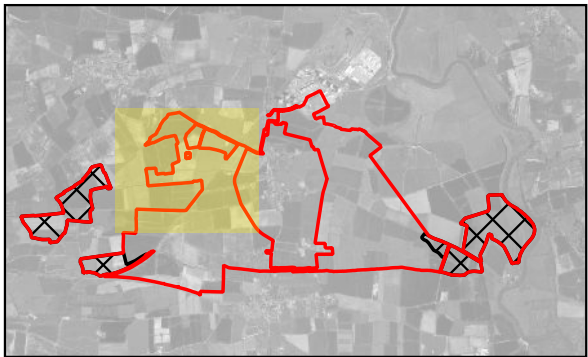
Building Assessment

- Low potential
- High potential

Ground Level Tree Assessment

- PRF-I
- PRF-M

Tree Groups



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PROJECT TITLE
STEEPLE RENEWABLES PROJECT

DRAWING TITLE
Figure 7.7.3.3: Ground Level Tree Assessment
Results Map 2 of 6

DATE: 07/03/2025
DRAWN: SP
CHECKED: FS
APPROVED: EM
SCALE: 1:7,100
VERSION: 1.7

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Legend

- Site boundary
- Areas not subject to GLTA
-
-
-
-

Buildings

-
- Low potential
- High potential

Ground Level Tree Assessment

-
- PRF-I
- PRF-M

Tree Groups

-
-

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PROJECT TITLE
STEEPLE RENEWABLES PROJECT

DRAWING TITLE
Figure 7.7.3.4: Ground Level Tree Assessment Results Map 3 of 6

DATE: 07/03/2025 CHECKED: FS SCALE: 1:7,100
DRAWN: SP APPROVED: EM VERSION:1.7

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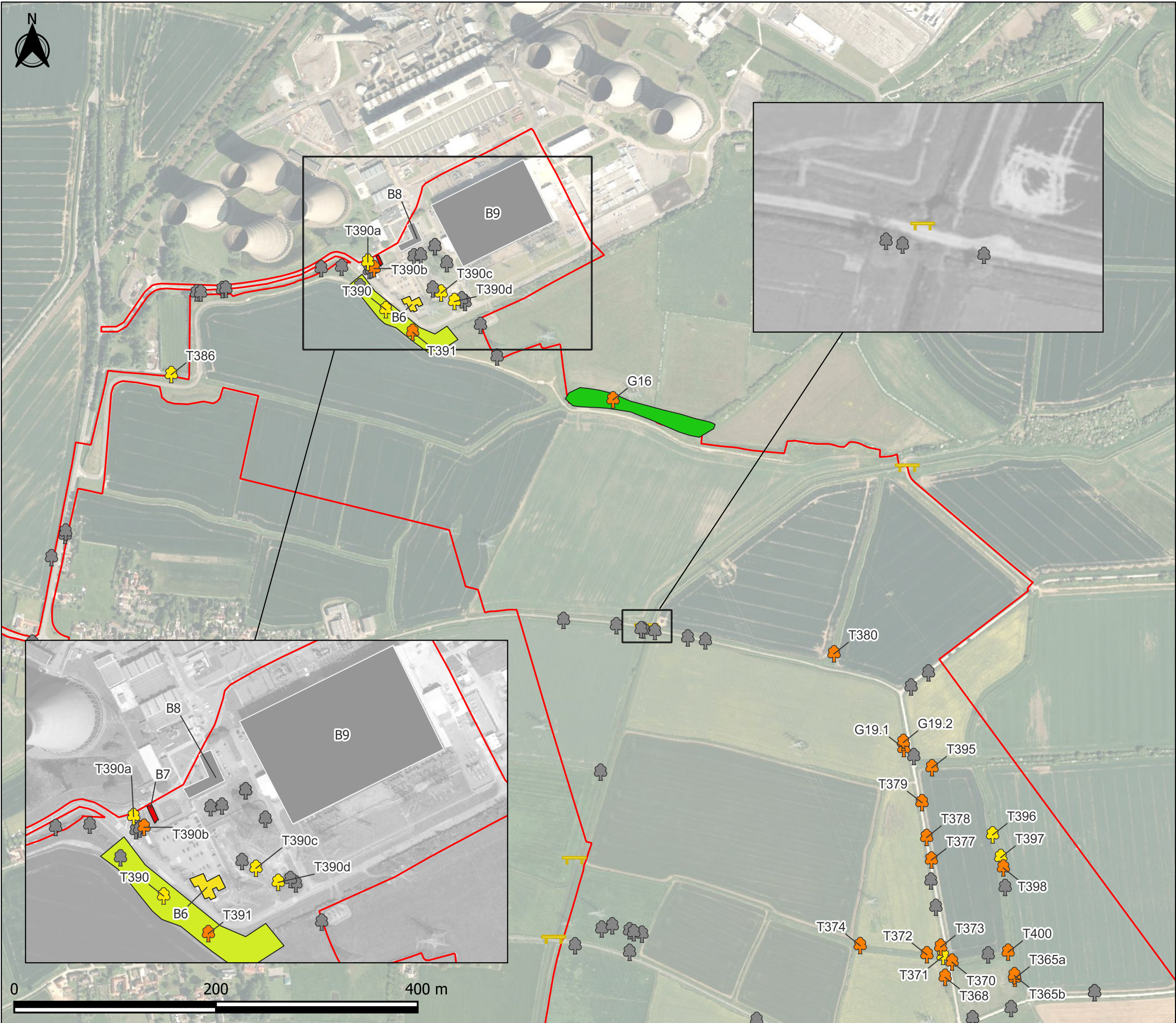
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Legend

- Site boundary
- Areas not subject to GLTA
-
-

Building Assessment

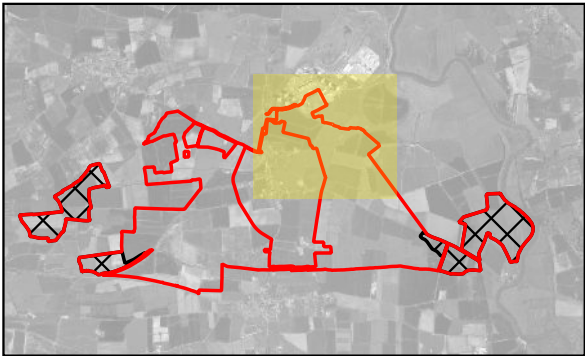
-
- Low potential
- High potential

Ground Level Tree Assessment

-
- PRF-I
- PRF-M

Tree Groups

-
-



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PROJECT TITLE
STEEPLE RENEWABLES PROJECT

DRAWING TITLE
Figure 7.7.3.5: Ground Level Tree Assessment
Results Map 4 of 6

DATE: 07/03/2025
DRAWN: SP
CHECKED: FS
APPROVED: EM
SCALE: 1:7,100
VERSION: 1.7

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Legend

- Site boundary
- Areas not subject to GLTA

Building Assessment

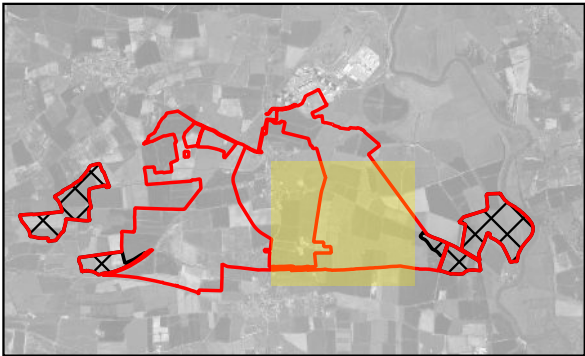
- Low potential
- High potential

Ground Level Tree Assessment

- PRF-I
- PRF-M

Tree Groups

-
-



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PROJECT TITLE
STEEPLE RENEWABLES PROJECT

DRAWING TITLE
Figure 7.7.3.6: Ground Level Tree Assessment
Results Map 5 of 6

DATE: 07/03/2025
DRAWN: SP
CHECKED: FS
APPROVED: EM
SCALE: 1:7,100
VERSION: 1.7

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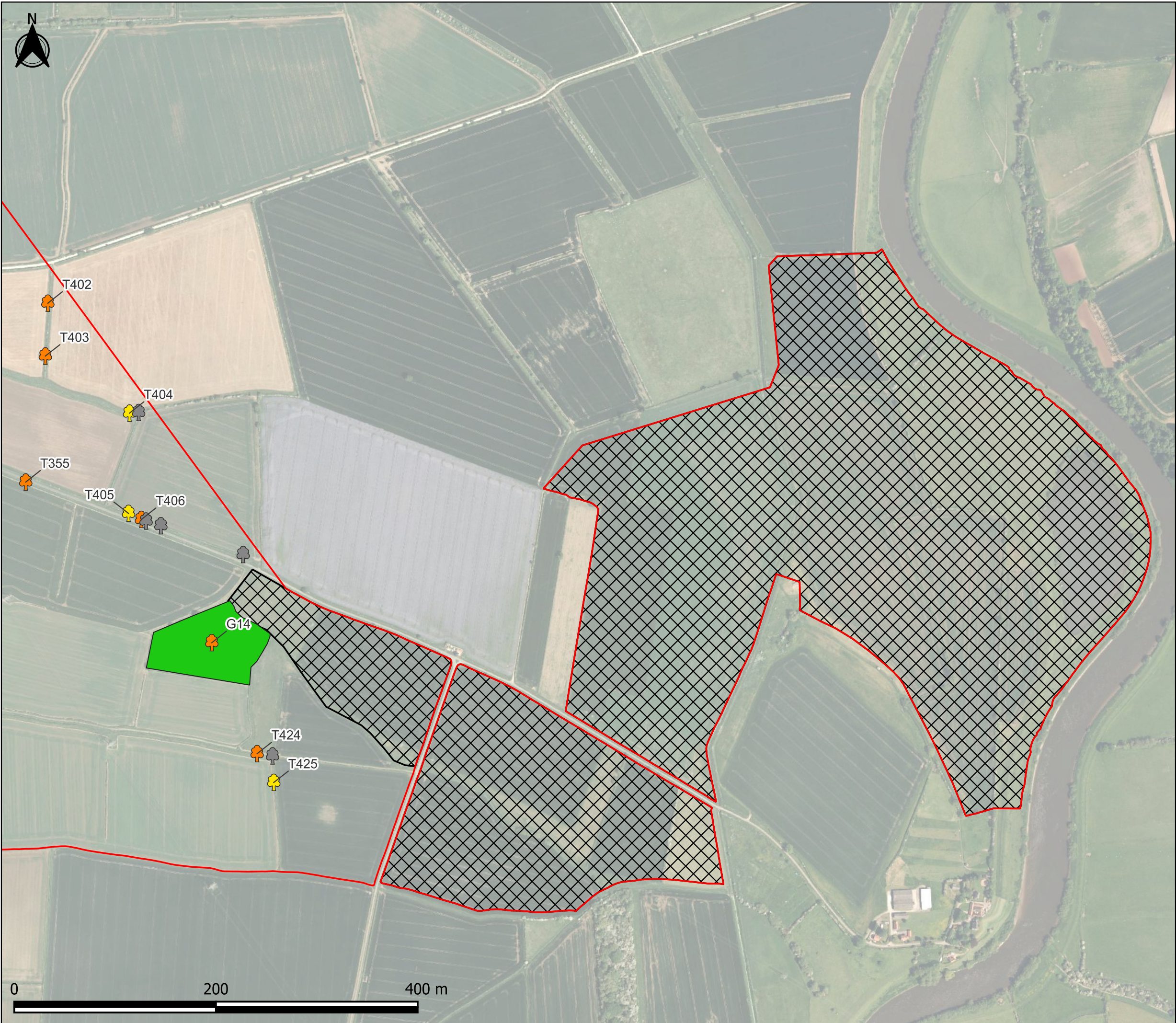
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Legend

- Site boundary
- Areas not subject to GLTA
- [Redacted]
- [Redacted]

Building Assessment

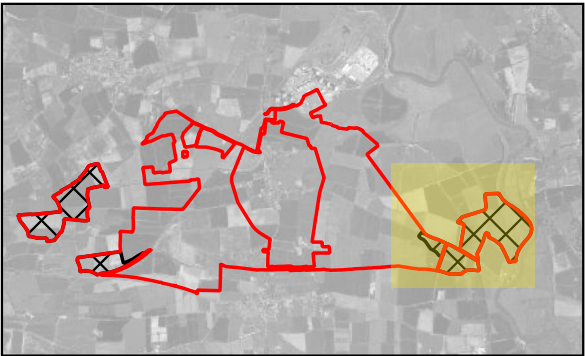
- [Redacted]
- Low potential
- High potential

Ground Level Tree Assessment

- [Redacted]
- PRF-I
- PRF-M

Tree Groups

- [Redacted]
- [Redacted]



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PROJECT TITLE
STEEPLE RENEWABLES PROJECT

DRAWING TITLE
Figure 7.7.3.7: Ground Level Tree Assessment Results Map 6 of 6

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DRAWN: SP APPROVED: EM VERSION:1.7

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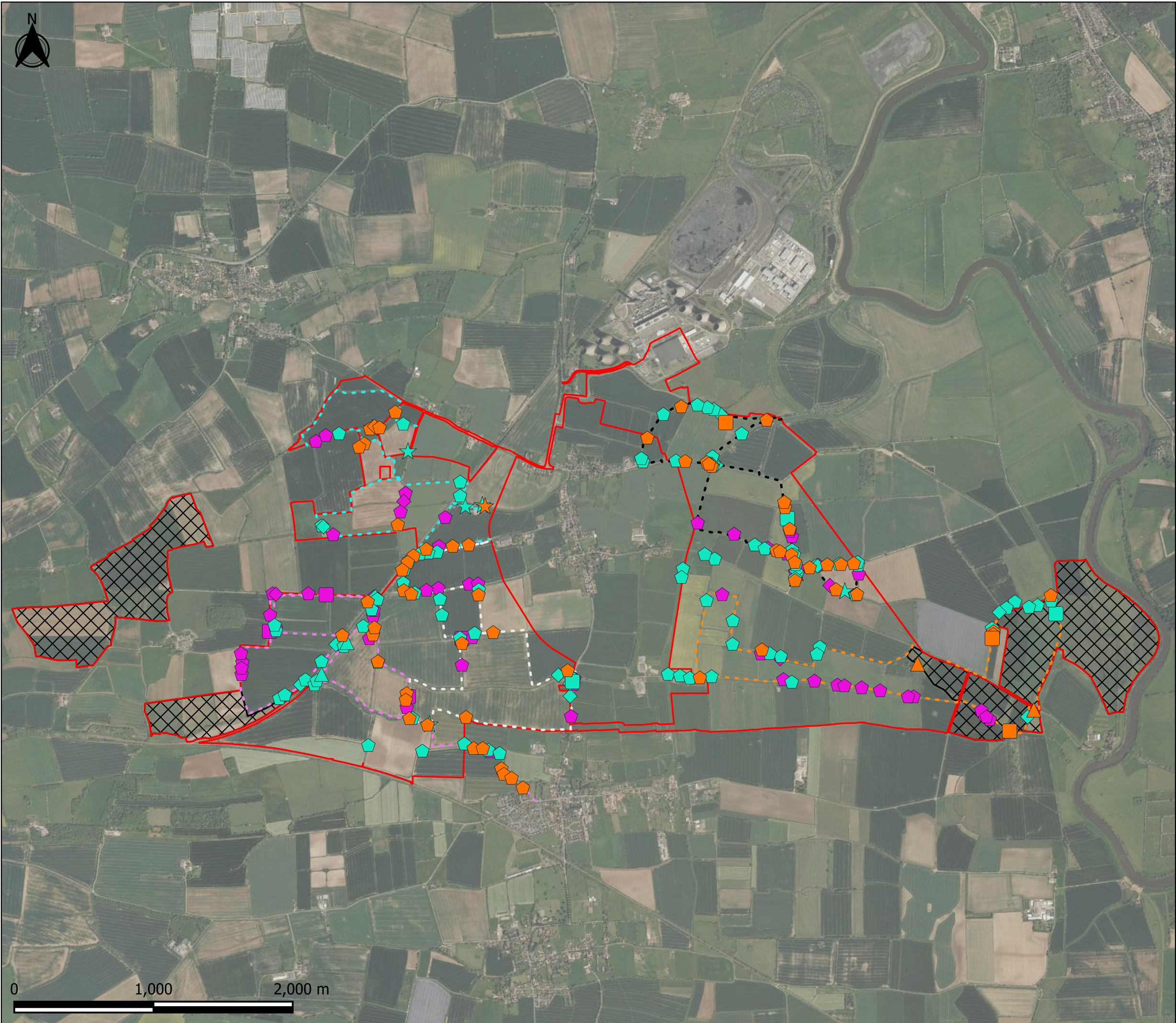
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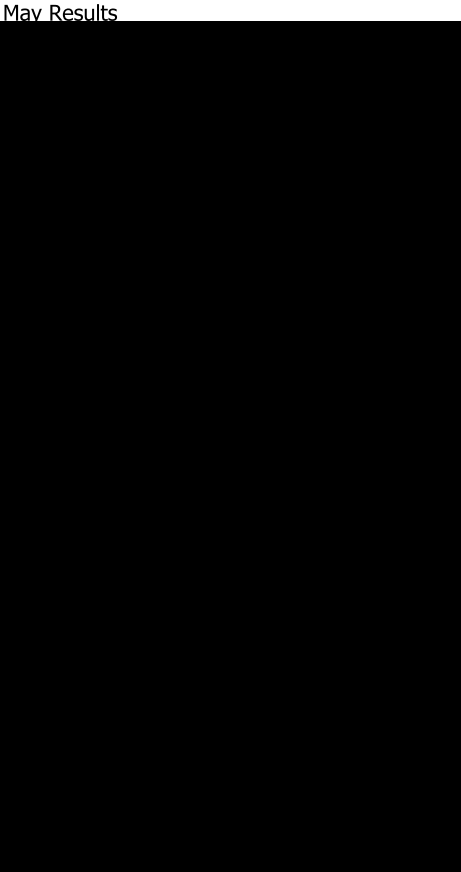
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- Legend
- Site boundary
 - Biodiversity Mitigation Areas
 - Transect: 1
 - Transect: 2
 - Transect: 3
 - Transect: 4
 - Transect: 5



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PROJECT TITLE
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DRAWING TITLE
Figure 7.7.4.1: Overview of Night-time Bat
Walkover survey results

DATE: 11/03/2025 CHECKED: FS SCALE: 1:26,000
DRAWN: SP APPROVED: EM VERSION:1.7

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Legend

Site boundary

May Results



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STEEPLE RENEWABLES PROJECT

DRAWING TITLE
Figure 7.7.4.2: Night-time bat walkover results -
Route 1

DATE: 11/03/2025	CHECKED: FS	SCALE: 1:5,786
DRAWN: SP	APPROVED: EM	VERSION:1.7

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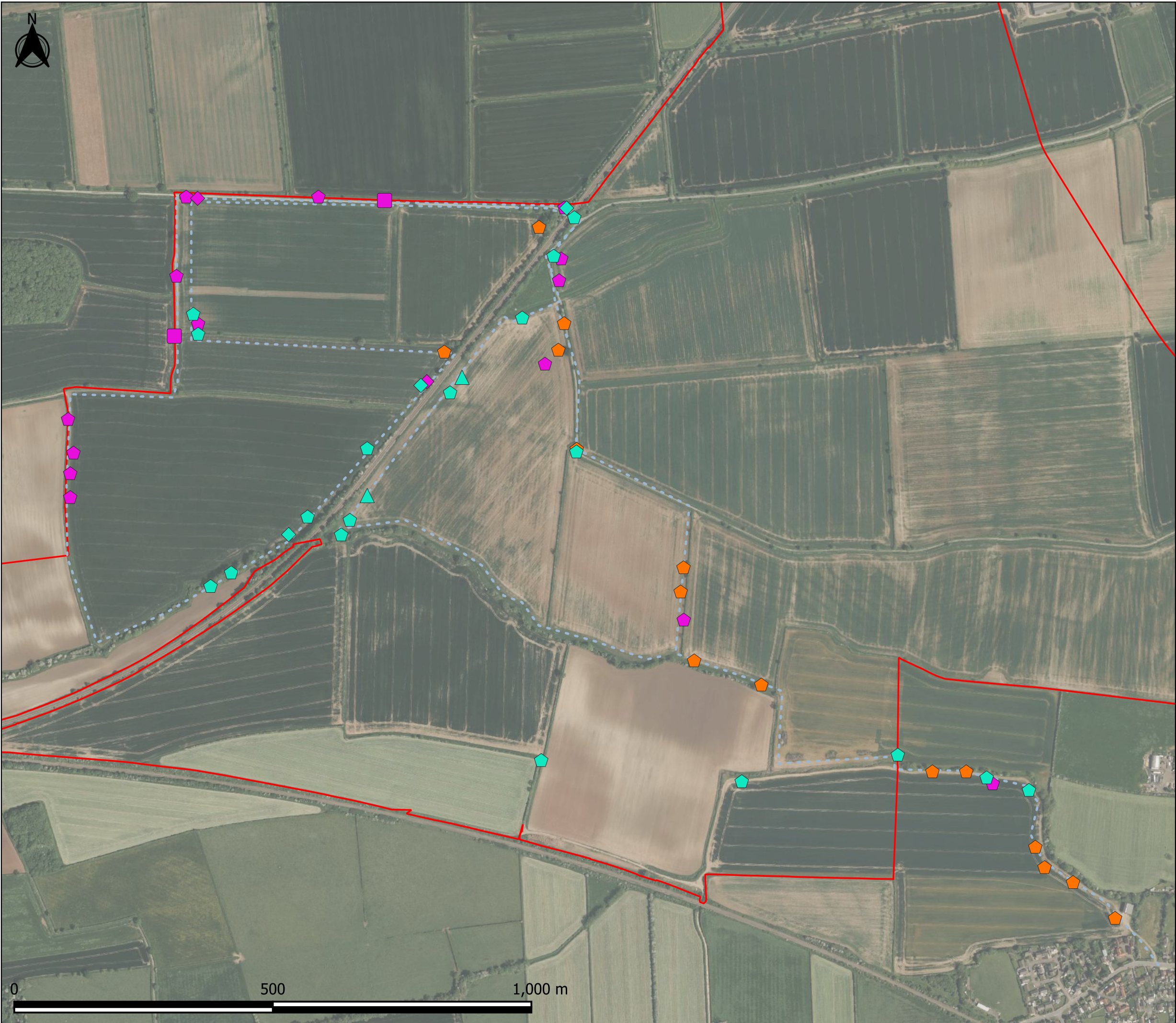
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Legend

Site boundary

May Results



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Figure 7.7.4.3: Night-time bat walkover results - Route 2

DATE: 11/03/2025 CHECKED: FS SCALE: 1:7,000

DRAWN: SP APPROVED: EM VERSION:1.7

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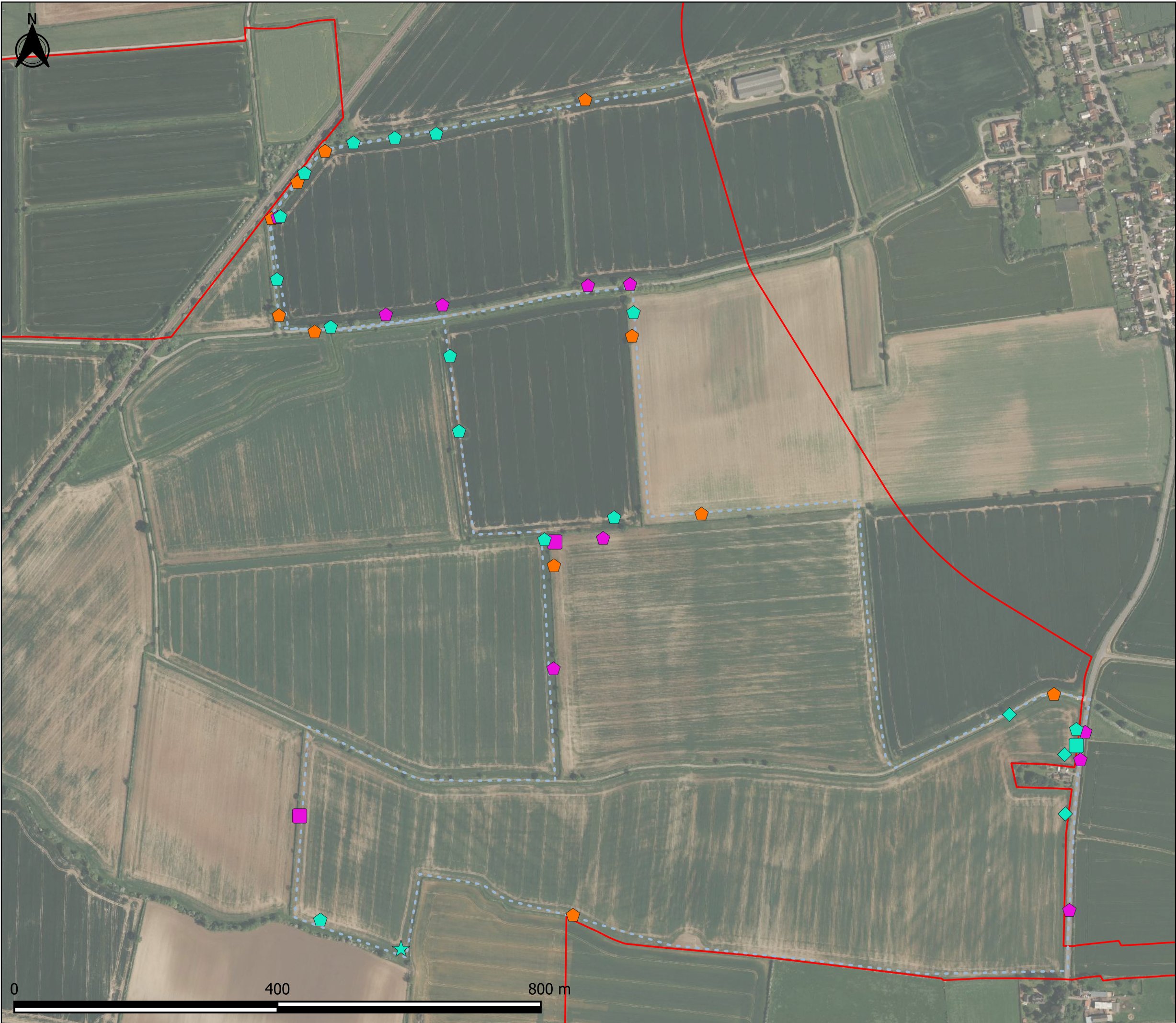
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Site boundary

May Results

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PROJECT TITLE
STEEPLE RENEWABLES PROJECT

DRAWING TITLE
Figure 7.7.4.4: Night-time bat walkover results -
Route 3

DATE: 11/03/2025
DRAWN: SP
CHECKED: FS
APPROVED: EM
SCALE: 1:5,500
VERSION: 1.7

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Site boundary

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PROJECT TITLE
STEEPLE RENEWABLES PROJECT

DRAWING TITLE
Figure 7.7.4.5: Night-time bat walkover results -
Route 4

DATE: 11/03/2025 CHECKED: FS SCALE: 1:5,500
DRAWN: SP APPROVED: EM VERSION: 1.7

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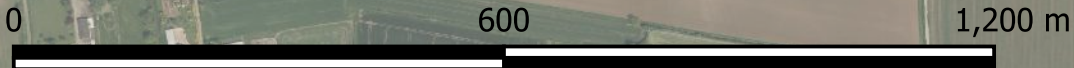
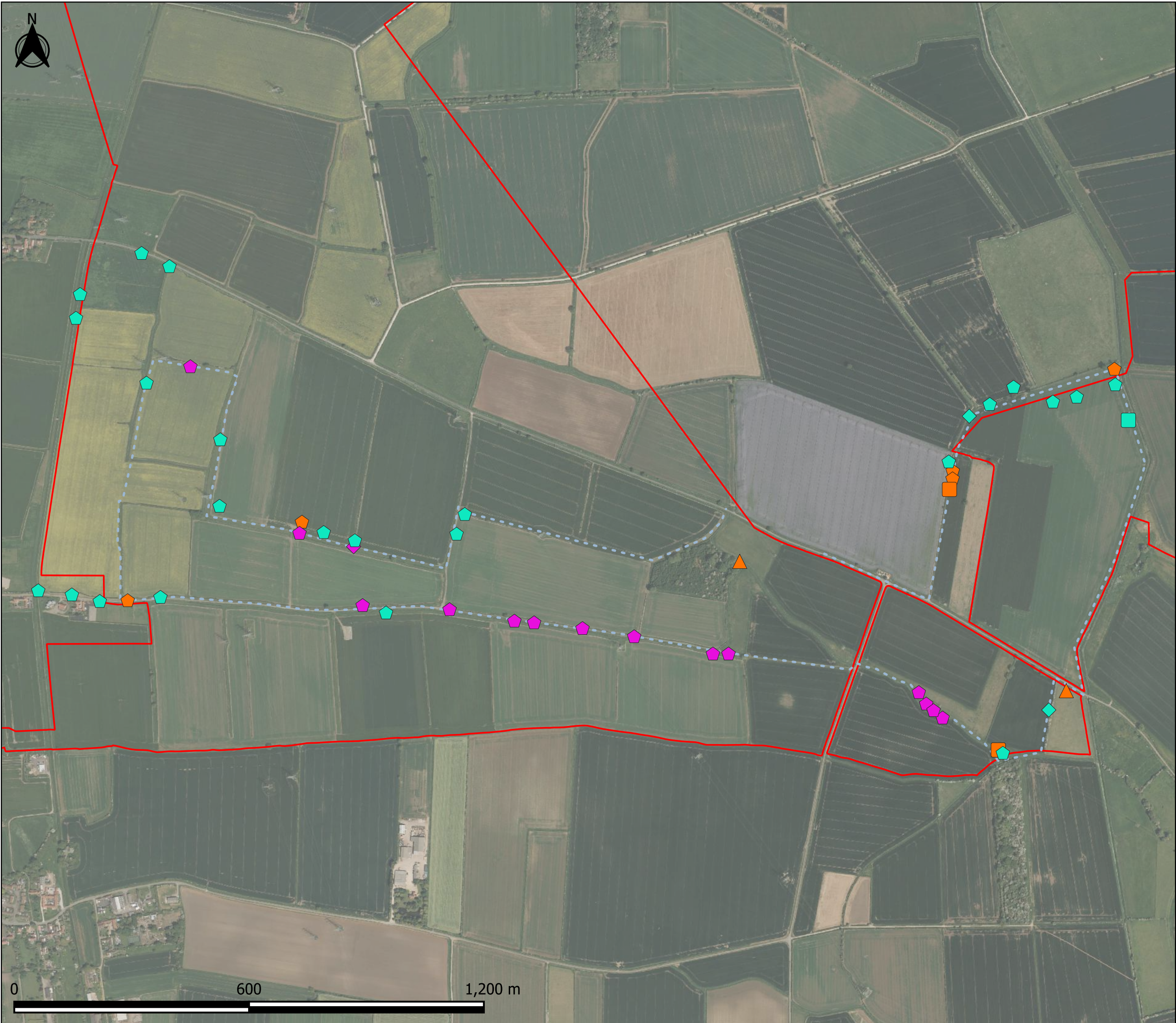
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Legend

 Site boundary



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PROJECT TITLE
STEEPLE RENEWABLES PROJECT

DRAWING TITLE
Figure 7.7.4.6: Night-time bat walkover results -
Route 5

DATE: 11/03/2025 CHECKED: FS SCALE: 1:9,250
DRAWN: SP APPROVED: EM VERSION:1.7

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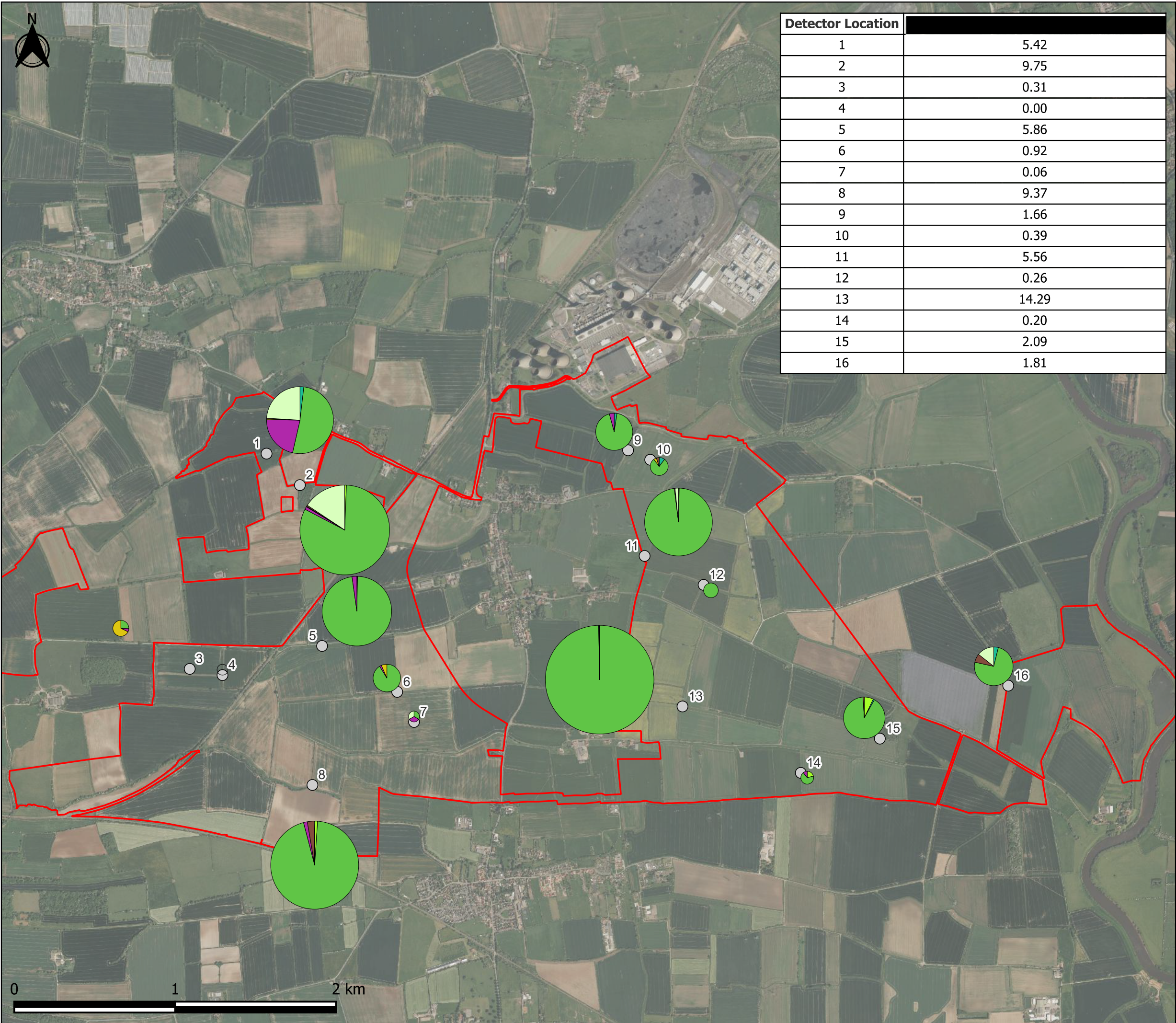
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Sources: BSG Ecology survey data



Detector Location	
1	5.42
2	9.75
3	0.31
4	0.00
5	5.86
6	0.92
7	0.06
8	9.37
9	1.66
10	0.39
11	5.56
12	0.26
13	14.29
14	0.20
15	2.09
16	1.81

- Legend
- Site boundary
 - Static Point
 - Barbastelle
 - Myotis sp.
 - Leisler's
 - Nyctalus sp.
 - Noctule
 - Common pipistrelle
 - Common or Nathusius' pipistrelle
 - Soprano pipistrelle
 - Nathusius' pipistrelle
 - Brown long-eared

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PROJECT TITLE
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DRAWING TITLE
Figure 7.7.5.1: Static bat detector results - April

DATE: 14/03/2025 CHECKED: FS SCALE: 1:22,500
DRAWN: SP APPROVED: EM VERSION:1.7

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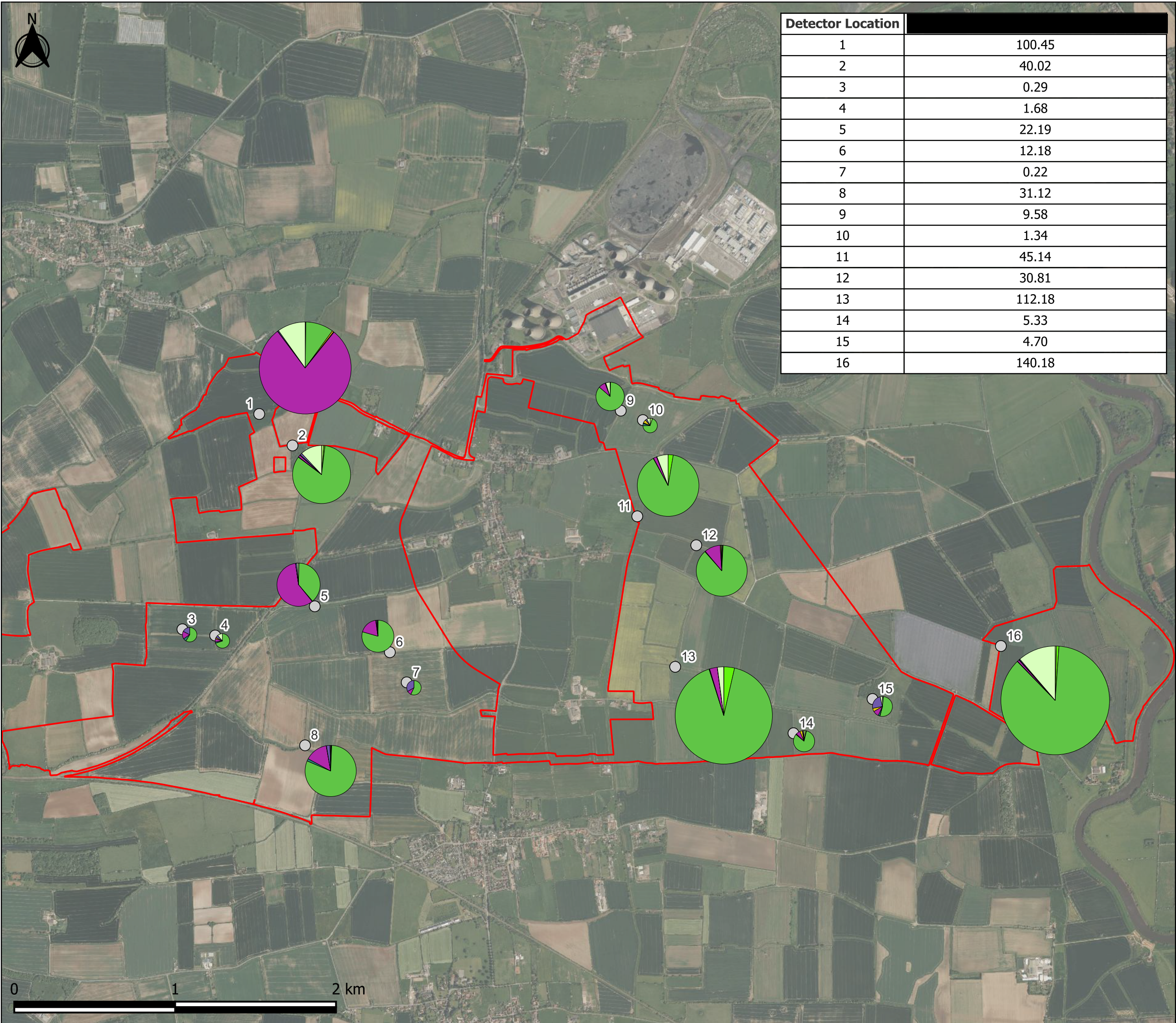
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Detector Location	
1	100.45
2	40.02
3	0.29
4	1.68
5	22.19
6	12.18
7	0.22
8	31.12
9	9.58
10	1.34
11	45.14
12	30.81
13	112.18
14	5.33
15	4.70
16	140.18

- Legend
- Site boundary
 - Static Point
 - Barbastelle bat
 - Common / Nathusius' pipistrelle
 - Common / Soprano pipistrelle
 - Common pipistrelle
 -
 - Myotis sp.
 - Nathusius' pipistrelle
 - Noctule
 -
 - Soprano pipistrelle

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PROJECT TITLE
STEEPLE RENEWABLES PROJECT

DRAWING TITLE
Figure 7.7.5.2: Static bat detector results - May

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DRAWN: SP APPROVED: EM VERSION:1.7

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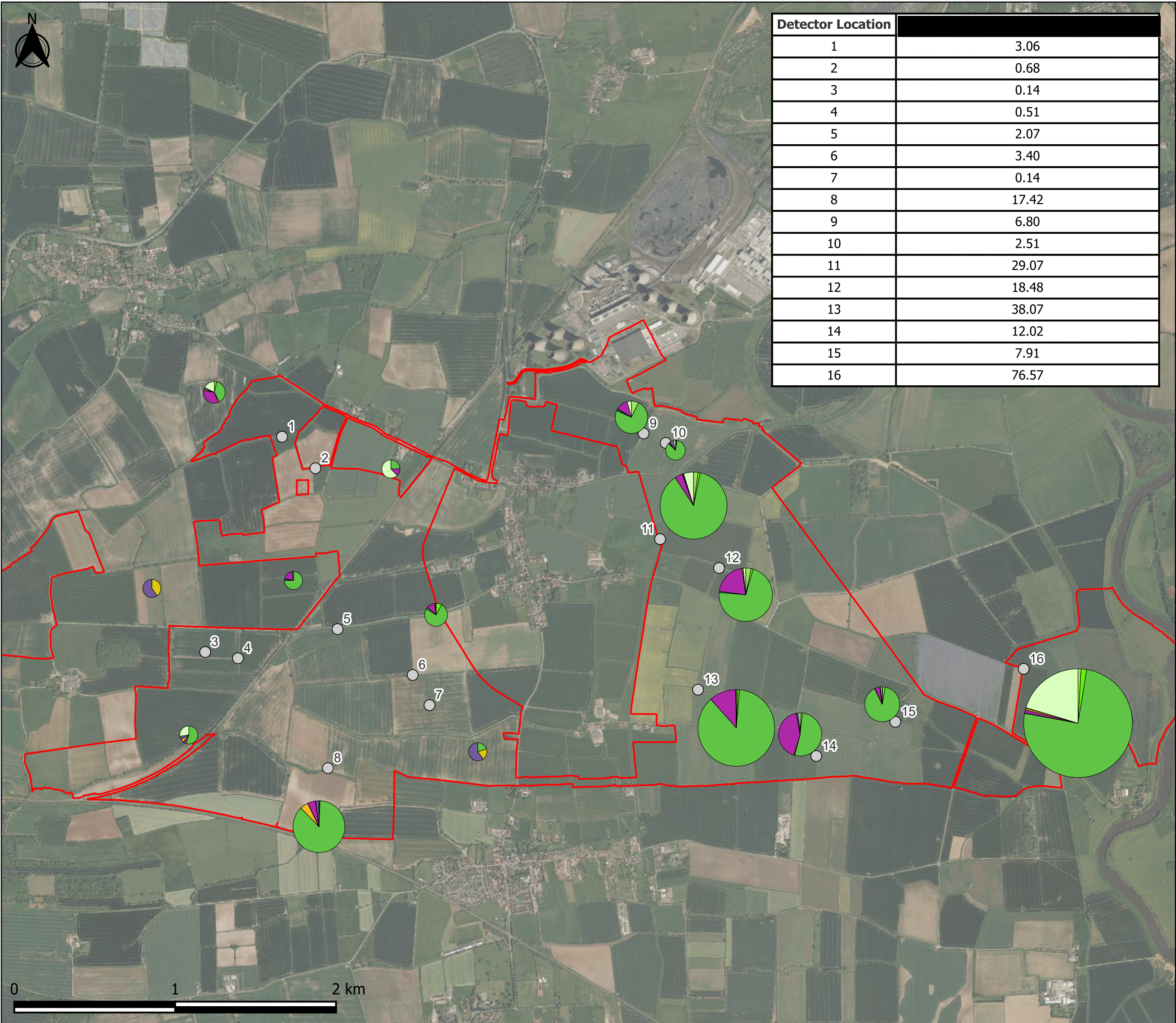
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Sources: BSG Ecology survey data



Detector Location	
1	3.06
2	0.68
3	0.14
4	0.51
5	2.07
6	3.40
7	0.14
8	17.42
9	6.80
10	2.51
11	29.07
12	18.48
13	38.07
14	12.02
15	7.91
16	76.57

- Legend
- Site boundary
 - Static Point
 - Common / Nathusius' pipistrelle
 - Common / Soprano pipistrelle
 - Common pipistrelle
 -
 - Myotis sp.
 - Nathusius' pipistrelle
 - Noctule
 -
 - Soprano pipistrelle

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PROJECT TITLE
STEEPLE RENEWABLES PROJECT

DRAWING TITLE
Figure 7.7.5.3: Static bat detector results - June

DATE: 14/03/2025 CHECKED: FS SCALE: 1:22,500
DRAWN: SP APPROVED: EM VERSION:1.7

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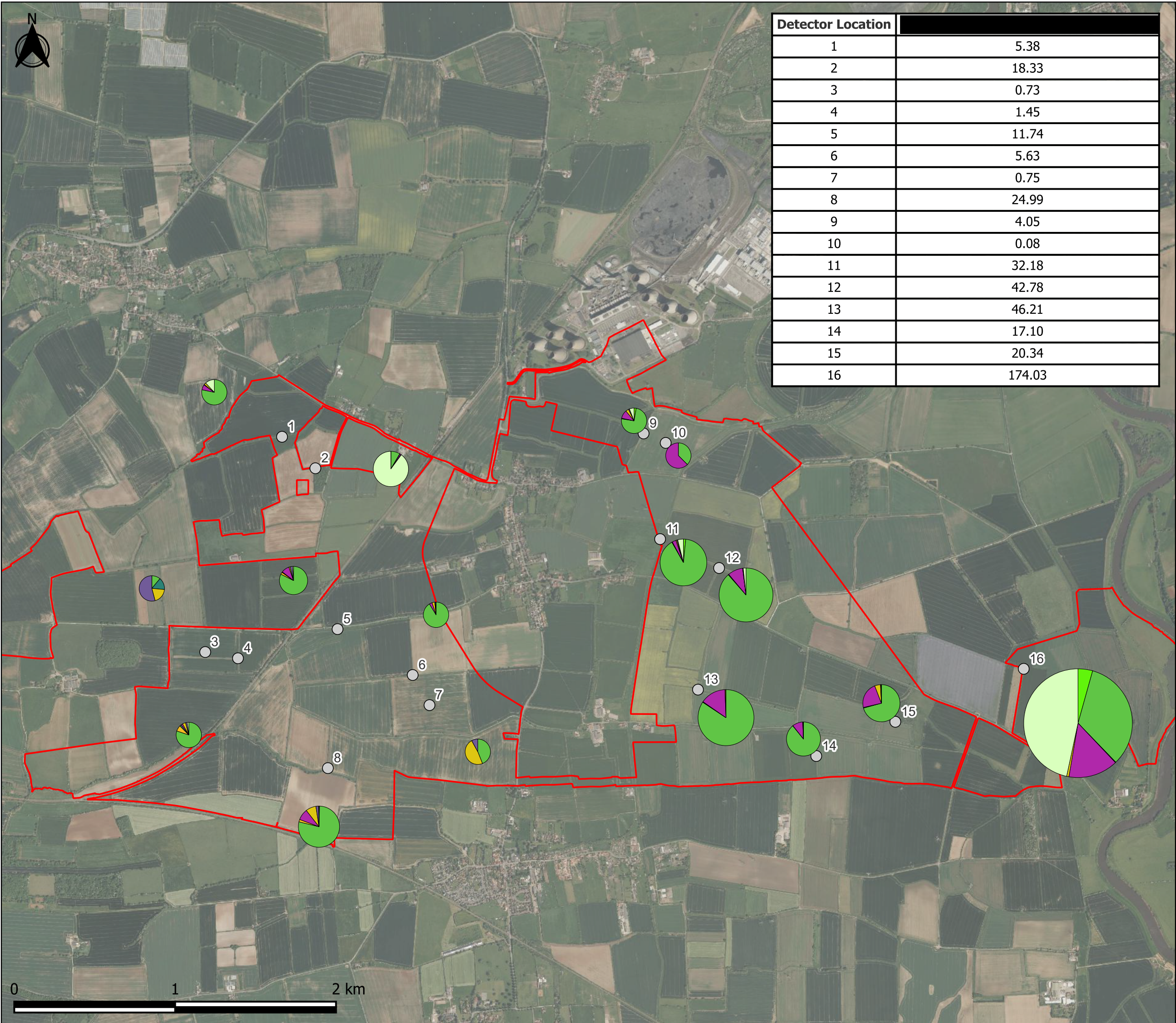
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Sources: BSG Ecology survey data



Detector Location	
1	5.38
2	18.33
3	0.73
4	1.45
5	11.74
6	5.63
7	0.75
8	24.99
9	4.05
10	0.08
11	32.18
12	42.78
13	46.21
14	17.10
15	20.34
16	174.03

- Legend
- Site boundary
 - Static Point
 - Common / Soprano pipistrelle
 - Common pipistrelle
 -
 -
 - Myotis sp.
 - Nathusius' pipistrelle
 - Noctule
 -
 - Soprano pipistrelle

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PROJECT TITLE
STEEPLE RENEWABLES PROJECT

DRAWING TITLE
Figure 7.7.5.4: Static bat detector results - July

DATE: 14/03/2025 CHECKED: FS SCALE: 1:22,500
DRAWN: SP APPROVED: EM VERSION:1.7

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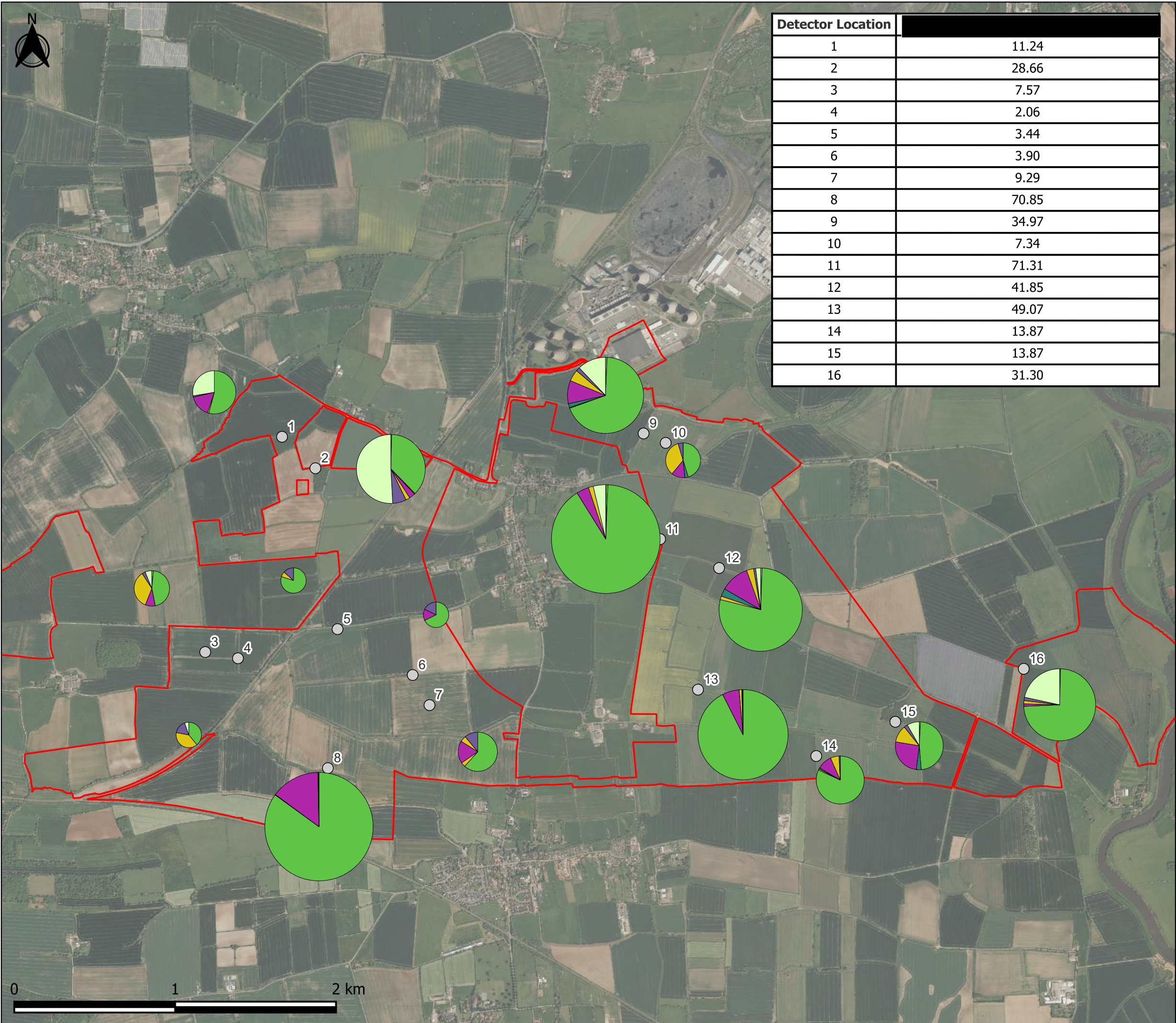
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Projection: OSGB 1936/British National Grid - EPSG 27700

Sources: BSG Ecology survey data



Detector Location	
1	11.24
2	28.66
3	7.57
4	2.06
5	3.44
6	3.90
7	9.29
8	70.85
9	34.97
10	7.34
11	71.31
12	41.85
13	49.07
14	13.87
15	13.87
16	31.30

- Legend
- Site boundary
 - Static Point
 - Common / Nathusius' pipistrelle
 - Common / Soprano pipistrelle
 - Common pipistrelle
 -
 - Myotis sp.
 - Noctule
 -
 - Soprano pipistrelle

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PROJECT TITLE
STEEPLE RENEWABLES PROJECT

DRAWING TITLE
Figure 7.7.5.5: Static bat detector results - August

DATE: 14/03/2025 CHECKED: FS SCALE: 1:22,500
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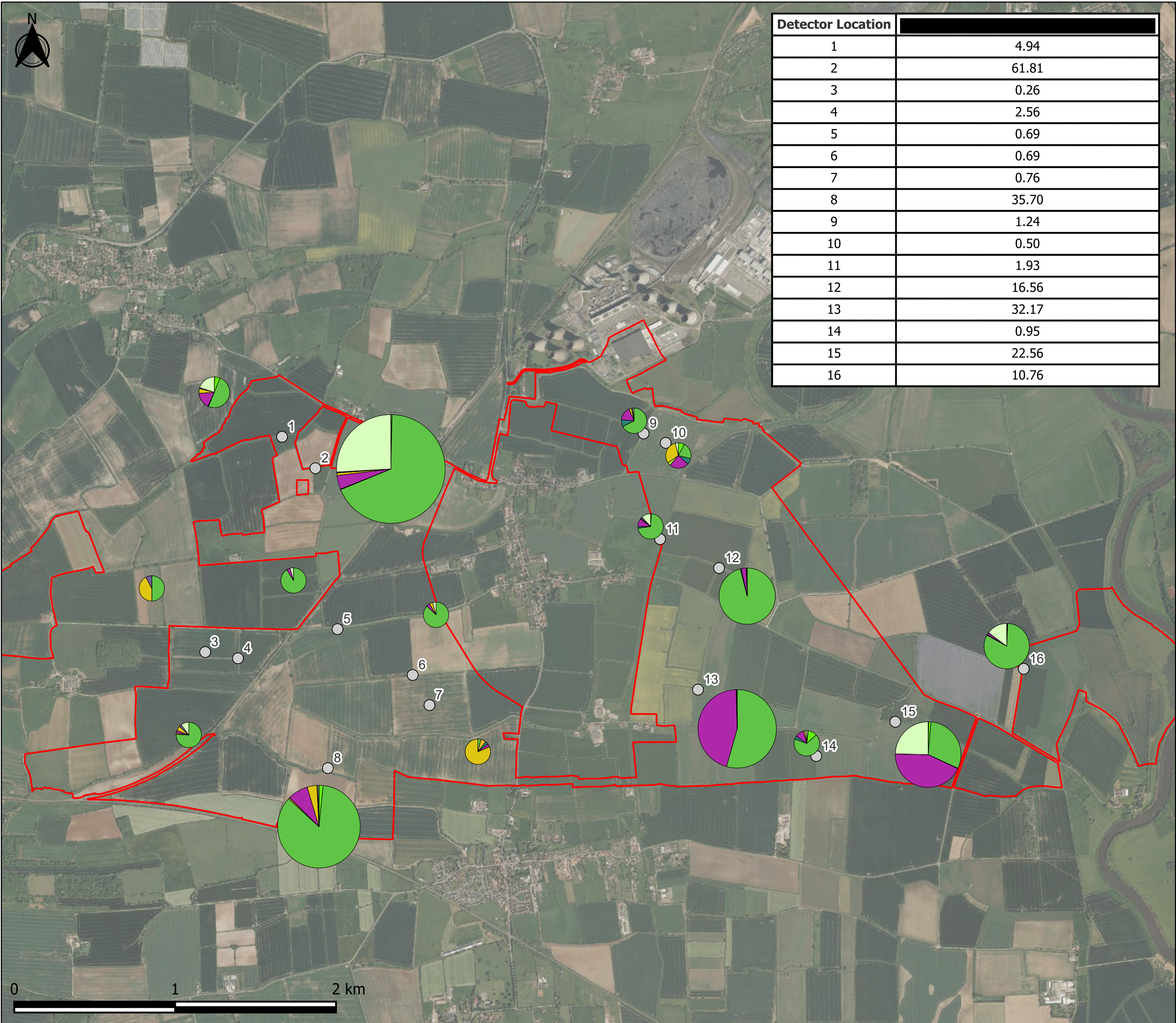
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Detector Location	
1	4.94
2	61.81
3	0.26
4	2.56
5	0.69
6	0.69
7	0.76
8	35.70
9	1.24
10	0.50
11	1.93
12	16.56
13	32.17
14	0.95
15	22.56
16	10.76

- Legend
- Site boundary
 - Static Point
 - Barbastelle bat
 - Common / Nathusius' pipistrelle
 - Common / Soprano pipistrelle
 - Common pipistrelle
 -
 - Myotis sp.
 - Nathusius' pipistrelle
 - Noctule
 -
 - Soprano pipistrelle

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PROJECT TITLE
STEEPLE RENEWABLES PROJECT

DRAWING TITLE
Figure 7.7.5.6: Static bat detector results - September

DATE: 14/03/2025 CHECKED: FS SCALE: 1:22,500
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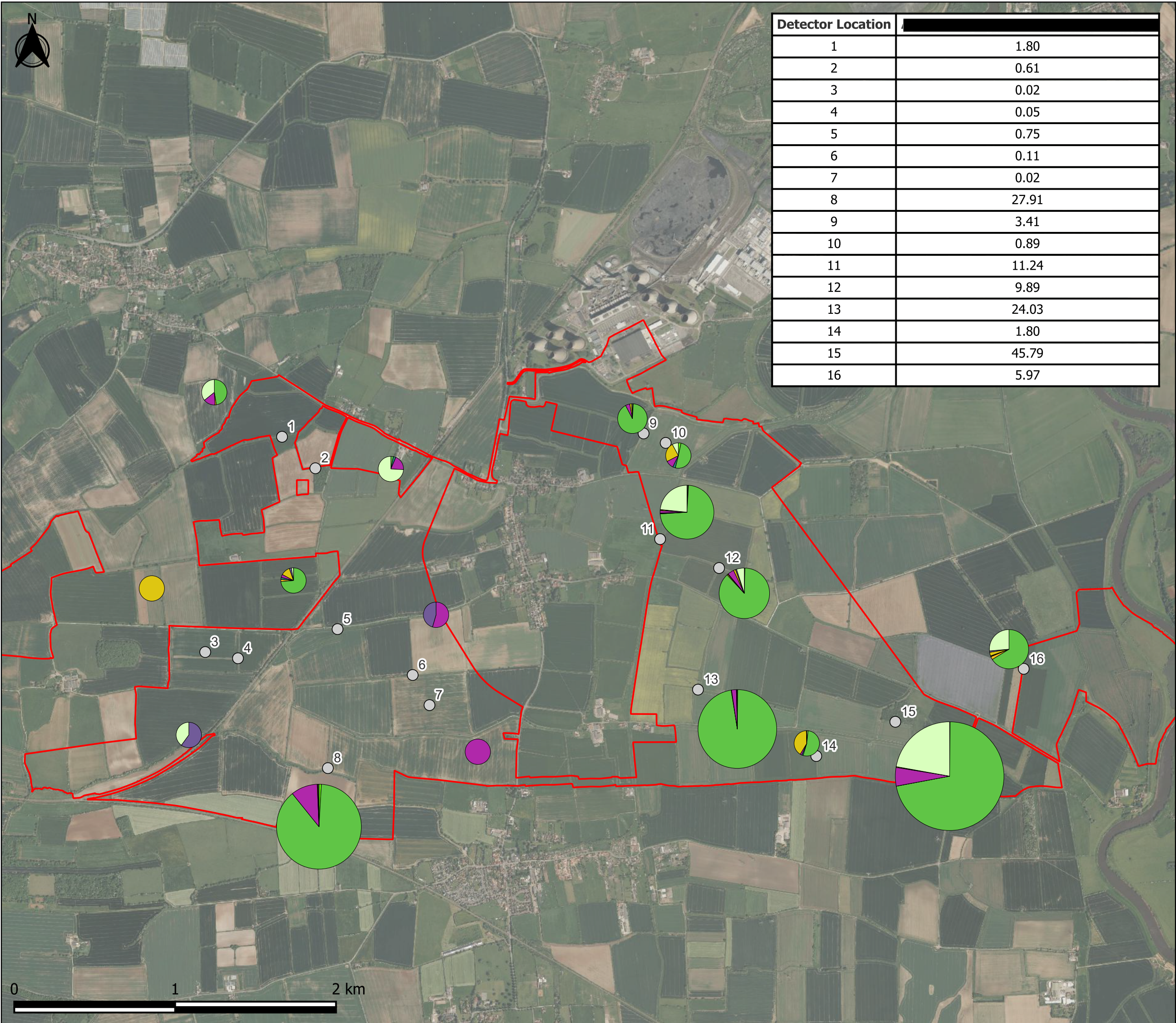
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Detector Location	
1	1.80
2	0.61
3	0.02
4	0.05
5	0.75
6	0.11
7	0.02
8	27.91
9	3.41
10	0.89
11	11.24
12	9.89
13	24.03
14	1.80
15	45.79
16	5.97

- Legend
- Site boundary
 - Static Point
 - Common / Nathusius' pipistrelle
 - Common / Soprano pipistrelle
 - Common pipistrelle
 -
 -
 - Myotis sp.
 - Noctule
 -
 - Soprano pipistrelle

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PROJECT TITLE
STEEPLE RENEWABLES PROJECT

DRAWING TITLE
Figure 7.7.5.7: Static bat detector results - October

DATE: 14/03/2025 CHECKED: FS SCALE: 1:22,500
DRAWN: SP APPROVED: EM VERSION:1.7

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Projection: OSGB 1936/British National Grid - EPSG 27700

Sources: BSG Ecology survey data

Appendix 7.7.1: Bat activity survey details

Date	Sunset/Sunrise ⁹	Notes	Weather conditions
Bat night-time walkover surveys			
08.05.24	20:46	Lead surveyors: Fiona Shuttle ¹⁰ , Daniel Foster ¹¹ , Gemma Watkins ¹² , Will Steele ¹³ & Adele Antcliffe ¹⁴	Light breeze, 5/8 cloud cover, 17°C, no rain
17.06.24	21:34	Lead surveyors: Fiona Shuttle, Daniel Foster, Will Steele, Adele Antcliffe & Sidney Vickress ¹⁵	Light breeze, 1/8 cloud cover, 12°C, no rain.
18.09.24	19:13	Lead surveyors: Fiona Shuttle, Daniel Foster, Will Steele, Adele Antcliffe & Gemma Watkins	Calm and mild, 2/8 cloud cover, 16°C, no rain.
Static survey periods			
18.04.24 – 23.04.24	20:10 / 05:56	Locations 1 – 8. April period	Calm and mild, 8 – 12 °C daytime temperature and minimum of 2 – 5 °C overnight. Mostly dry with occasional showers
25.04.24 – 30.04.24	20:22 / 05:40	Locations 9 – 16. April period	Calm and mild, 9 - 18 °C daytime temperature and minimum of 2 – 10 °C overnight. Mostly dry with rain one night.
09.05.24 – 14.05.24	20:47 / 05:13	Locations 1 – 8. May period	Warm summer evenings, calm with no rain. 19 - 23 °C daytime temperature and minimum of 10 - 13 °C overnight
14.05.24 – 19.05.24	20:55 / 05:04	Locations 9 – 16. May period	Warm summer evenings, with a few heavy rain showers. 16 - 19 °C daytime temperature and minimum of 10 - 12 °C overnight
11.06.24 – 16.06.24	21:30 / 04:35	Locations 1 – 8. June period	Warm, calm evenings, with light rain two evenings. 12 - 20 °C daytime temperature and minimum of 7 - 12 °C overnight
17.06.24 – 22.06.24	21:34 / 04:34	Locations 9 – 16. June period	Warm calm evenings, dry. 15 - 23 °C daytime temperature and minimum of 9 - 11 °C overnight
02.07.24 – 07.07.24	21:36 / 04:39	Locations 1 – 8. July period	Warm, mostly dry evenings. 17 – 20 °C daytime temperatures and minimum of 10 – 14 °C overnight.
10.07.24 – 15.07.24	21:30 / 04:47	Locations 9 – 16. July period	Warm, some heavy showers. 13 – 21 °C daytime temperature and minimum of 10 - 14 °C overnight.
07.08.24 – 12.08.24	20:49 / 05:28	Locations 1 – 8. August period	Generally foggy evenings with light rain showers. 14 – 22 °C daytime temperature and minimum of 13 – 18 °C overnight.

⁹ Sunset / sunrise times of first night of static survey periods

¹⁰ Natural England Bat Class Licence reference 2021-51224-CLS-CLS

¹¹ Natural England Bat Class Licence reference 2015-14980-CLS-CLS

¹² Natural England Bat Class Licence reference 2022-10576-CL18-BAT

¹³ Natural England Bat Class Licence reference 2019-43393-CLS-CLS

¹⁴ Natural England Bat Class Licence reference 2015-13206-CLS-CLS





¹⁵ Natural England Bat Class Licence reference 2022-10969-CL18-BAT





13.08.24 – 18.08.24	20:37 / 05:39	Locations 9 – 16. August period	Mostly clear evenings. 10 – 19 °C daytime temperature and minimum of 7 – 13 °C.
03.09.24 – 08.09.24	19:49 / 06:17	Locations 2, 3, 4. September period (Static Locations 1,5,6,7 & 8 were re-surveyed late September due to equipment failure)	Mostly cloudy with rain showers. 12 – 18 °C daytime temperature and minimum of 6 – 12 °C overnight.
10.09.24 – 15.09.24	07:32 / 06:27	Locations 9 – 16. September period	Mostly cloudy with light rain showers. 7 – °C daytime temperature and minimum of 7 - 15 °C overnight.
25.09.24 – 30.09.24	18:55 / 06:55	Locations 1,5,6,7,8. September re-survey	Generally overcast and mild. 9 – 15 °C daytime temperature and minimum of 6 - 12 °C overnight.
09.10.24 – 14.10.24	18:22 / 07:18	Locations 1 – 8. October period	Generally mild, overcast conditions. 12 – 16 °C daytime temperature and minimum of 6 – 12 °C overnight.
14.10.24 – 19.10.24	18:10 / 07:27	Locations 9 – 16. October period	Mostly cloudy with light rain showers. 12 – 18 °C daytime temperature and minimum of 9 – 12 °C overnight.




Appendix 7.7.2: Static bat detector locations

Detector reference	Grid reference	Description
S1	SK 77154 84812	In hedgerow along Oswald Beck to the south of Wheatley Road.
S2	SK 77346 84606	On north-western corner of woodland copse, adjacent to hedgerow and arable fields.
S3	SK 76704 83436	In the middle of an arable field south of High House Road.
S4	SK 76877 83428	Paired with Location 3, along a hedgerow directly east of Location 3.
S5	SK 77416 83613	In a hedgerow, next to a wet ditch and located adjacent to Springs Lane.
S6	SK 77966 83329	In a hedgerow, at the intersection of three arable fields.
S7	SK 78080 83162	Paired with Location 6, located within the middle of an arable field directly south of Location 6.
S8	SK 77433 82740	At the end of a hedgerow, facing a tree-lined stream.
S9	SK 79407 84838	In the hedgerow in a field north of Common Lane.
S10	SK 79525 84795	Paired with Location 9, in the middle of a field directly east of Location 9.
S11	SK 79511 84168	In brambles alongside Catchwater Drain, south of Common Lane.
S12	SK 79869 83994	In a small hawthorn sapling associated with a hedgerow at the meeting point of 3 arable fields.
S13	SK 79735 83224	Outside of a group of large trees north of Fenton Lane.
S14	SK 80469 82850	In a hedgerow south of Fenton Lane.
S15	SK 81014 83024	On the south side of the wooded area south of Littleborough Road and west of Thornhill Lane.
S16	SK 81758 83370	On the corner of hedgerow within an area of small saplings east of Long Farm Lane.

Appendix 7.7.3: Preliminary bat inspection of on-Site buildings & bridges

Building reference	B1	B2	B3	B4
Description	<p>Agricultural shelter building approximately 14 m tall, open sided on all aspects with a domed corrugated asbestos / concrete roof.</p> <p>PRFs: None</p>	<p>Agricultural storage building with stone block and wooden panel walls. Corrugated pitched asbestos / concrete roof with skylights.</p> <p>PRFs: There is a barge boarding and lead flashing with potential gaps behind.</p>	<p>Open-sided garage building with brick walls and corrugated metal roof.</p> <p>PRFs: Missing / cracked mortar between brickwork providing gaps.</p> <p>A small number of scattered bat droppings found on farm machinery, indicating possible roost OR foraging activity inside building.</p> <p>Barn owl box present, barn owl flushed from box during survey (see Appendix 7.5: Barn owl report [EN010163/APP/6.3.7]).</p>	<p>Small disused service / signal building in woodland copse adjacent to railway. Stone block walls and flat concrete roof. Partially overgrown by ivy and scrub. Open access through door / window inside.</p> <p>PRFs: Gap above stone brickwork approximately 1 cm wide, with gaps behind concrete block eaves approximately 2 x 2 cm wide.</p>
Internal inspection?	Yes	No	Yes	Yes
Bat roost suitability status	■■■■■	■■■	■■■	■■■
Photograph				

Building reference	B5	B6	B7	B8
Description	<p>Small, seemingly disused, wooden building with wooden flat roof within the railway verge. Large openings in the western and southern wall elevations.</p> <p>PRFs: Small gaps are thought likely to be present between wooden boards, however a close inspection of the building was not possible due to being located on the railway verge.</p>	<p>Flat roofed office cabins within West Burton Power Station. Boarded walls and roofing felt present.</p> <p>PRFs: Some gaps under barge boards on the western side. Lifted roof felt on southern side.</p>	<p>Single storey flat roofed 'café house' within west Burton power Station. Part brick, part corrugated metal walls.</p> <p>PRFs: Removed light fittings that now have bird nests and wasp nests in the cavities. Some lifting barge boards.</p>	<p>Two storey office block within West Burton Power Station, comprising corrugated metal walls and pitched metal roof.</p> <p>PRFs: None</p>
Internal inspection?	No	No	No	No
Bat roost suitability status	■■■	■■■	■■■■■	■■■■■■■
Photograph				

Building reference	B9	Railway bridge - west	Railway bridge - south	Bridges over field drains (9)
Description	<p>Large warehouse within West Burton Power Station, containing sub-station infrastructure. Corrugated metal walls and roof.</p> <p>PRFs: None</p>	<p>Brick built railway bridge along the western Proposed Solar Area boundary, approximately 7 m high, with a smooth concrete underside.</p> <p>PRFs: A few gaps where mortar is missing between bricks.</p>	<p>Brick built railway bridge along the southern Proposed Solar Area boundary, approximately 7 m high, with a smooth concrete underside.</p> <p>PRFs: Missing mortar between bricks, appear to extend into potential wall cavity. Several small gaps up to 3 cm wide, some extend back beyond 5 cm depth.</p>	<p>Seven brick bridges are present along Catchwater Drain and two smaller brick-built culverts / bridges are also present crossing field drains. These all have similar characteristics; they are up to 3 m high and 2 m wide, with mortar mostly intact, however a few low potential gaps were noted on each.</p> <p>PRFs: Missing mortar between bricks.</p>
Internal inspection?	Yes	n/a	n/a	n/a
Bat roost suitability status	██████	██	██████	██
Photograph		<p>(Image missing. Similar to railway bridge – south)</p>		

Appendix 7.7.4: Night-time bat walkover survey results

Survey month	Route	Species recorded	Notes
May 2024	1	Common pipistrelle	First bat activity of common pipistrelle at 37 minutes after sunset commuting westwards along hedgerow. Bat activity was sporadic with no peak areas of activity recorded. Barn owl flushed from barn owl box in Building 3.
		Soprano pipistrelle	
		Noctule	
	2	Common pipistrelle	First bat common pipistrelle 47 minutes past sunset, along stream to the west of the railway. Bats more frequently recorded along railway and little activity recorded along the stream.
		Soprano pipistrelle	
		Nyctalus species	
	3	Common pipistrelle	First bat common pipistrelle 34 minutes after sunset, along road to the west of Sturton le Steeple. Bats more frequently recorded along road tracks.
		Soprano pipistrelle	
		Noctule	
		Myotis species	
	4	Common pipistrelle	First bat noctule at 45 minutes after sunset, flying high over fields adjacent to Cross Common Lane and unlikely to be roosting nearby. Bat activity increased along farm tracks, on the road bridge over Crosswater Drain and along the treeline along the northern Proposed Solar Area boundary. Barn owl recorded in flight over small field to the east of Cross Common Lane 13 minutes before sunset.
		Soprano pipistrelle	
		Noctule	
		Myotis species	
	5	Common pipistrelle	First bat common pipistrelle 46 minutes after sunset along hedgerow south of Littleborough Road. Bat activity mostly brief passes associated with hedgerows, farm tracks or field ditches.
		Soprano pipistrelle	
		Myotis species	
June 2024	1	Common pipistrelle	First bat common pipistrelle 47 minutes past sunset, commuting along road towards railway. Bat activity mostly brief passes associated with hedgerows and farm tracks.
		Soprano pipistrelle	
	2	Common pipistrelle	First bat common pipistrelle 55 minutes after sunset, commuting southwards along farm track away from railway. Bat activity mostly
		Soprano pipistrelle	

Survey month	Route	Species recorded	Notes
	3	Myotis species	foraging associated with hedgerows and farm tracks in the north-west, with little activity recorded along the stream.
		Common pipistrelle	First bat common pipistrelle at 37 minutes after sunset, foraging along road to the west of Sturton le Steeple. Bat activity was sporadic with no peak areas of activity recorded.
		Myotis species	
	4	Common pipistrelle	First bat common pipistrelle at 63 minutes after sunset, commuting along Catchwater Drain. Bat activity increased along Cross Common Lane and hedgerow between Cross Common Lane and Catchwater Drain.
		Soprano pipistrelle	
		Nyctalus species	
	5	Common pipistrelle	First bat soprano pipistrelle at 68 minutes after sunset. Majority of bat activity recorded along Fenton Lane, with both foraging and brief commuting passes recorded.
		Soprano pipistrelle	
		Myotis species	
September 2024	1	Common pipistrelle	First bat noctule recorded at 27 minutes after sunset foraging high over a grassland field. Increased bat activity along Oswald Beck, with other observations along access tracks, field boundary hedgerows and field drains.
		Noctule	
		Myotis	
	2	Common pipistrelle	First bat common pipistrelle at 40 minutes after sunset along a hedgerow to the east of the railway. Recordings were fairly evenly spread throughout the route
	3	Common pipistrelle	First bat common pipistrelle at 28 minutes after sunset along the vegetated railway, closely followed by a few other common pipistrelle passes along the same section of railway. Other activity evenly spaced throughout the route.
	4	Common pipistrelle	First bat common pipistrelle at 33 minutes after sunset. Majority of bat activity in the south-east of the route, along Cross Common Lane and field hedgerows. Myotis recorded 112 minutes after sunset, from middle of northern field, passing northwards over Site boundary treeline.
		Myotis species	
	5	Common pipistrelle	First bat was a Nyctalus species recorded 19 minutes after sunset at the starting location on the corner of a small woodland copse (this was heard, not seen). Following which, the remainder of bat activity recorded was over 26 minutes after sunset. The majority of bats were recorded
		Nyctalus species	
		Myotis species	

Survey month	Route	Species recorded	Number of bat passes	Total number of bat passes	Notes
					along the western extent of the hedgerow-lined access track and along a hedgerow to the north of the road.

Appendix 7.7.5: Static bat detector survey results

Table A: Summary of static bat detector survey data showing total number of bat passes recorded per survey period (5 nights).

Note that under 5 nights of statics data was collected at several locations in April, August and September for reasons set out in the limitations section. These are identified in italics in the table below.

Month	Location	Avg. passes per hour	Total no. of passes	Most frequently recorded species (no. of passes)	Other species recorded (no. of passes)
April	1	5.42	259	Common pipistrelle (134)	Soprano pipistrelle (62), Myotis sp. (56), common / soprano pipistrelle (5), noctule (1), Nyctalus sp. (1)
	2	9.75	466	Common pipistrelle (382)	Soprano pipistrelle (73), Myotis sp. (5), common / Nathusius' pipistrelle (3), Nyctalus sp. (2), noctule (1)
	3	0.31	15	Noctule (10)	Common pipistrelle (4), Myotis sp. (1)
	4	0.00	<i>0 (2 nights missing data)</i>	<i>n/a</i>	<i>No bats recorded</i>
	5	5.86	280	Common pipistrelle (273)	Myotis sp. (6), common / soprano pipistrelle (1)
	6	0.92	44	Common pipistrelle (40)	Noctule (3), Myotis sp. (1)
	7	0.06	3	<i>n/a</i>	Common pipistrelle (1), soprano pipistrelle (1), Myotis sp. (1)
	8	9.37	448	Common pipistrelle (425)	Nyctalus sp. (11), Myotis sp. (6), common / Nathusius pipistrelle (5), soprano pipistrelle (1)
	9	1.66	76	Common pipistrelle (71)	Myotis sp. (3), common / soprano pipistrelle (2)
	10	0.39	18	Common pipistrelle (14)	Common / soprano pipistrelle (2), Nyctalus sp. (1), noctule (1)
	11	5.56	255	Common pipistrelle (249)	Soprano pipistrelle (4), Myotis sp. (1), common / Nathusius pipistrelle (1)
	12	0.26	12	Common pipistrelle (12)	None
	13	14.29	655	Common pipistrelle (653)	Soprano pipistrelle (1), brown long eared bat (1)
	14	0.20	9	Common pipistrelle (6)	Myotis sp. (1), common / Nathusius' pipistrelle (2)
	15	2.09	96	Common pipistrelle (87)	Common / soprano pipistrelle (1), Nyctalus sp. (1), common / Nathusius' pipistrelle (7)
	16	1.81	83	Common pipistrelle (62)	Soprano pipistrelle (12), Nyctalus sp. (6), common / soprano pipistrelle (3)
May	1	100.45	4174	Myotis sp. (3295)	Soprano pipistrelle (411), common pipistrelle (410), Leisler's (21), Nyctalus sp. (15), brown long eared bat (8), common / soprano pipistrelle (6), common / Nathusius' pipistrelle (5), noctule (3)
	2	40.02	1663	Common pipistrelle (1385)	Soprano pipistrelle (200), common / nathusius' pipistrelle (20), Myotis sp. (19), Nyctalus sp. (18), common / soprano pipistrelle (11), noctule (6), brown long eared bat (3), barbastelle bat (1)
	3	0.29	12	Common pipistrelle (7)	Myotis sp. (2), Nyctalus sp. (2), brown long eared bat (1)
	4	1.68	70	Common pipistrelle (49)	Soprano pipistrelle (8), Myotis sp. (5), Nyctalus sp. (4), brown long eared bat (2), noctule (2)
	5	22.19	922	Myotis sp. (540)	Common pipistrelle (355), soprano pipistrelle (10), Nyctalus sp. (10), brown long eared bat (3), common / soprano pipistrelle (3), noctule (1)
	6	12.18	506	Common pipistrelle (401)	Myotis sp. (93), Nyctalus sp. (5), soprano pipistrelle (3), noctule (3), barbastelle (1)
	7	0.22	9	Common pipistrelle (5)	Nyctalus sp. (3), Myotis sp. (1)
	8	31.12	1293	Common pipistrelle (1044)	Myotis sp. (185), Nyctalus sp. (29), brown long eared bat (19), soprano pipistrelle (5), barbastelle (3), common / soprano pipistrelle (3), common / Nathusius' pipistrelle (3), noctule (2)

Month	Location	Avg. passes per hour	Total no. of passes	Most frequently recorded species (no. of passes)	Other species recorded (no. of passes)
	9	9.58	385	Common pipistrelle (330)	Myotis sp. (30), soprano pipistrelle (19), noctule (3), common / soprano pipistrelle (2), Nyctalus sp. (1)
	10	1.34	54	Common pipistrelle (37)	Soprano pipistrelle (4), noctule (4), brown long eared bat (3), common / Nathusius' pipistrelle (3), Nyctalus sp. (2), Myotis sp. (1)
	11	45.14	1814	Common pipistrelle (1620)	Soprano pipistrelle (107), common / soprano pipistrelle (49), Myotis sp. (31), Leisler's (3), Nyctalus sp. (3), noctule (1)
	12	30.81	1238	Common pipistrelle (1085)	Myotis sp. (126), soprano pipistrelle (6), noctule (6), common / Nathusius' pipistrelle (6), common / soprano pipistrelle (5), brown long eared bat (4)
	13	112.18	4508	Common pipistrelle (4126)	Common / soprano pipistrelle (159), Myotis sp. (115), soprano pipistrelle (94), brown long eared bat (8), common / Nathusius' pipistrelle (3), noctule (1), Nyctalus sp. (1), Leisler's (1)
	14	5.33	214	Common pipistrelle (176)	Myotis sp. (14), noctule (8), common / Nathusius' pipistrelle (6), soprano pipistrelle (3), Nyctalus sp. (3), common / soprano pipistrelle (2), brown long eared bat (2)
	15	4.70	189	Common pipistrelle (99)	Nyctalus sp. (46), Myotis sp. (18), noctule (10), soprano pipistrelle (7), brown long eared bat (5), common / Nathusius' pipistrelle (2), common / soprano pipistrelle (1), Leisler's (1)
	16	140.18	5633	Common pipistrelle (4878)	Soprano pipistrelle (635), common / soprano pipistrelle (41), Myotis sp. (31), common / Nathusius' pipistrelle (22), Nyctalus sp. (14), brown long eared bat (6), Nathusius' pipistrelle (4), noctule (2)
June	1	3.06	108	Common pipistrelle (42)	Myotis sp. (36), soprano pipistrelle (19), common / soprano pipistrelle (4), Nyctalus sp. (3), noctule (2), Leisler's (2)
	2	0.68	24	Soprano pipistrelle (15)	Common pipistrelle (6), Myotis sp. (3)
	3	0.14	5	Nyctalus sp. (3)	Noctule (2)
	4	0.51	18	Common pipistrelle (10)	Soprano pipistrelle (5), Myotis sp. (1), Nyctalus sp. (1), noctule (1)
	5	2.07	73	Common pipistrelle (55)	Myotis sp. (13), Brown long eared bat (2), Nyctalus sp. (2), Leisler's (1)
	6	3.40	120	Common pipistrelle (91)	Myotis sp. (14), common / soprano pipistrelle (10), brown long eared bat (3), soprano pipistrelle (1), noctule (1)
	7	0.14	5	Nyctalus sp. (3)	Common pipistrelle (1), Noctule (1)
	8	17.42	614	Common pipistrelle (535)	Leisler's bat (31), Myotis sp. (30), Nyctalus sp. (12), common / soprano pipistrelle (3), brown long eared bat (1), noctule (1), common / Nathusius' pipistrelle (1)
	9	6.80	238	Common pipistrelle (178)	Myotis sp. (28), common / Nathusius' pipistrelle (17), soprano pipistrelle (10), brown long eared bat (3), Leisler's (2)
	10	2.51	88	Common pipistrelle (75)	Nyctalus sp. (6), soprano pipistrelle (3), Myotis sp. (1), common / Nathusius' pipistrelle (1), common / soprano pipistrelle (1), Noctule (1)
	11	29.07	1018	Common pipistrelle (891)	Soprano pipistrelle (49), Myotis sp. (39), common / Nathusius' pipistrelle (22), common / soprano pipistrelle (11), Nathusius' pipistrelle (2), Nyctalus sp. (2), noctule (2)

Month	Location	Avg. passes per hour	Total no. of passes	Most frequently recorded species (no. of passes)	Other species recorded (no. of passes)
	12	18.48	647	Common pipistrelle (465)	Myotis sp. (133), common / Nathusius' pipistrelle (21), soprano pipistrelle (10), common / soprano pipistrelle (8), brown long eared bat (5), Nathusius' pipistrelle (4), Nyctalus sp. (1)
	13	38.07	1333	Common pipistrelle (1161)	Myotis sp. (151), common / Nathusius' pipistrelle (9), common / soprano pipistrelle (9), Nyctalus sp. (3)
	14	12.02	421	Common pipistrelle (221)	Myotis sp. (179), soprano pipistrelle (6), common / Nathusius' pipistrelle (6), Nyctalus sp. (5), common / soprano pipistrelle (1), brown long eared bat (1), noctule (1), Leisler's (1)
	15	7.91	277	Common pipistrelle (249)	Myotis sp. (13), common / soprano pipistrelle (7), soprano pipistrelle (4), Nyctalus sp. (2), Leisler's (1), common / Nathusius' pipistrelle (1)
	16	76.57	2681	Common pipistrelle (2020)	Soprano pipistrelle (547), common / soprano pipistrelle (45), Myotis sp. (25), common / Nathusius' pipistrelle (24), noctule (14), Nyctalus sp. (3), brown long eared (3)
July	1	5.38	193	Common pipistrelle (151)	Soprano pipistrelle (23), Myotis sp. (13), noctule (5), Nathusius' pipistrelle (1)
	2	18.33	657	Soprano pipistrelle (591)	Common pipistrelle (55), Myotis sp. (7), Nyctalus sp.(2), common / soprano pipistrelle (1), Leisler's (1)
	3	0.73	26	Nyctalus sp. (14)	Noctule (5), brown long eared bat (4), common pipistrelle (3)
	4	1.45	52	Common pipistrelle (42)	Leisler's (4), noctule (2), brown long eared bat (1), Myotis sp. (1), Nyctalus sp. (1), soprano pipistrelle (1)
	5	11.74	421	Common pipistrelle (347)	Myotis sp. (39), Nyctalus sp. (11), Leisler's (10), noctule (6), soprano pipistrelle (5), brown long eared bat (3)
	6	5.63	202	Common pipistrelle (185)	Myotis sp. (7), noctule (7), Nyctalus sp. (2), soprano pipistrelle (1)
	7	0.75	27	Noctule (13)	Common pipistrelle (12), Nyctalus sp. (2)
	8	24.99	896	Common pipistrelle (702)	Myotis sp. (79), noctule (73), Nyctalus sp. (19), Leisler's (17), common / soprano pipistrelle (4), soprano pipistrelle (2)
	9	4.05	150	Common pipistrelle (112)	Myotis sp. (16), soprano pipistrelle (9), noctule (6), common / soprano pipistrelle (4), Nyctalus sp. (2), brown long eared bat (1)
	10	0.08	3	Myotis sp. (2)	Common pipistrelle (1)
	11	32.18	1193	Common pipistrelle (1076)	Soprano pipistrelle (47), Myotis sp. (32), common / soprano pipistrelle (19), noctule (8), Nyctalus sp. (7), brown long eared bat (3), Leisler's (1)
	12	42.78	1586	Common pipistrelle (1404)	Myotis sp. (144), soprano pipistrelle (26), brown long eared bat (6), Nyctalus sp. (4), noctule (2)
	13	46.21	1713	Common pipistrelle (1445)	Myotis sp. (253), noctule (8), brown long eared bat (4), soprano pipistrelle (2), Leisler's (1)
	14	17.10	634	Common pipistrelle (565)	Myotis sp. (63), noctule (2), soprano pipistrelle (2), brown long eared bat (1), Nyctalus sp. (1)
	15	20.34	754	Common pipistrelle (534)	Myotis sp. (172), noctule (38), brown long eared bat (4), Nyctalus sp. (3), soprano pipistrelle (3)

Month	Location	Avg. passes per hour	Total no. of passes	Most frequently recorded species (no. of passes)	Other species recorded (no. of passes)
	16	174.03	5148	Soprano pipistrelle (2400)	Common pipistrelle (1721), Myotis sp. (761), common / soprano pipistrelle (224), noctule (35), brown long eared bat (7)
August	1	11.24	98 (4 nights missing data)	Common pipistrelle (53)	Soprano pipistrelle (27), Myotis sp. (16), Leisler's (1), Nyctalus sp. (1)
	2	28.66	250 (2 nights missing data)	Soprano pipistrelle (127)	Common pipistrelle (93), Nyctalus sp. (16), Myotis sp. (7), noctule (5), Leisler's (1), common / Nathusius' pipistrelle (1)
	3	7.57	66	Common pipistrelle (30)	Noctule (23), Myotis sp. (6), soprano pipistrelle (4), Nyctalus sp. (2), common / Nathusius' pipistrelle (1)
	4	2.06	18 (3 nights missing data)	Common pipistrelle (7) and noctule (7)	Nyctalus sp. (3), soprano pipistrelle (1)
	5	3.44	30 (4 nights missing data)	Common pipistrelle (24)	Nyctalus sp. (4), noctule (2)
	6	3.90	34 (3 nights missing data)	Common pipistrelle (23)	Nyctalus sp. (6), Myotis sp. (5)
	7	9.29	81 (2 nights missing data)	Common pipistrelle (50)	Myotis sp. (15), Nyctalus sp. (9), noctule (4), Leisler's (3)
	8	70.85	618 (4 nights missing data)	Common pipistrelle (525)	Myotis sp. (90), Leisler's (1), noctule (1), soprano pipistrelle (1)
	9	34.97	305	Common pipistrelle (210)	Soprano pipistrelle (37), Myotis sp. (30), noctule (15), brown long eared bat (5), Nyctalus sp. (5), common / soprano pipistrelle (2), Leisler's (1)
	10	7.34	64	Common pipistrelle (29)	Noctule (22), Myotis sp. (8), Nyctalus sp. (3), brown long eared bat (2)
	11	71.31	622	Common pipistrelle (563)	Myotis sp. (23), soprano pipistrelle (23), noctule (9), common / soprano pipistrelle (3), common / Nathusius' pipistrelle (1)
	12	41.85	365	Common pipistrelle (286)	Myotis sp. (41), brown long eared bat (11), noctule (10), soprano pipistrelle (7), Leisler's (5), Nyctalus sp. (3), common / Nathusius' pipistrelle (2)
	13	49.07	428 (3 nights missing data)	Common pipistrelle (396)	Myotis sp. (26), noctule (4), Nyctalus sp. (1), soprano pipistrelle (1)
	14	13.87	121 (2 nights missing data)	Common pipistrelle (99)	Myotis sp. (12), noctule (7), Leisler's (1), brown long eared bat (1), Nyctalus sp. (1)
	15	13.87	121 (1 night missing data)	Common pipistrelle (58)	Myotis sp. (31), noctule (14), soprano pipistrelle (10), brown long eared bat (4), Nyctalus sp. (3), common / soprano pipistrelle (1)
	16	31.30	273 (4 nights missing data)	Common pipistrelle (202)	Soprano pipistrelle (59), noctule (4), Nyctalus sp. (4), Myotis sp. (3), common / soprano pipistrelle (1)
September	1	4.94	300	Common pipistrelle (151)	Soprano pipistrelle (60), Myotis sp. (51), common / soprano pipistrelle (17), noctule (15), Nyctalus sp. (3), Leisler's (2), common / Nathusius' pipistrelle (1)
	2	61.81	3284	Common pipistrelle (2248)	Soprano pipistrelle (850), Myotis sp. (135), noctule (25), common / soprano pipistrelle (10), Nyctalus sp. (9), brown long eared bat (3), common / Nathusius' pipistrelle (2), Leisler's (2)
	3	0.26	14	Common pipistrelle (7)	Noctule (6), Nyctalus sp. (1)
	4	2.56	136	Common pipistrelle (103)	Soprano pipistrelle (14), noctule (8), Myotis sp. (5), Nyctalus sp. (4), Leisler's (2)
	5	0.69	25 (2 nights missing data)	Common pipistrelle (23)	Myotis sp. (1), soprano pipistrelle (1)
	6	0.69	25 (2 nights missing data)	Common pipistrelle (22)	Myotis sp. (1), soprano pipistrelle (1), noctule (1)

Month	Location	Avg. passes per hour	Total no. of passes	Most frequently recorded species (no. of passes)	Other species recorded (no. of passes)
	7	0.76	46	Noctule (37)	Leisler's (3), common pipistrelle (2), brown long eared bat (2), Myotis sp. (2)
	8	35.70	2170	Common pipistrelle (1849)	Myotis sp. (173), noctule (83), common / soprano pipistrelle (34), Leisler's (12), soprano pipistrelle (9), Nyctalus sp. (7), common / Nathusius' pipistrelle (2), brown long eared bat (1)
	9	1.24	69	Common pipistrelle (47)	Myotis sp. (12), brown long eared bat (6), noctule (2), Nyctalus sp. (1), soprano pipistrelle (1)
	10	0.50	28	Noctule (9)	Myotis sp. (7), common pipistrelle (6), common / soprano pipistrelle (2), brown long eared bat (2), Nathusius' pipistrelle (1), soprano pipistrelle (1)
	11	1.93	107	Common pipistrelle (77)	Soprano pipistrelle (13), Myotis sp. (11), Nyctalus sp. (2), brown long eared bat (2), noctule (1), common / soprano pipistrelle (1)
	12	16.56	920	Common pipistrelle (884)	Myotis sp. (26), brown long eared bat (5), noctule (3), soprano pipistrelle (2)
	13	32.17	1787	Common pipistrelle (972)	Myotis sp. (808), noctule (4), soprano pipistrelle (2), Nyctalus sp. (1)
	14	0.95	53	Common pipistrelle (36)	Common / soprano pipistrelle (6), Myotis sp. (6), brown long eared bat (2), common / Nathusius' pipistrelle (1), noctule (1), soprano pipistrelle (1)
	15	22.56	1253	Myotis sp. (542)	Common pipistrelle (381), soprano pipistrelle (308), common / soprano pipistrelle (15), barbastelle (3), brown long eared bat (3), noctule (1)
	16	10.76	598	Common pipistrelle (493)	Soprano pipistrelle (89), Myotis sp. (9), common / Nathusius' pipistrelle (2), common / soprano pipistrelle (2), brown long eared bat (2), noctule (1)
October	1	1.80	118	Common pipistrelle (56)	Soprano pipistrelle (42), Myotis sp. (18), Leisler's (2)
	2	0.61	40	Soprano pipistrelle (30)	Myotis sp. (8), brown long eared bat (1), common pipistrelle (1)
	3	0.02	1	Noctule (1)	none
	4	0.05	3	Nyctalus sp. (2)	Soprano pipistrelle (1)
	5	0.75	49	Common pipistrelle (37)	Noctule (6), Myotis sp. (2), Leisler's (1), brown long eared bat (1), Nyctalus sp. (1), soprano pipistrelle (1)
	6	0.11	7	Myotis sp. (4)	Nyctalus sp. (3)
	7	0.02	1	Myotis sp. (1)	none
	8	27.91	1832	Common pipistrelle (1618)	Myotis sp. (186), common / soprano pipistrelle (17), noctule (5), soprano pipistrelle (5), Nyctalus sp. (1)
	9	3.41	230	Common pipistrelle (210)	Myotis sp. (11), noctule (5), common / soprano pipistrelle (2), soprano pipistrelle (2)
	10	0.89	60	Common pipistrelle (30)	Noctule (15), Myotis sp. (6), soprano pipistrelle (5), brown long eared bat (2), common / soprano pipistrelle (2)
	11	11.24	757	Common pipistrelle (553)	Soprano pipistrelle (177), Myotis sp. (11), common / Nathusius' pipistrelle (4), noctule (4), common / soprano pipistrelle (3), Leisler's (2), brown long eared bat (2), Nyctalus sp. (1)
	12	9.89	666	Common pipistrelle (583)	Soprano pipistrelle (33), Myotis sp. (27), noctule (9), Nyctalus sp. (5), Leisler's (4), common / soprano pipistrelle (3), brown long eared bat (2)

Month	Location	Avg. passes per hour	Total no. of passes	Most frequently recorded species (no. of passes)	Other species recorded (no. of passes)
	13	24.03	1619	Common pipistrelle (1576)	Myotis sp. (32), Leisler's (3), common / Nathusius' pipistrelle (2), noctule (2), Nyctalus sp. (2), soprano pipistrelle (2)
	14	1.80	121	Common pipistrelle (64)	Noctule (49), Myotis sp. (3), common / Nathusius' pipistrelle (2), brown long eared bat (2), soprano pipistrelle (1)
	15	45.79	3085	Common pipistrelle (2218)	Soprano pipistrelle (684), Myotis sp. (170), noctule (7), common / soprano pipistrelle (4), brown long eared bat (1), Nyctalus sp. (1)
	16	5.97	402	Common pipistrelle (266)	Soprano pipistrelle (106), noctule (12), Leisler's (10), Nyctalus sp. (5), Myotis sp. (2), brown long eared bat (1)

Table B: Summary of static bat detector survey data showing number of passes for each static detector location, including all 2024 survey periods.

Species	Detector location and number of passes																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
	0	1	0	0	0	1	0	3	0	0	0	0	0	0	3	0	8
	8	7	5	3	9	3	2	21	15	9	7	33	13	9	17	19	180
	6	26	1	0	0	0	0	11	17	4	28	29	14	17	10	48	211
	32	22	0	0	4	10	0	61	12	7	86	16	168	9	29	316	772
	997	4170	51	211	1114	762	71	6698	1158	192	5029	4719	10329	1167	3626	9642	49936
	28	4	0	6	12	0	6	61	3	0	6	9	5	2	2	10	154
	3485	184	9	12	601	125	20	749	130	25	148	497	1385	278	946	831	9425
	1	0	0	0	0	0	0	0	0	1	2	4	0	0	0	4	12
	26	37	47	20	15	15	55	165	31	52	25	30	19	68	70	68	743
	23	47	22	15	28	16	17	79	9	12	15	13	8	10	56	32	402
	644	1886	4	30	17	6	1	23	78	13	420	84	102	13	1016	3848	8185
Total	5250	6384	139	297	1800	938	172	7871	1453	315	5766	5434	12043	1573	5775	14818	70028

Table C: Summary of static bat detector survey data showing the pass rates (bat passes per hour) for each static detector location, including all 2024 survey periods.

Species	Detector location and pass rate																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Average
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.0
	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.2	0.0
	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.3	0.1	0.6	0.0	0.1	1.1	0.2
	3.4	14.5	0.2	0.8	4.1	2.8	0.2	22.7	4.0	0.7	17.4	16.3	35.6	4.0	12.5	34.2	10.9
	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	11.8	0.6	0.0	0.0	2.2	0.5	0.1	2.5	0.4	0.1	0.5	1.7	4.8	1.0	3.3	2.9	2.1
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.6	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2
	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.1	0.1
	2.2	6.5	0.0	0.1	0.1	0.0	0.0	0.1	0.3	0.0	1.4	0.3	0.4	0.0	3.5	13.6	1.8
Total	17.8	22.2	0.5	1.1	6.6	3.5	0.6	26.6	5.0	1.1	19.9	18.8	41.6	5.4	19.9	52.5	15.3

Table D: Summary of static bat detector survey data showing average pass rate (bat passes per hour) for each month (including all static locations).

Species	Passes per hour							
	Month							Mean
	April	May	June	July	August	September	October	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.1	0.0	0.1	0.2	0.0	0.0	0.1
	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.2
	0.0	0.4	0.2	0.4	0.1	0.1	0.0	12.5
	3.3	24.5	10.7	14.5	19.0	8.5	6.8	0.0
	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1
	0.1	6.9	1.2	2.8	2.2	2.1	0.5	2.2
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.1	0.0	0.4	0.9	0.2	0.1	0.3
	0.0	0.2	0.1	0.1	0.4	0.0	0.0	0.1
	0.2	2.3	1.2	5.4	2.1	1.6	1.0	2.0
Total	3.7	34.7	13.6	23.7	25.0	12.6	8.4	17.4

Table E: Summary of static bat detector survey data showing total number of bat passes for each time period (including all survey periods, at all locations). Passes in the 'Night period' column were recorded between 120 minutes after sunset and 120 minutes before sunrise. Passes in the 'Day period' column were recorded before sunset or after sunrise.

	Time period													
	Before sunset	Minutes after sunset						Night period	Minutes before sunrise					
		0-20	21-40	41-60	61-80	81-100	101-120		120-101	100-81	80-61	60-41	40-21	20-0
	0	0	0	0	0	0	0	8	0	0	0	0	0	0
	0	0	0	3	9	6	13	133	7	4	5	0	0	0
	0	3	3	11	18	24	13	102	9	11	15	2	0	0
	5	0	4	77	86	18	15	307	84	88	57	30	0	1
	460	157	915	2837	3206	3412	2990	27955	1832	2126	2388	1561	76	21
	0	0	0	7	15	3	9	115	1	1	3	0	0	0
	41	3	8	126	483	373	359	6864	564	332	218	43	7	4
	0	0	0	0	2	2	0	6	2	0	0	0	0	0
	17	74	100	131	63	36	32	188	13	10	14	47	17	1
	1	1	17	41	30	27	37	187	5	13	28	13	2	0
	10	33	270	653	854	534	460	4138	237	414	352	181	47	2
Total	534	271	1317	3886	4766	4435	3928	40003	2754	2999	3080	1877	149	29