



Newlands Developments

Land West of Sheffield Road, Hoyland

BAT AND BARN OWL REPORT

September 2020

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1.0 INTRODUCTION

- 1.1 FPCR Environment and Design Ltd were commissioned by Newlands Developments to undertake a suite of bat surveys and assess the bat suitability of the application site known as Land West of Sheffield Road, Hoyland (central grid ref. SK 3545 9976), hereafter referred to as the 'Site'.
- 1.2 During nocturnal surveys the presence of a barn owl *Tyto alba* roost was identified and results are provided within this report.

Site Location and Context

- 1.3 The Site lies to the west of the town of Hoyland on farmland between the town and the M1 motorway. Tankersley Lane bisects the northern extent of the Site and Sheffield Road lies to the east. Farmland to the south and south-east is dominated by arable fields with large areas of woodland present here including at the southern Site boundary.
- 1.4 The Blackburn Valley railway line is present south of the Site and to the west beyond the M1 corridor is further farmland, woodland and a golf course. Existing residential development of Hoyland lies largely to the east and outlying housing flanking Tankersley Lane abuts a small section of the north-eastern boundary just as Junction 36 of the M1 and associated commercial development abuts the north-western boundary.
- 1.5 The Site itself is dominated by arable farmland and smaller grassland fields bounded by hedgerows and stone walls as well as Bell Ground wood adjacent the Site boundary. A sports ground lies partially within the north of the site.

Development Proposals

- 1.6 Proposed development is for employment uses (B1, B2 and B8), new link road and associated works including provision of internal access roads, landscaping and drainage. For details of the proposed development, including green infrastructure, refer to the Parameters Plan produced by FPCR (Drawing ref. 9295-L-104 rev C).

2.0 LEGISLATION

Bats

- 2.1 Before any proposals take place, measures must be taken to ensure that the legislation concerning bats is not breached as a result of development. All UK bat species are afforded full protection under the Wildlife & Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended).
- 2.2 Under Regulation 43 of the Conservation of Habitats and Species Regulations 2017 (as amended) it is illegal to:
 - Deliberately capture, injure or kill any wild animal of a European Protected Species (EPS),
 - Deliberately disturb wild animals of an EPS (affecting ability to survive, breed or rear young) – disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young,
 - Deliberately disturb wild animals of an EPS (impairing ability to migrate or hibernate) – disturbance of animals includes in particular any disturbance which is likely to impair their ability in the case of hibernating or migratory species to hibernate or migrate,
 - Deliberately disturb wild animals of an EPS (affecting local distribution and abundance) – disturbance of animals includes in particular any disturbance which is likely to affect significantly the local distribution or abundance of the species to which they belong,
 - Deliberately disturb wild animals of an EPS (whilst occupying a structure or place used for shelter or protection) – intentionally or recklessly disturb any wild animal while it is occupying a structure or place which it uses for shelter or protection,
 - Damage or destroy a breeding site or resting place of a wild animal an EPS.
- 2.3 Under the Wildlife and Countryside Act 1981 (as amended) it is illegal to:
 - Recklessly or intentionally kill, injure or take any wild animals included in Schedule 5.
 - Recklessly or intentionally damage or destroy, or obstruct access to any structure or place which any wild animal included in Schedule 5 uses for shelter or protection,
 - Recklessly or intentionally disturb any such animal while it is occupying a structure or place which it uses for shelter or protection.
- 2.4 If impacts to bats or their roosts cannot be avoided a European Protected Species Licence from Natural England is required in order to allow proposals to derogate from the Legislation (Licences cannot be obtained to provide protection against offences under the Wildlife & Countryside Act 1981 (as amended)). As part of the application process a number of 'Tests' have to be met by the application.
- 2.5 Natural England Guidance Note: European Protected Species and the Planning Process – Natural England's Application of the 'Three Tests' to Licence Applications (March 2011) states:

"In determining whether or not to grant a licence Natural England must apply the requirements of Regulation 53⁵ of the Regulations and, in particular, the three tests set out in sub-paragraphs (2)(e), (9)(a) and (9)(b)⁶.

(1) Regulation 53(2)(e) states: a licence can be granted for the purposes of “preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment”.

(2) Regulation 53(9)(a) states: the appropriate authority shall not grant a licence unless they are satisfied “that there is no satisfactory alternative”.

(3) Regulation 53(9)(b) states: the appropriate authority shall not grant a licence unless they are satisfied “that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.”

2.6 Conservation status is defined as “the sum of the influences acting on the species concerned that may affect the long term distribution and abundance of its population within its territory”. It is assessed as favourable when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long term basis as a viable component of its natural habitats, and
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- There is, or will probably continue to be, a sufficiently large habitat to maintain its populations on a long term basis.

2.7 These tests must not only reach agreement with Natural England when assessing a Licence application they must also be assessed by the planning authority when determining a planning application.

Barn Owl

2.8 Barn owl are listed on Schedule 1 Part I of the Wildlife and Countryside Act 1981 (as amended) and under S1 (5) of this act barn owl are protected against intentional (reckless) disturbance while building or on the nest or whilst rearing young including disturbance to dependant young.

3.0 METHODOLOGY

Desk Study

Designated Bat Sites

- 3.1 The Multi Agency Government Information Centre (MAGIC¹) was searched for nationally designated sites within a 2km radius, extending to 15km for international sites designated for bats.

Bat Records

- 3.2 In order to compile existing baseline information, relevant ecological information was requested from Barnsley Biological Records Centre (BBRC) and South Yorkshire Bat Group.
- 3.3 The search area for protected species records including bats was 1km around the Site.

Existing Survey Information

- 3.4 The Site and wider survey area has been the subject of detailed ecological survey including breeding and winter bird surveys, reptile and great crested newt surveys. As part of an Extended Phase 1 Habitat Survey, an initial assessment identified buildings supporting some bat roost potential. While these buildings will not be directly impacted by the proposed development and lie outside the Site, the loss of potential bat connectivity habitat has been identified as a potential constraint which is addressed herein.

Field Surveys

Ground-based Tree Assessment

- 3.5 Details of bat tree assessment including methodology and results are provided in the separate Ecological Appraisal for the Site (FPCR, May 2020²). A summary of findings is provided in the discussion section below for context.

Building Surveys

External and Internal Building Assessments

- 3.6 External inspection of buildings within the survey area was undertaken on 11th December 2019 by a licenced bat worker (Natural England Licence Number 2018-38195-SCI-SCI). Full details of all buildings within the Site, including methodologies, results and evaluation is provided in the separate Ecological Appraisal (FPCR, May 2020³). The following report provides the initial building assessment results for context and focuses on those considered to have potential for roosting bats and subject to nocturnal survey as detailed below (refer to Figure 1 for building locations).

¹ Defra Multi Agency Government Information Centre website available at: <https://magic.defra.gov.uk/MagicMap.aspx> [accessed 03.09.20]

² FPCR Environment and Design Ltd. (May,2020) *Land West of Sheffield Road, Hoyland – Ecological Appraisal*. For Newlands Developments.

³ FPCR Environment and Design Ltd. (May,2020) *Land West of Sheffield Road, Hoyland – Ecological Appraisal*. For Newlands Developments.

Nocturnal Roost Assessment Surveys

- 3.1 An initial nocturnal survey was undertaken on buildings with suitable bat roost potential (B2, B3, B6 and B7) to identify any bats exiting or entering possible roosting sites on 15th June 2020. A further nocturnal survey was undertaken on B6 and B7 on 1st July 2020, with a final survey on B6 on 12th August 2020.
- 3.2 Nocturnal surveys were undertaken between approximately 15-30 minutes prior to sunset and up to 120 minutes following sunset for dusk emergence surveys; and between 90-120 minutes prior to sunrise and up to 15 minutes following sunrise for dawn re-entry surveys. These surveys were undertaken when weather conditions were suitable i.e. when the ambient air temperature exceeded 10°C and when there was little/no wind or rain. This methodology takes into account the most recent guidance from the Bat Conservation Trust (BCT, 2016⁴).
- 3.3 Suitably experienced ecologists were used and were positioned in viewpoints where all aspects of the survey buildings could be observed.
- 3.4 Wildlife Acoustics Inc. Echo Meter Touch® bat detectors were utilised in conjunction with Echo Meter Touch® app (referred to as EM Touch detectors) to provide back-up information and enable identification of bats encountered.
- 3.5 Post-survey, bat calls recorded using the EM Touch detectors were subjected to computer analysis using the Kaleidoscope® software package (Wildlife Acoustics). Interpretation of each bat call recorded was made by taking measurements of the peak frequency, inter-pulse interval, call duration and start / end frequency in addition to observations on the call shapes within the sonogram. Analysis was undertaken by suitably experienced and licensed bat ecologists from FPCR.

Table 1: Nocturnal Roost Assessment Survey Conditions

Date	Survey Start/End Time	Sunset/Sunrise Time	Weather Conditions
15/06/20	21:25/23:07	21:37	Cloud cover: 50%, wind: gentle breeze, start temp: 19°C, end temp: 17°C. No rain.
01/07/20	02:41/04:41	04:41	Cloud cover: 95%, wind: gentle breeze, start temp: 13°C, end temp 13°C, Light rain for a short period.
12/08/20	20:25/22:10	20:40	Cloud cover: 50%, wind: gentle breeze, start temp: 24°C, end temp: 21°C, no rain.

Activity SurveysForaging and Commuting Habitat Suitability Assessment

- 3.6 Undertaken as part of the Phase 1 habitat survey, an initial assessment of suitability for foraging and commuting bats was made including overall hedgerow structure and connectivity, the presence

⁴ Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust

of tree cover and woodland edge habitat and overall connectivity of these features to suitable linear habitat networks offsite.

Activity Transect Surveys

- 3.7 The objectives of transects completed was to identify foraging areas, commuting routes, species composition and species utilisation of the site as well as gauging levels of activity.
- 3.8 This methodology takes into account current best practice survey guidance from the Bat Conservation Trust (BCT, 2016) with survey effort determined based on recommendations within this guidance, following the above habitat assessment.
- 3.9 Monthly transect surveys are ongoing between May and October during the 2020. The Site was divided into two routes, each walked sampling suitable bat foraging habitat including hedgerow, scrub and woodland edge as well as field centres within the Site as determined in advance of the survey. The start and end points of the transect routes were alternated and varied as recommended by the current survey guidance to reduce survey bias.
- 3.10 Dusk transects were commenced either prior to or at sunset and were a minimum of 2 hours in duration. Dawn transects commenced approximately 2 hours prior to sunrise until sunrise. Each transect was walked at a steady pace and when a bat passed by the species, time and behaviour was recorded on a site plan to help to form a general view of the bat activity present on site and highlight any habitats types associated with bat activity. The same equipment was used for recording and analysis as described for the above nocturnal roost assessments.
- 3.11 All transects were undertaken when conditions were suitable (i.e. when the ambient air temperature exceeded 10°C and there was little wind and no rain) see Table 2.

Table 2: Transect Survey Conditions

Date	Survey Start/End Times	Sunset/Sunrise Times	Weather Conditions
18/05/20	21:06/23:06	21:06	Cloud cover: 100%, wind: gentle breeze, start temp. 13°C, end temp. 11°C. No rain.
09/06/20	21:32/23:32	21:32	Cloud cover: 50-60%, wind: light air, start temp. 14°C, end temp. 12°C. No rain.
16/07/20	21:25/23:25	21:25	Cloud cover: 10-90%, wind: light air, start temp: 17°C, end temp: 16°C. No rain.
17/08/20	20:29/22:29	20:29	Cloud cover: 50-30%, wind: light air, start temp: 17°C, end temp: 15°C. No rain.
19/08/20	20:25/22:25	20:25	Cloud cover: 100%, wind: gentle breeze, start temp: 19°C, end temp: 19°C. Light rain throughout.
01/09/20	19:55/21:55	19:55	Cloud cover: 100, wind: light air, start temp: 19°C, end temp: 14°C. No rain
02/09/20	04:17/06:17	06:17	Cloud cover: 0-80%, wind: light air, start temp: 11°C, end temp: 11°C. No rain.

Automated Static Bat Detector Surveys

- 3.12 Static remote recording full spectrum detectors were deployed on to supplement transect surveys. One unit per month, per route was used in accordance with the best practice guidance (refer to Figure 2 for static locations).
- 3.13 Passive monitoring was undertaken using an automated logging system Wildlife Acoustics Inc. Song Meter® SM4Bat FS bat detectors with outputs saved to an internal storage device. The detectors used SMM-U2 microphones and units were installed at suitable bat foraging/commuting habitat across the Site
- 3.14 Devices were out for five nights and the weather conditions over each of the survey period were representative for the time of year. Detectors were programmed to activate 30 minutes before dusk and recorded continuously until 30 minutes following sunrise.
- 3.15 For analysis the same equipment was used for recording and analysis as described for the above nocturnal roost assessments.
- 3.16 The detector units record sound files of up to 15 seconds in length before a new file is created. The analysis of the SM4BAT FS files recorded can highlight the presence of more than one bat where recorded simultaneously on the same sound file. However, it is not possible to determine whether consecutive sound files have been recorded as the result of several different bats passing the detector as they commute across the landscape or by one bat repeatedly triggering the detector as it forages in close proximity for an extended period. Therefore, each sound file is counted as a single bat registration. The number of sound files recorded does however reflect the relative importance of the location of the detector by calculating the bat registrations per hour.

Survey Limitations

- 3.17 Where bat calls could not be identified to species level, for example due to the lower quality of those recordings or where there are similarities between species echolocation calls (particularly for *Myotis* and *Nyctalus* species) making a definite identification difficult, a likely species identification is provided. This is based on the features displayed by the calls when analysed using the Kaleidoscope data analysis software package and taking into account the geographical location of the Site and the habitats present.
- 3.18 Internal access to B6 and B7 was not granted by the occupiers due to concerns relating to the Covid-19 pandemic. However, views through open patio doors into the rear of B6 (at the location of the identified roost) were able to determine that no potential bat roost features were present inside and therefore a robust assessment was possible

4.0 RESULTS**Desk Study**

- 4.1 Records of common pipistrelle *Pipistrellus pipistrellus*, pipistrelle species *Pipistrellus sp.* and whiskered *Myotis mystacinus* bats have been returned in the vicinity including a 'possible pipistrelle' roost close to the site boundary in the north. Brown long-eared bats *Plecotus auritus* have been recorded in association with a barn approximately 230m west of the site (beyond the

M1 motorway corridor). Refer to Figure 1 of the separate Ecological Appraisal (FPCR, May 2020) for an annotated plan showing the locations of the records.

Field Surveys

Building Surveys (see Appendix A for photographs)

External and Internal Building Assessment

- 4.2 Although access was not granted to undertake a detailed internal inspection of B6 and B7 prior to nocturnal survey on 12th August 2020, the view from the patio doors of the internal structure to the rear of the gable end roost feature identified within B6 (see Table 3 below) confirmed that the ground floor living room supported a vaulted ceiling and that no roof void accessible from the gable end was present.

Table 3: Building Descriptions

Ref.	Description	Features of Note	Bat Roost Potential
B1	Single storey pitched roof community centre building constructed of composite panels. Flat roof elevations adjoining south and east aspects.	Supported brick chimneys with flashing an enclosed soffits of plyboard. Plyboard had delaminated in places forming small, shallow cavities c.4cm wide and 4cm deep covered by a single skin of plyboard.	Negligible
B2	Single storey pitched roof shed constructed of concrete block with felted roof. Used for band practice.	UPVC panel gables and soffit boxes. Damage at apex of northern gable supporting a gap between roof and wall. Internally lined with Kingspan foam sheet flush with concrete but with gaps between panels.	Low
B3	Blockwork built garage with flat felt roof.	Timber fascias and steel garage door. Some small gaps behind timber fascia boards. Hole above garage door c.20cm x 10cm.	Low
B4	A stone built single storey building with pitched roof supporting plain tiles.	Timber barge boards and soffit boxes. Lifted tiles and gaps behind barge boards. Southern elevation/lean-to of corrugated sheet material. Walls and ceiling of southern elevation supporting large gaps and internal space well lit.	Low
B4a	Southern elevation/lean-to adjoining B4 constructed of corrugated sheet material.	Walls and ceiling of southern elevation supporting large gaps and internal space well lit.	None
B5	Small timber panel shed with pitched felt roof constructed of single-skin materials.	None	None

Ref.	Description	Features of Note	Bat Roost Potential
-	Tightly sealed steel shipping containers associated with B1 and B5	None	None
B6	Detached two storey stone built residential dwelling with pitched roofs (over multiple elevations) supporting plain tiles and gables over two elevations.	Stone chimneys and valleys supporting lead flashing. Timber fascia boards and cement verges. Possible small roof void present. A 10cm x 20cm gap in stonework façade on the south western gable end (indicating possible access to cavity between stonework façade and blockwork.	Moderate
B6a	Free standing brick built single storey garage with pitched plain tile roof	None	Negligible
B7	Detached two storey stone built dwelling house supporting plain tiled pitched roof. Western single storey elevation also with pitched plain tile roof.	UPVC soffit boxes supported on all aspects. Lead flashing where single storey elevation adjoins main structure. Velux windows in roof. Possible small roof void present. Some lifted tiles.	Moderate
B7a	Two storey garage/outhouse associated with B7 supporting pitched plain tile roof.	UPVC soffit boxes	Low
B8	Commercial shed unit constructed of single skin sheet metal and supporting a pitched roof with large skylights.	None	Negligible
B9	Disused chicken shed constructed of single skin timber boards with pitched corrugated sheet roof also of a single skin.	Entrances for birds at ground level approximately 20cm x 20cm. Meshed vents in roof.	Low to negligible
B10	Single storey outhouse constructed of blockwork and supporting single pitched roof of single-skin sheet material.	Tight fitting timber doors and tight roof plate.	Negligible
B10a	Green house associated with B10 supporting single skin cement asbestos panel walls and pitched glass roof.	Open doorway.	None
-	Ancillary horse sheds associated with field F8 adjacent to Tankersley Lane comprised dilapidated single-skin structures constructed of various materials such as corrugated sheet metal. Tongue-and-groove boards, timber planks, pallets and tarpaulins and felt.	Supported on timber frames these animal shelters were largely open to the elements.	Negligible

Nocturnal Roost Assessment Surveys (refer to Figure 3: Emergence Survey Plan)15th June 2020 (B2, B3, B6 and B7)

- 4.3 Surveys started at 21:25 and finished at 23:07 and no bats were seen emerging from or re-entering buildings B2, B3 or B7.
- 4.4 Bat activity recorded during the survey included common pipistrelle *Pipistrellus pipistrellus* and noctule *Nyctalus noctula*. Common pipistrelle were observed commuting over B7 at 22:08 and a noctule was recorded commuting over B7 at 22:28. Common pipistrelles were recorded foraging behind B3 throughout the survey and a noctule was recorded commuting over B3 at 22:38.
- 4.5 Surveyor position 1 observed a common pipistrelle emerging from a gap in the stonework facade on the south western gable of B6 at 22:08, 38 minutes after sunset .

1st July 2020 (B6 and B7)

- 4.6 Surveys started at 02:41 and finished at 04:41 and no bats were seen emerging from or re-entering building B7. Bat activity recorded during the survey included common pipistrelle foraging in front of B6 at 02:49.
- 4.7 Surveyor position 1 observed a common pipistrelle re-enter a gap in the stonework facade on the south western gable of B6 at 03:07, one hour thirty-four minutes before sunrise 12th August 2020 (B6).

12th August 2020 (B6)

- 4.8 Surveys started at 20:25 and finished at 21:55 and no bats were seen emerging from or re-entering building B6.
- 4.9 Bat activity recorded during the survey included common pipistrelle foraging around B6 at 21:47, 21:52 and 21:55.

Foraging and Commuting Habitat Suitability Assessment

- 4.10 The network of native hedges, standard trees and associated scrub and pasture fields provided foraging opportunities for bats. In the south this also included woodland edge habitat with links to woodland blocks and linear tree cover associated with Blackburn Valley Railway Line to the south.

Activity Surveys – Transect Surveys**18th May 2020**North Transect

- 4.11 The survey started at 21:06 and a total of 14 contacts (and two episodes of continuous foraging) were recorded, the majority from common pipistrelle although the occasional noctule or soprano pipistrelle *Pipistrellus pygmaeus* was also noted (Figure 4a).
- 4.12 The first contact was at 21:44, a common pipistrelle commuting along the western boundary of plantation woodland. Activity included commuting from common pipistrelle and a single noctule

associated with field boundaries. Episodes of foraging were associated with hedgerow boundaries on the central and southern portion of the route between 22:13 and 22:20. The final contact was a foraging soprano pipistrelle at 22:20 and the survey finished at 23:06

South Transect

- 4.13 The survey started at 21:06 and a total of 14 contacts (and one episode of continuous foraging) were recorded, the majority from common pipistrelle although the occasional noctule or soprano pipistrelle was also noted (Figure 4b).
- 4.14 The first contact was at 21:33, a common pipistrelle foraging above the woodland to the south east of the site. Activity included commuting from common pipistrelle, a single soprano pipistrelle and a single noctule associated with field boundaries. Common pipistrelles were recorded foraging over Bell Ground (wood) between 22:07 and 22:10. The final contact was a foraging common pipistrelle at 23:03 and the survey finished at 23:06.

9th June 2020

North Transect

- 4.15 The survey started at 21:32 and a total of 25 contacts (and one episode of continuous foraging) were recorded, the majority from common pipistrelle although the occasional noctule, soprano pipistrelle and *Myotis* species was also noted (Figure 5a).
- 4.16 The first contact was at 21:35, a common pipistrelle commuting along a field boundary in the south. Activity was concentrated in the south and associated with field boundaries. Common pipistrelle, soprano pipistrelle, *Myotis* species and a noctule were all recorded foraging along field boundaries in the south between 22:31 and 22:43. The final contact was a commuting common pipistrelle recorded at point count 8 (PC8) at 23:23 and the survey finished at 23:32.

South Transect

- 4.17 The survey started at 21:32 and a total of 26 contacts (and two episodes of continuous foraging) were recorded, the majority from common pipistrelle although the occasional noctule and soprano pipistrelle was also noted (Figure 5b).
- 4.18 The first contact was at 21:36, a common pipistrelle commuting at PC1. Activity was concentrated at the southern and western site boundary including the central hedgerow running north-south. Foraging common and soprano pipistrelle and a commuting noctule were recorded between 22:00 and 22:32. The final contact was a common pipistrelle foraging along a hedgerow in the south of the site at 23:18 and the survey finished at 23:32.

16th July 2020

North Transect

- 4.19 The survey started at 21:25 and a total of 15 contacts (and four episodes of continuous foraging) were recorded, the majority from common pipistrelle although the occasional noctule was also noted (Figure 6a).

- 4.20 The first contact was at 21:57, a common pipistrelle recorded commuting at PC2. Activity was concentrated in the central portion of the route and associated with field boundaries and pasture. Common pipistrelles were recorded foraging in these areas between 22:01 and 22:07. A single noctule was recorded at PC8 commuting at 23:14. The final contact was a foraging common pipistrelle recorded along Tankersley Lane at 23:19 and the survey finished at 23:25.

South Transect

- 4.21 The survey started at 21:25 and a total of 15 contacts (and six episodes of continuous foraging) were recorded, the majority from common pipistrelle although the occasional soprano pipistrelle, noctule and *Nyctalus* species was also noted (Figure 6b).
- 4.22 The first contact was at 21:39, a common pipistrelle commuting in a northerly direction along the edge of bell ground woods. Activity was concentrated in the southern portion of the route and largely associated with woodland edge adjacent the site boundary. This included foraging common and soprano pipistrelle and a commuting noctule and *Nyctalus* species between 21:39 and 22:29. A common pipistrelle was recorded foraging along a hedgerow in the north at 22:53. The final contact was a common pipistrelle foraging along a field boundary by Sheffield road at 23:16 and the survey finished at 23:25

16th & 19th August 2020

North Transect

- 4.23 The survey started at 20:29 and a total of 10 contacts (and six episodes of continuous foraging) were recorded, the majority from common pipistrelle and one single soprano pipistrelle (Figure 7a).
- 4.24 The first contact was at 21:15, a soprano pipistrelle recorded commuting at PC4. Activity was concentrated in the central and western portion of the route and associated with field boundaries. Common pipistrelles were recorded foraging and commuting in these areas between 21:26 and 22:06. Two common pipistrelles were recorded commuting along field boundaries in the north of the site. The final contact was a foraging common pipistrelle recorded along a hedgerow in the west of the site at 22:29 and the survey finished at 22:29.

South Transect

- 4.25 The survey started at 20:25 and a total of 29 contacts (and five episodes of continuous foraging) were recorded, the majority from common pipistrelle although the occasional soprano pipistrelle, noctule and *Myotis* species was also noted (Figure 7b).
- 4.26 The first contact was at 20:30, a common pipistrelle foraging at PC1. Activity was concentrated in the southern portion of the route and associated with woodland edge and field boundaries, this included foraging common pipistrelle and noctule between 20:36 and 21:24. Two common pipistrelles were recorded foraging in the east of the site near Sheffield Road at 21:34 and 21:44. A single *Myotis* species was recorded foraging at PC7 at 22:07. The final contact was a common pipistrelle foraging in a field to the west at 22:22 and the survey finished at 22:25

1st September 2020

North Transect

- 4.27 The survey started at 19:55 and a total of 20 contacts (and five episodes of continuous foraging) were recorded, the majority from common pipistrelle although the occasional soprano pipistrelle was also noted (Figure 8a).
- 4.28 The first contact was at 20:10, a common pipistrelle recorded commuting in the northern part of the route. Activity was concentrated in the central and western portion of the route and associated with field boundaries. Common pipistrelles and a single soprano pipistrelle were recorded foraging and commuting in these areas between 20:21 and 20:44. The final contact was a foraging common pipistrelle recorded along a field boundary next to Tankersley Lane at 21:52 and the survey finished at 21:55.

South Transect

- 4.29 The survey started at 19:55 and a total of 31 contacts (and one episode of continuous foraging) were recorded, the majority from common pipistrelle although the occasional soprano pipistrelle was also noted (Figure 8b).
- 4.30 The first contact was at 20:14, a common pipistrelle foraging at PC2. Activity was spread across the route and contacts were associated with field boundaries, pasture and woodland edge. All visual contacts were noted flying in a northerly direction, including two common pipistrelles at 20:14 and 20:36. A common and soprano pipistrelle were recorded foraging along a field boundary at the centre of the route at 20:32. The final contact was a common pipistrelle foraging at the edge of Bell Ground (wood) at 21:48 and the survey finished at 21:55.

2nd September 2020

North Transect

- 4.31 The survey started at 04:17 and a total of 2 contacts were recorded, both common pipistrelles (Figure 9a).
- 4.32 Both contacts were recorded along the field boundary near Tankersley Lane, one common pipistrelle at 05:35 recorded foraging during PC7 and one common pipistrelle recorded commuting at 05:38. The survey finished at 06:17.

South Transect

- 4.33 The survey started at 04:17 and a total of 2 contacts were recorded, one common pipistrelle and one soprano pipistrelle (Figure 9b).
- 4.34 The first contact was a soprano pipistrelle at 04:56 foraging along the woodland edge to the south east, the final contact was a common pipistrelle commuting in the central portion of the route at 05:26. The survey finished at 06:17.

Activity Surveys – Automated Static Bat Detector Surveys (refer to Appendix B for full static data)

April 2020

- 4.35 Static detector units 5 and 6 each recorded for 53.5 hours over six nights from 15th to of 20th April 2020.
- 4.36 Unit 5 was located along a hedgerow in the north of the site and recorded over three times more activity than unit 6 and common pipistrelle made up 98.5% of the total 69 registrations.
- 4.37 Far less bat activity was recorded by unit 6 which was located just off the corner of Bell Ground (wood) and common pipistrelle made up 65% of the 20 registrations.

Table 4: April Static Survey Results

Unit number	Avg. registrations per hour	Total registrations	Most recorded species (number of registrations)	Other species recorded (number of registrations)
5	1.287	69	Common pipistrelle (68)	<i>Myotis</i> species (1)
6	0.373	20	Common pipistrelle (13)	Noctule (5) Soprano pipistrelle (2)

May 2020 Survey

- 4.38 Static detector units 1 and 5 each recorded for 42 hours over five nights from 27th May until 1st June 2020.
- 4.39 The level of bat activity was much higher along the hedgerow at the centre of the site, with unit 1 totalling an average of 27.5 registrations an hour, Common pipistrelle made up 76% of these registrations with *Myotis* species making up 23%..
- 4.40 During this period the level of bat activity at the edge of the woodland in the south east of the site was considered very low, with only 97 total registrations recorded over the five nights on unit 5. Common pipistrelle made up 38% of all registrations from this unit and noctules made up 30%.

Table 5: May Static Survey Results

Unit number	Avg. registrations per hour	Total registrations	Most recorded species (number of registrations)	Other species recorded (number of registrations)
1	27.582	1153	Common pipistrelle (878)	<i>Myotis</i> species (263) Soprano pipistrelle (5) Noctule (4) <i>Nyctalus</i> species (3)
5	2.32	97	Common pipistrelle (37)	Noctule (29) Soprano pipistrelle (16) <i>Myotis</i> species (14) Brown long-eared (1)

June 2020 Survey

- 4.41 Static detector units 7 and 8 each recorded for 39.5 hours over five nights from the 15th June until the 20th June 2020.
- 4.42 The level of bat activity along the edge of Bell Ground (wood) during this period was not considered particularly high, with unit 7 recording a total of 586 registrations. Common pipistrelle made up 48% of the total and *Myotis* species made up 26%.
- 4.43 Close to twice the bat activity was recorded along the hedgerow toward the centre of the site with a total of 2,027 registrations, common pipistrelle made up 98% of this figure.

Table 6: June Static Survey Results

Unit number	Avg. registrations per hour	Total registrations	Most recorded species (number of registrations)	Other species recorded (number of registrations)
7	14.703	586	Common pipistrelle (281)	<i>Myotis</i> species (153) Soprano pipistrelle (113) Noctule (32) Brown long-eared (4) Pipistrelle species (3)
8	50.859	2027	Common pipistrelle (1980)	Noctule (32) Soprano pipistrelle (14) <i>Myotis</i> species (1)

July 2020 Survey

- 4.44 Static detector units 7 and 8 each recorded for 43.5 hours over 12 days from the 16th July until the 28th July 2020.
- 4.45 The level of bat activity along the hedgerow at Tankersley Lane was considered low with only 631 total registrations on unit 7, common pipistrelle made up 88% of these registrations.
- 4.46 During this period the level of bat activity along the hedgerow in the east of the site was higher than average with 1,532 total registrations on unit 8. Common pipistrelle made up 95% of these registrations.

Table 7: July static survey results

Unit number	Avg. registrations per hour	Total registrations	Most recorded species (number of registrations)	Other species recorded (number of registrations)
7	14.513	631	Common pipistrelle (558)	<i>Myotis</i> species (59) Noctule (8) Soprano pipistrelle (5) <i>Nyctalus</i> species (1)
8	25.235	1532	Common pipistrelle (1458)	Soprano pipistrelle (62) <i>Myotis</i> species (10) Brown long-eared (2)

August 2020 Survey

- 4.47 Static detector units 5 and 1 each recorded for 51 hours over five nights from the 12th until the 17th August 2020.
- 4.48 The level of bat activity in August was considerably lower than previous months. The two units were placed along a hedgerow to the west and east of the site and each recorded less than 400 registrations in total, with common pipistrelle making up over 80% of all registrations on both units.

Table 8: August Static Survey Results

Unit number	Avg. registrations per hour	Total registrations	Most recorded species (number of registrations)	Other species recorded (number of registrations)
5	6.797	348	Common pipistrelle (282)	<i>Myotis</i> species (39) Soprano pipistrelle (14) Pipistrelle species (6) Noctule (4) <i>Nyctalus</i> species (2) Brown long-eared
1	6.152	315	Common pipistrelle (269)	Soprano pipistrelle (15) <i>Myotis</i> species (10) Noctule (9) Pipistrelle species (8) Brown long-eared (3) <i>Nyctalus</i> species (1)

September 2020 Survey

- 4.49 Static detector units 9 and 10 each recorded for 57 hours over six nights from the 1st until the 7th September 2020.
- 4.50 As expected level of bat activity in September was low compared with the mid-summer months, even so less than 100 registrations were recorded on unit 10, indicating bats are less active in suitable habitat at the eastern boundary, in proximity to Sheffield Road. Unit 10 was placed on a hedgerow in the centre of the site and unit 9 was placed along a hedgerow in the south east. Common pipistrelle made up of 85% of all registrations on both units.

Table 9: September Static Survey Results

Unit number	Avg. registrations per hour	Total registrations	Most recorded species (number of registrations)	Other species recorded (number of registrations)
9	8.010	464	Common pipistrelle (408)	<i>Myotis</i> species (21) Soprano pipistrelle (19) Noctule (12) Brown long-eared (4)
10	1.312	76	Common pipistrelle (65)	Soprano pipistrelle (5) Noctule (3) <i>Myotis</i> species (3)

Activity Survey Summary

- 4.51 Activity from common pipistrelles dominated in all months and routes with considerably lower numbers of other species recorded. Overall levels of bat activity were considered to be on the low side and reflect the heavily managed nature of field compartments and associated boundary features. Activity levels were fairly evenly spread across the months surveyed although more occurrences of continuous foraging were recorded in July and August, as would be expected with juvenile bats requiring feeding. Relatively high levels of activity were associated with field boundary hedgerows including the central hedge (running north-south down the middle third of the site) and woodland edge habitat at the site boundary, particularly in the south of the site.
- 4.52 The total number of registrations (reg.) from over 500 static survey hours was considered low at 6474 and as with the transect results this is likely a reflection of the heavily managed nature of the farmland. Not unexpectedly the highest levels of activity were in summer (June – 2027 reg. and July – 1532 reg.), from units located in the eastern half of the site. Consistent with transect results the species assemblage recorded is heavily skewed toward common pipistrelle as illustrated by Table 9 below. Just under 8% of activity was from species considered more sensitive to artificial light (*Myotis* and brown long-eared) mostly spread between May unit 1 (hedgerow junction at centre of Site) and June unit 7 (offsite at the southern edge of Bell Ground (wood)).

Table 9: Species Breakdown Across All Static Surveys

Species	Registrations	Percentage
Common Pipistrelle	6947	86.4%
Myotis Species	581	7.2%
Soprano Pipistrelle	306	3.8%
Noctule	143	1.7%
Pipistrelle Species	33	0.4%
Brown Long-eared	17	0.2%
Nyctalus Species	13	0.1%

Barn Owl

- 4.53 During summer bat transect surveys a barn owl was recorded exiting a horse shelter located in a grassland field in the north of the site (see Figure 1). Following this an inspection of the shelter was made on 12th August 2020 using ladders and binoculars. This identified fresh owl pellets, feathers and white splashes (droppings) associated with a perch on a timber support atop a sheet metal wall and a timber shelf with slatted base enclosed on three sides (dimensions approximately 50cm wide x 30cm high x 60cm deep). The presence of barn owl feathers and pellets confirmed use as a roost by the species with no evidence of nesting, such as young birds, down or signs of nesting material, was noted.

5.0 DISCUSSION & RECOMMENDATIONS

- 5.1 Proposals will result in the loss of internal hedgerows and field compartments including arable, semi-improved grassland and scrub. The development will retain existing woodland and hedgerow habitats running the length of the western and southern boundaries. Green infrastructure proposals will provide a significant extent of new woodland and scrub planting wrapping around the western and southern boundary and linking with a new attenuation feature proposed on arable land in the south.

Bat Roosts

Trees

- 5.2 Two trees T1 and T2, both pedunculate oak supported features considered to provide low bat roost potential; for the former a branch tear-out with a possible cavity facing the sky; and for the latter several dead limbs in the crown with small splits.
- 5.3 These trees are to be lost to development and in accordance with the guidelines (BCT, 2016) no further survey is required and the trees are not considered to represent a constraint in terms of bats. Best practice guidance is provided at Appendix C for removal of low bat roost potential trees.

Buildings

- 5.4 No bat roosts have been recorded within the Site. No bat roosts were identified within B2, B3 or B7 and none will be lost to the proposed development. On two of the three survey occasions June-August 2020 a single common pipistrelle was observed using a crevice feature in the stonework façade at the gable end of B6.
- 5.5 Given the limited roost opportunities offered by the gable end feature of B6 and a single common pipistrelle bat was observed on only two of the three survey occasions the identified roost is considered, under the guidance (A.J. Mitchell-Jones, Jan 2004⁵) to be a low status roost of '*individual bats of common species*' and not a maternity roost.
- 5.6 B6 does not lie within the Site boundary and as the building and bat roost it supports will not be lost the roost itself does not represent a constraint. The Site and its existing habitats (pasture grassland and hedgerow) do however provide connectivity to more suitable foraging and commuting habitat to the west and south of B6 where habitat links north and east of B6 are more limited. In the absence of mitigation, the proposed development, with its link road and associated lighting, have the potential to sever commuting routes from the identified low status roost within B6, although foraging links to the east will be retained.
- 5.7 Mitigation within the finalised scheme will need to be carefully considered to retain suitable connectivity between B6 and existing retained suitable foraging at the western boundary of the Site. The mitigation set out below will include the following features to maintain the Favourable Conservation Status of the identified roost such that anticipated impacts to this low status roost are not considered likely to be significant:
- New/retained habitat connectivity corridor providing a green link west from B6.

⁵ A.J. Mitchell-Jones (Jan 2004) *Bat Mitigation Guidelines*. English Nature. Peterborough.

- Specifically designed feature providing a suitable habitat canopy bridge over the proposed link road.
- Sensitive lighting scheme including screening vegetation where deemed necessary.

Bat Activity

- 5.8 Over the surveys, seven species or genera were identified using the site. These species were common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *P. pygmaeus*, *Pipistrellus* species, noctule *Nyctalus noctule*, *Nyctalus* species, *Myotis* species and brown long-eared *Plecotus auritus*. This assemblage of species located on farmland at the fringe of urban infrastructure and bordering the M1 Motorway, with an assemblage of habitats comprising of mainly arable land with some pasture, woodland, ditches and hedgerows is typical for a site of this size and nature in Yorkshire.
- 5.9 Common pipistrelle is one of the UK's most common bat species and was, by some way, the most frequently species during all surveys across the site. *Myotis* species, soprano pipistrelle and noctule were encountered infrequently on transect surveys and *Myotis* bats made up roughly 7% of all static detector registrations.
- 5.10 Higher levels of pipistrelle bat activity were associated with:
- Pasture field boundaries south of Tankersley Lane,
 - Linear scrub between the eastern edge of Bell Ground (wood) and Sheffield Road,
 - Woodland edge of Bell Ground (wood)
- 5.11 Activity from other species including *Myotis*, brown long-eared and noctule were associated with:
- Woodland edge of Bell Ground (wood),
 - A central arable hedgerow junction in the middle of the Site (May static unit 1),
 - Hedgerow south of B6 (June static unit 8)
- 5.12 The proposed commercial plots (Plot 1, 2 and 3) and the proposed link road will require the loss of all internal hedgerows including the pasture field boundaries and central arable hedgerow junction mentioned above. The Site lies on the edge of existing urban development and while the loss of these features cannot be avoided due to the nature of the proposed development no significant areas of suitable bat foraging such as Bell Ground (wood) to the south, will be lost or isolated by the proposed development.
- 5.13 The existing woodland edge habitat, at Bell Ground and adjacent the M1, will be retained and buffered by a significant extent of structural planting that will wrap around the western and southern edge of the development and effectively create a dark corridor of connective bat habitat which, will also encompass existing linear scrub from Bell Ground (wood) to Sheffield Road creating a broader, more structurally diverse belt of vegetation than currently exists.
- 5.14 Further structural planting bordering Tankersley Lane and flanking the proposed link road will provide suitable bat foraging across the north of the Site. Structural infill planting between Green Lane (location of bat roost at B6) and the proposed link road, and screening at the link roads north eastern edge will help screen the common pipistrelle roost within B6 from noise and artificial light spill associated with the new road.

- 5.15 Considering the extent of the proposed green infrastructure scheme impacts to the identified bat assemblage from the proposed development and associated habitat loss are not expected to be significant given the levels of bat activity recorded.
- 5.16 The green infrastructure design is summarised below and recommendations for targeted mitigation are provided to; a) minimise the potential impacts of artificial lighting; and b) overcome severance of dispersal routes west from the offsite low status roost at B6.

Lighting Design

- 5.17 Use of a sensitively designed lighting scheme will be required to minimise light-spill onto new and retained habitats both within and adjacent to the Site. The design will be based upon guidelines in the Institute of Lighting Professionals 'Guidance Note 8 Bats and Artificial Lighting' 2018 including:
- All lighting should be completely screened from retained habitats.
 - All lighting columns and building-mounted lights located as low as possible and comprising sensitively positioned directional lighting.
 - Light free of UV emissions to prevent potential adverse effects on flying insects and bat populations.
 - Lighting designed to switch off or be dimmable where possible.
 - Use of LED lighting units with sharp light cut-off
- 5.18 As a result of implementing the above strategy residual effects of new lighting are expected to be below that considered to have a significant impact on foraging and commuting bats.

Recommendations for Targeted Bat Mitigation

- 5.19 A canopy bridge will be required over the proposed new link road as close to the location of B6 as possible and with green links to proposed structural planting bordering the south of Tankersley Lane. Designed in accordance with specifications for 'hop-overs' as detailed in the Highways Agency Interim Advice Note 166/08 Nature Conservation Advice in Relation to Bats to include:
- The planting of standard trees (and use of existing or translocated semi-mature specimens where possible) adjacent to the road to grow to be above the level of vehicle movement.
 - Lower branches of such trees should be regularly pruned back to the trunk to ensure that the crown is above the maximum traffic height.
 - Where appropriate low-level lighting columns may be used to reduce the likelihood of the bats using vegetation close to the traffic corridor.
 - Located as far away as possible from road lighting columns
- 5.20 The implementation of such 'hop-overs' should allow continued commuting across the new road and reduce the potential for road traffic accidents involving bats.
- 5.21 Artificial bat roost features will be placed on suitable trees at the edge of Bell Ground (wood). A mix of 12 of the box types recommended below will provide suitability for different species, roosting both singularly and in groups at different times of year:
- Schwegler 2FN/1FD or equivalent

- Schwegler 2F or equivalent
 - Schwegler 1FF or equivalent
- 5.22 Boxes will be installed following advice from an ecologist in groups of 2 or 3 at least 3m from ground. Ideally bat boxes will be on south eastern or south western aspects and bird boxes will avoid southern aspects.

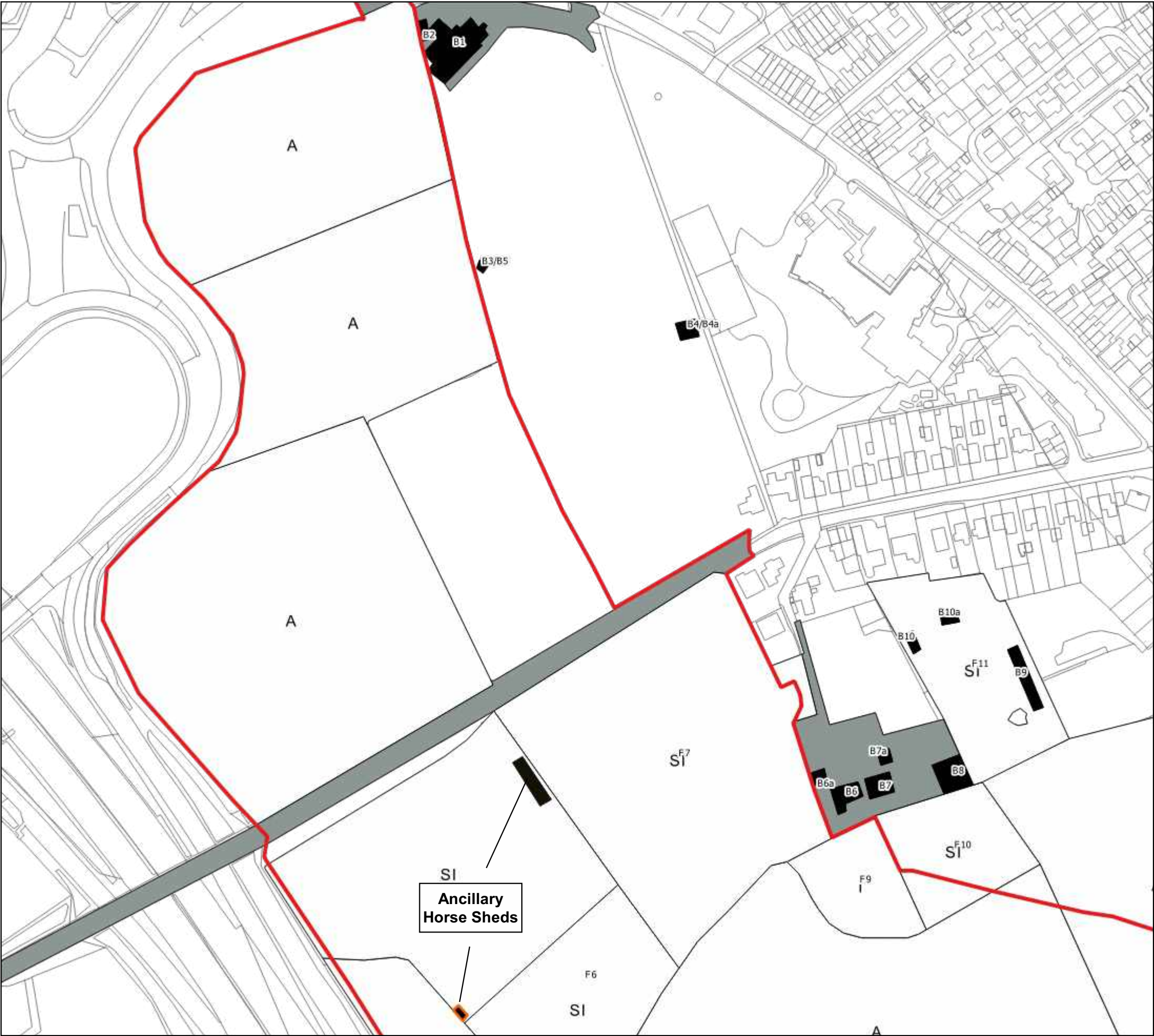
General Green Infrastructure Design

- 5.23 The Site design will provide a network of green corridors through and around the proposed commercial development plots comprising:
- Native woodland and scrub planting including belts over 10m wide (buffering the western boundary with the M1 corridor and the edge of Bell Ground Wood)
 - New native hedgerow and standard tree planting flanking the new link road
 - New permanent open water habitat designed for wildlife and bordered by native scrub planting with connectivity to existing woodland edge habitat
 - New native wildflower grassland created in association with existing and new woodland edge and scrub habitats
- 5.24 The above scheme will benefit from long-term, sensitive management for wildlife in accordance with a Biodiversity Enhancement & Management Plan⁶.

Barn Owl

- 5.25 The identified barn owl roost site (refer to Figure 2 Static Detector and Barn Owl Location Plan) does not currently represent a constraint under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) as no evidence of breeding was recorded. Under the above Act it is however an offence, with certain exceptions to intentionally kill, injure, or take any wild barn owl.
- 5.26 To avoid committing an offence under the above Act, prior to demolition of the horse shelter (supporting the barn owl roost), and under ecology supervision, the structure will be modified, such as by removing panels from the wall or roof (where feasible without disturbing the roost features) in order that internal conditions will deter the barn owl from returning to roost. Immediately prior to demolition, a final check will be made by a suitably experienced ecologist to confirm that the owl has left.

⁶ FPCR Environment and Design (Sept. 2020) *Land West of Sheffield Road, Hoyland – Biodiversity Enhancement Management Plan*. For Newlands Developments.



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Key

- Site Boundary
- Surveyed Buildings (with ref.)
- Supporting Barn Owl Roost



client
Newlands Developments

project
Land West of Sheffield Road,
Hoyland

drawing title
BUILDING LOCATION PLAN

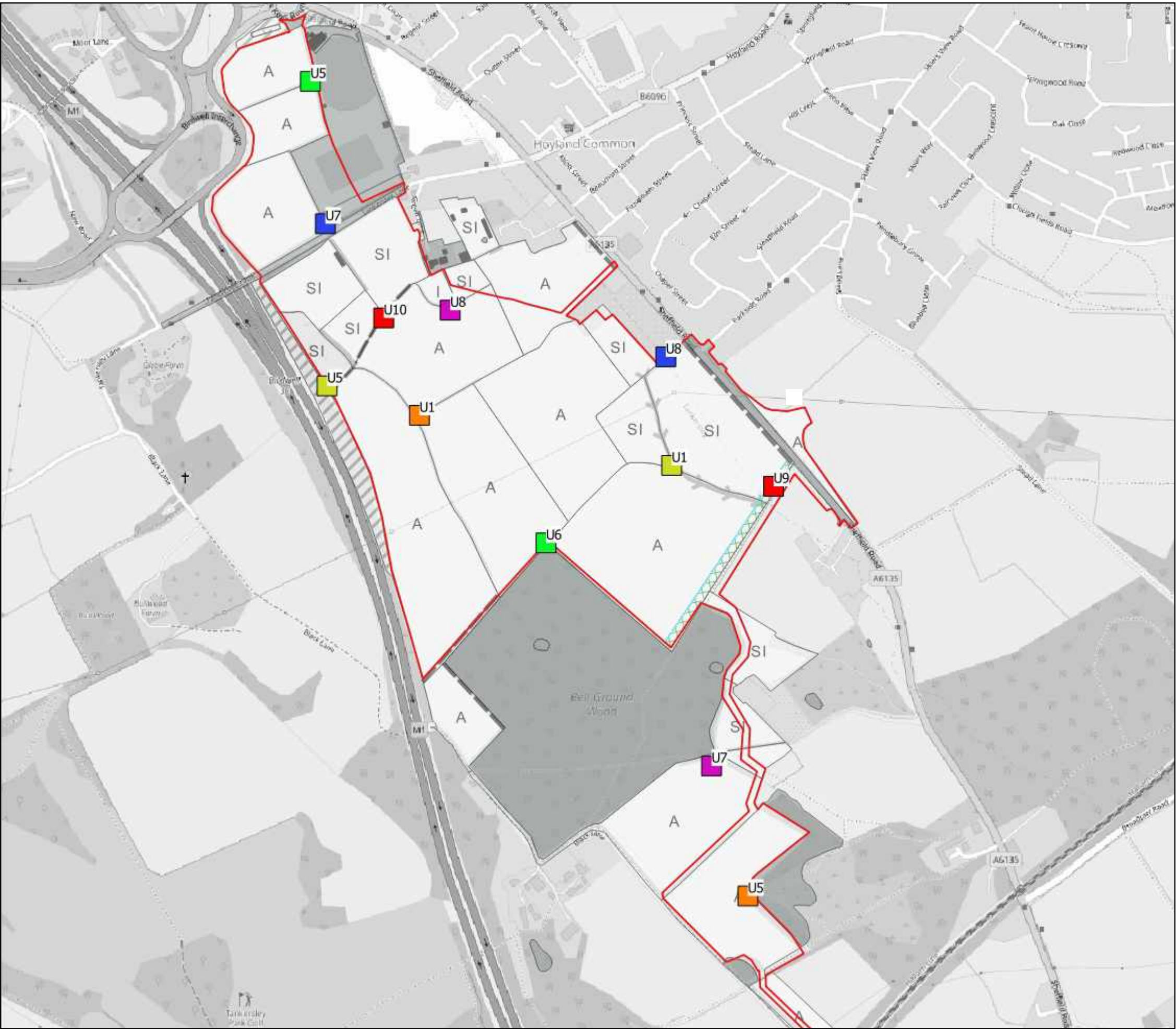
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17/9/2020

drawing / figure number
Figure 1

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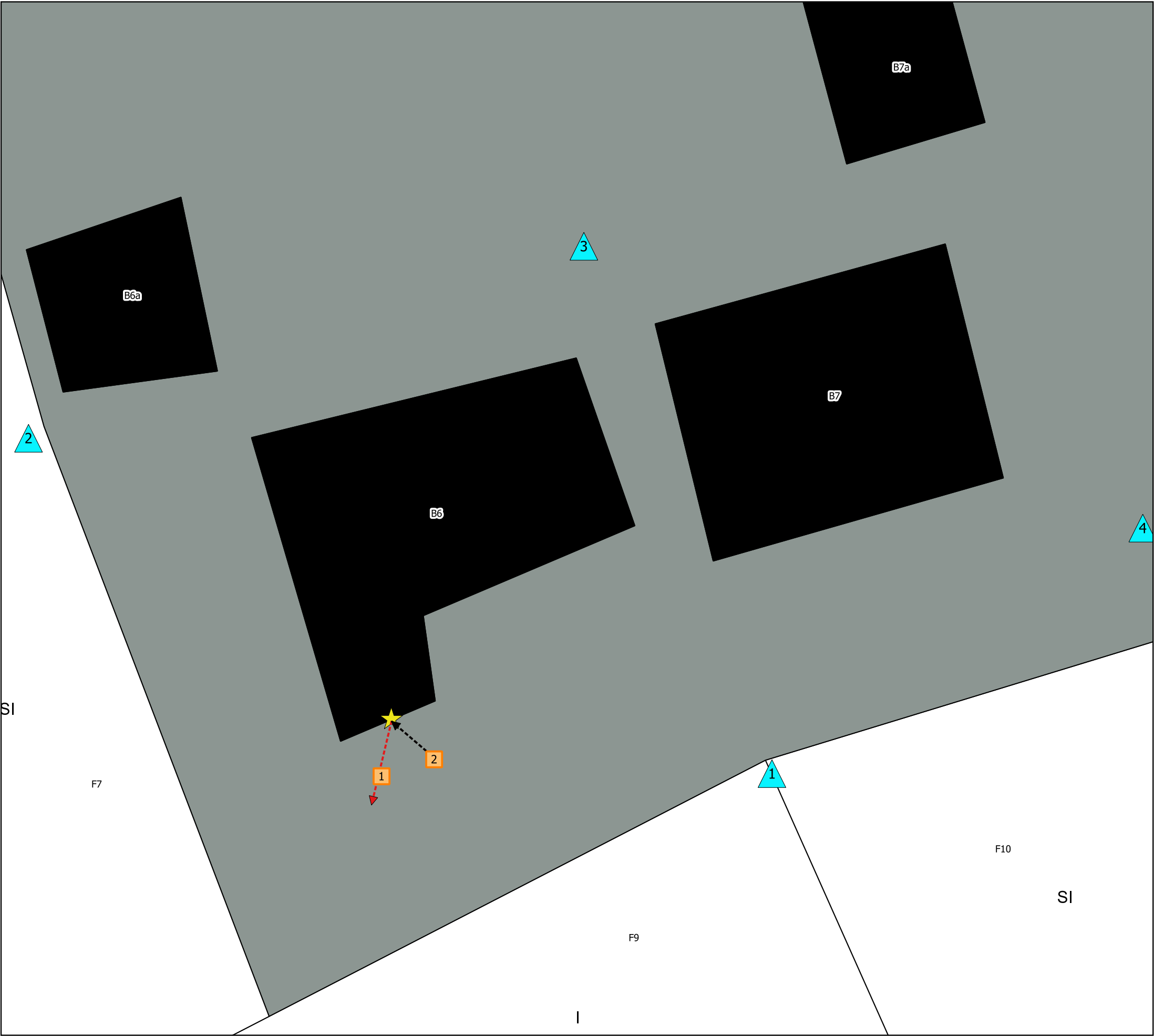
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Key:

Site Boundary

Static Detector Locations (with ref.)

- April
- May
- June
- July
- August
- September



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Key

- Buildings(with ref.)
- Surveyor Positions (with ref.)
- Access Point (gap in stonework facade)

Emergence/Re-entry Results (with ref.)

- Common Pipistrelle

Flight Arrows

- June - Emergence
- July - Re-entry



client
Newlands Developments

project
Land West of Sheffield Road,
Hoyland

drawing title
Emergence Survey Plan

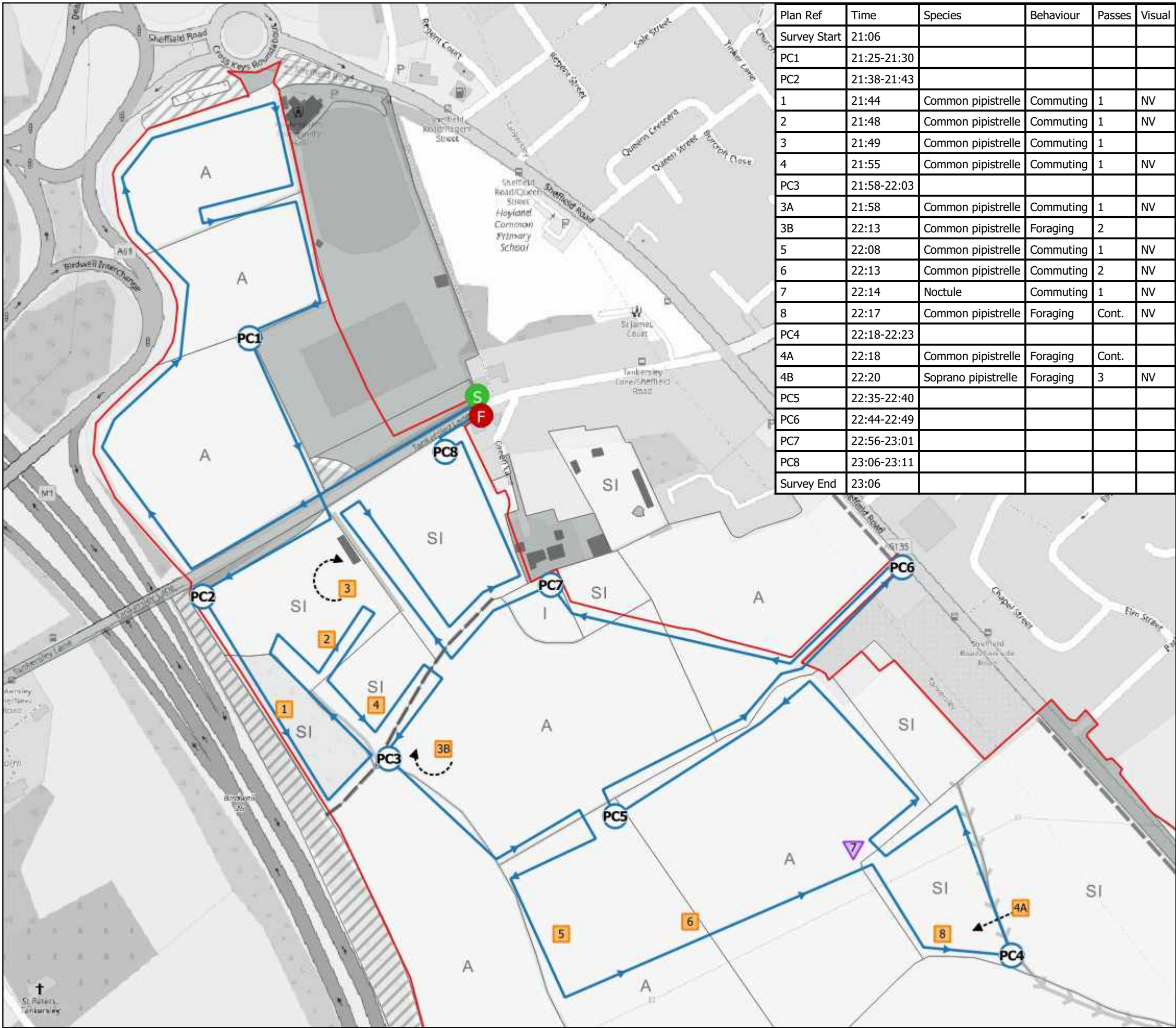
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15/9/2020

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Plan Ref	Time	Species	Behaviour	Passes	Visual
Survey Start	21:06				
PC1	21:25-21:30				
PC2	21:38-21:43				
1	21:44	Common pipistrelle	Commuting	1	NV
2	21:48	Common pipistrelle	Commuting	1	NV
3	21:49	Common pipistrelle	Commuting	1	
4	21:55	Common pipistrelle	Commuting	1	NV
PC3	21:58-22:03				
3A	21:58	Common pipistrelle	Commuting	1	NV
3B	22:13	Common pipistrelle	Foraging	2	
5	22:08	Common pipistrelle	Commuting	1	NV
6	22:13	Common pipistrelle	Commuting	2	NV
7	22:14	Noctule	Commuting	1	NV
8	22:17	Common pipistrelle	Foraging	Cont.	NV
PC4	22:18-22:23				
4A	22:18	Common pipistrelle	Foraging	Cont.	
4B	22:20	Soprano pipistrelle	Foraging	3	NV
PC5	22:35-22:40				
PC6	22:44-22:49				
PC7	22:56-23:01				
PC8	23:06-23:11				
Survey End	23:06				

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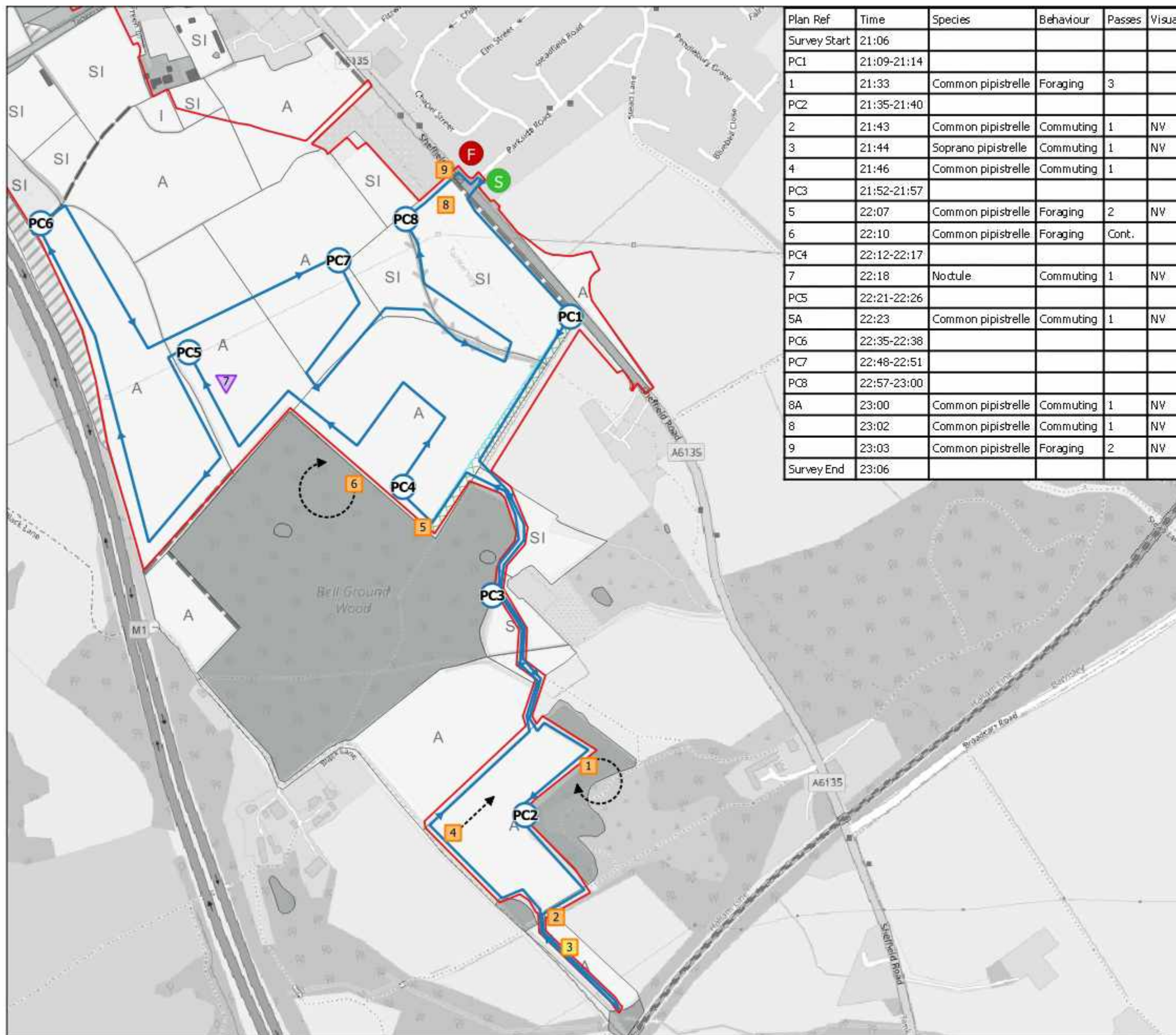
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Key:

- Site Boundary
- Flight Arrow
- Start Point
- Finish Point
- Point Count Locations (with ref.)
- Transect Route

Bat Contacts (with ref.)

- Noctule
- Common Pipistrelle
- Soprano Pipistrelle



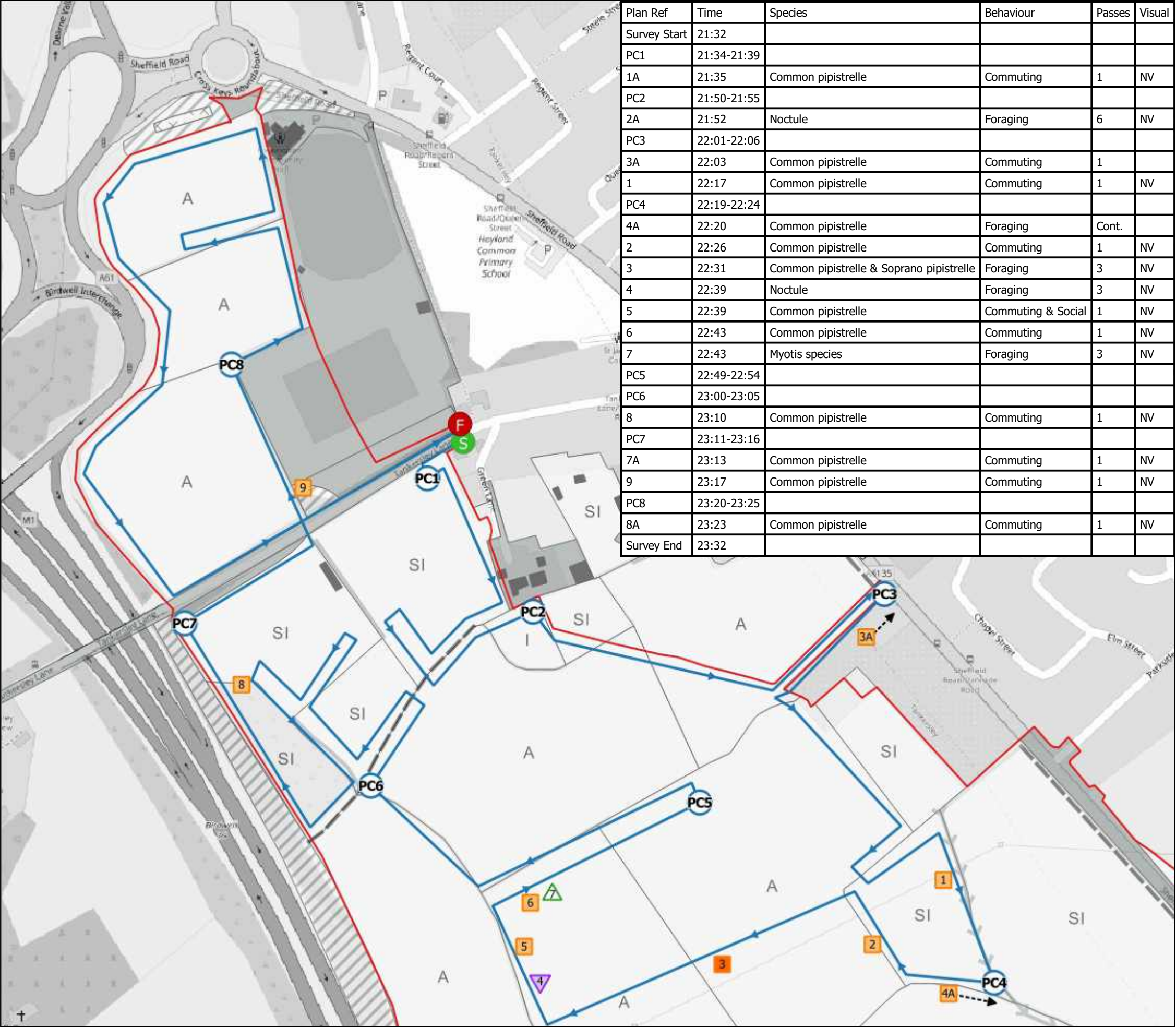
Plan Ref	Time	Species	Behaviour	Passes	Visual
Survey Start	21:06				
PC1	21:09-21:14				
1	21:33	Common pipistrelle	Foraging	3	
PC2	21:35-21:40				
2	21:43	Common pipistrelle	Commuting	1	NV
3	21:44	Soprano pipistrelle	Commuting	1	NV
4	21:46	Common pipistrelle	Commuting	1	
PC3	21:52-21:57				
5	22:07	Common pipistrelle	Foraging	2	NV
6	22:10	Common pipistrelle	Foraging	Cont.	
PC4	22:12-22:17				
7	22:18	Noctule	Commuting	1	NV
PC5	22:21-22:26				
5A	22:23	Common pipistrelle	Commuting	1	NV
PC6	22:35-22:38				
PC7	22:48-22:51				
PC8	22:57-23:00				
8A	23:00	Common pipistrelle	Commuting	1	NV
8	23:02	Common pipistrelle	Commuting	1	NV
9	23:03	Common pipistrelle	Foraging	2	NV
Survey End	23:06				

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Key:

- Site Boundary
- S Start point
- F Finish point
- PC Point Count (with ref.)
- Transect Route
- Flight Path
- 1 Bat Contacts (with ref.)
- 2 Common Pipistrelle
- 3 Soprano Pipistrelle
- 7 Noctule



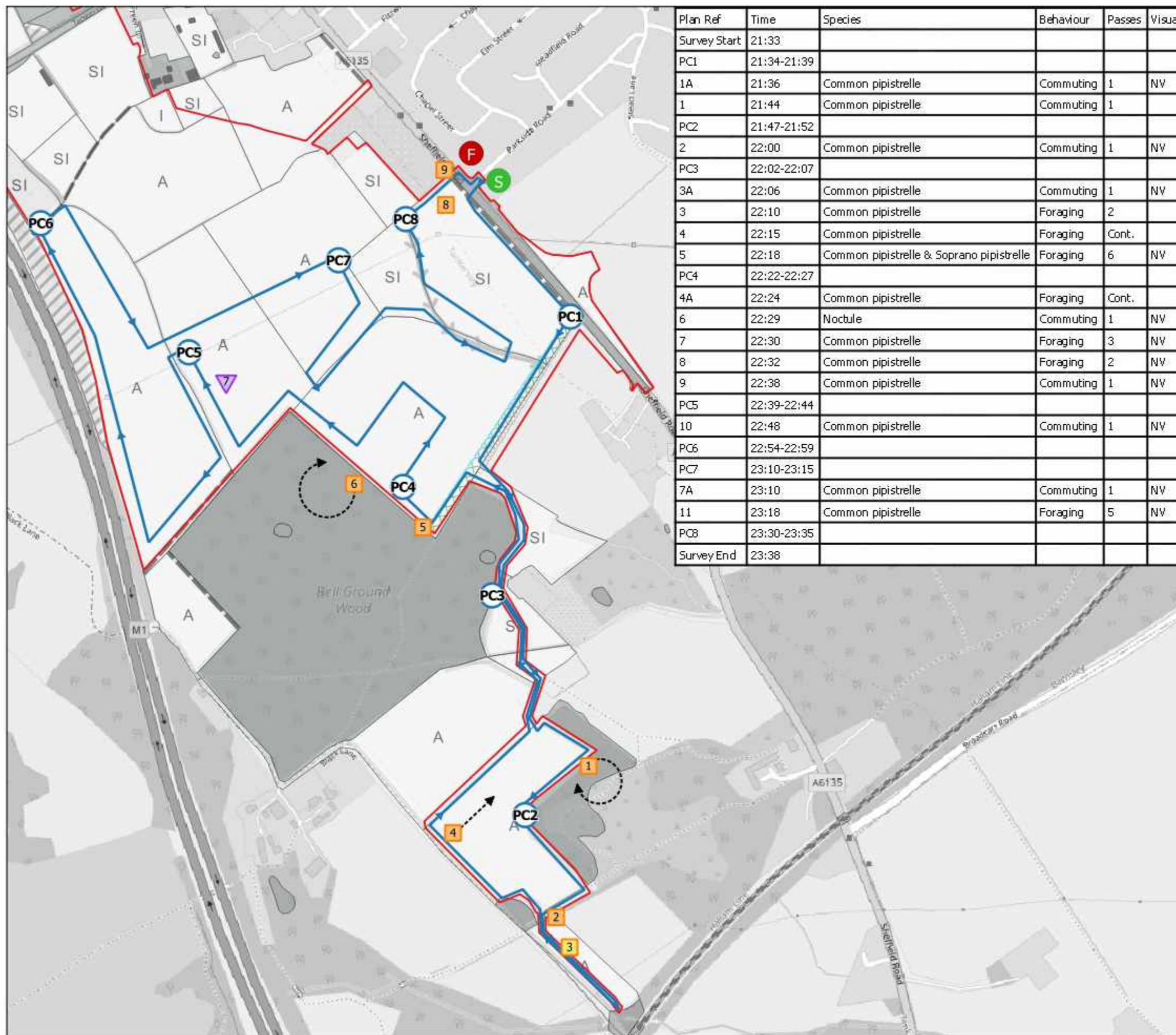
Plan Ref	Time	Species	Behaviour	Passes	Visual
Survey Start	21:32				
PC1	21:34-21:39				
1A	21:35	Common pipistrelle	Commuting	1	NV
PC2	21:50-21:55				
2A	21:52	Noctule	Foraging	6	NV
PC3	22:01-22:06				
3A	22:03	Common pipistrelle	Commuting	1	
1	22:17	Common pipistrelle	Commuting	1	NV
PC4	22:19-22:24				
4A	22:20	Common pipistrelle	Foraging	Cont.	
2	22:26	Common pipistrelle	Commuting	1	NV
3	22:31	Common pipistrelle & Soprano pipistrelle	Foraging	3	NV
4	22:39	Noctule	Foraging	3	NV
5	22:39	Common pipistrelle	Commuting & Social	1	NV
6	22:43	Common pipistrelle	Commuting	1	NV
7	22:43	Myotis species	Foraging	3	NV
PC5	22:49-22:54				
PC6	23:00-23:05				
8	23:10	Common pipistrelle	Commuting	1	NV
PC7	23:11-23:16				
7A	23:13	Common pipistrelle	Commuting	1	NV
9	23:17	Common pipistrelle	Commuting	1	NV
PC8	23:20-23:25				
8A	23:23	Common pipistrelle	Commuting	1	NV
Survey End	23:32				

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Key:

- Site Boundary
- Flight Arrow
- Start Point
- Finish Point
- Point Count Locations (with ref.)
- Transect Route
- Bat Contacts (with ref.)**
 - Common Pipistrelle
 - Common/Soprano Pipistrelle
 - Myotis Species
 - Noctule



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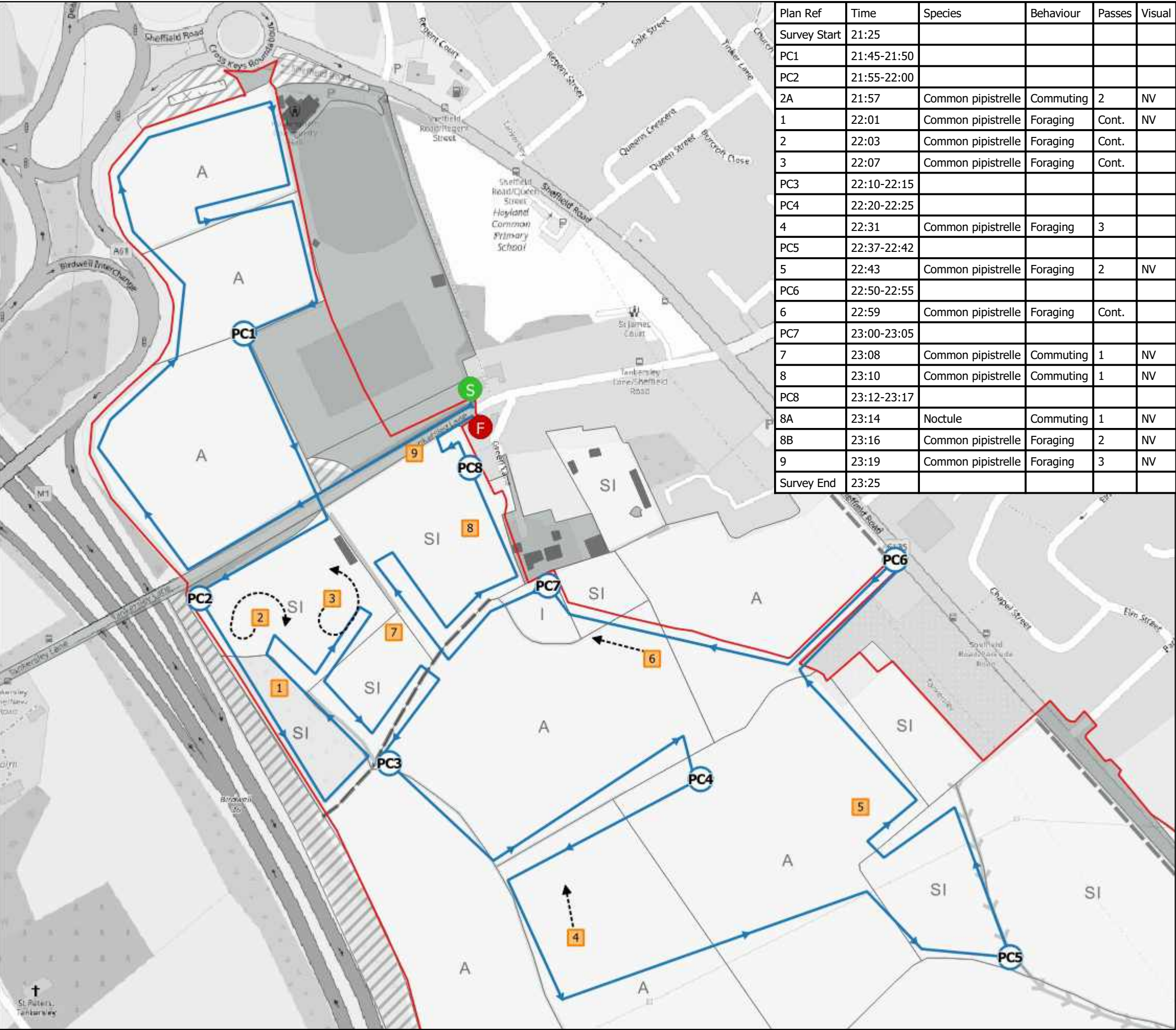
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Key:

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

Bat Contacts

- Common Pipistrelle
- Common/Soprano Pipistrelle
- Noctule



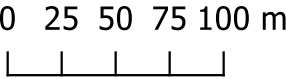
Plan Ref	Time	Species	Behaviour	Passes	Visual
Survey Start	21:25				
PC1	21:45-21:50				
PC2	21:55-22:00				
2A	21:57	Common pipistrelle	Commuting	2	NV
1	22:01	Common pipistrelle	Foraging	Cont.	NV
2	22:03	Common pipistrelle	Foraging	Cont.	
3	22:07	Common pipistrelle	Foraging	Cont.	
PC3	22:10-22:15				
PC4	22:20-22:25				
4	22:31	Common pipistrelle	Foraging	3	
PC5	22:37-22:42				
5	22:43	Common pipistrelle	Foraging	2	NV
PC6	22:50-22:55				
6	22:59	Common pipistrelle	Foraging	Cont.	
PC7	23:00-23:05				
7	23:08	Common pipistrelle	Commuting	1	NV
8	23:10	Common pipistrelle	Commuting	1	NV
PC8	23:12-23:17				
8A	23:14	Noctule	Commuting	1	NV
8B	23:16	Common pipistrelle	Foraging	2	NV
9	23:19	Common pipistrelle	Foraging	3	NV
Survey End	23:25				

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Key:

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- Point Count Locations (with ref.)
- Transect Route
- Bat Contacts (with ref.)**
 - Common Pipistrelle
 - Noctule





client
Newlands Developments

project
Land West of Sheffield Road,
Hovland

drawing title
BAT TRANSECT PLAN (16/07/20)

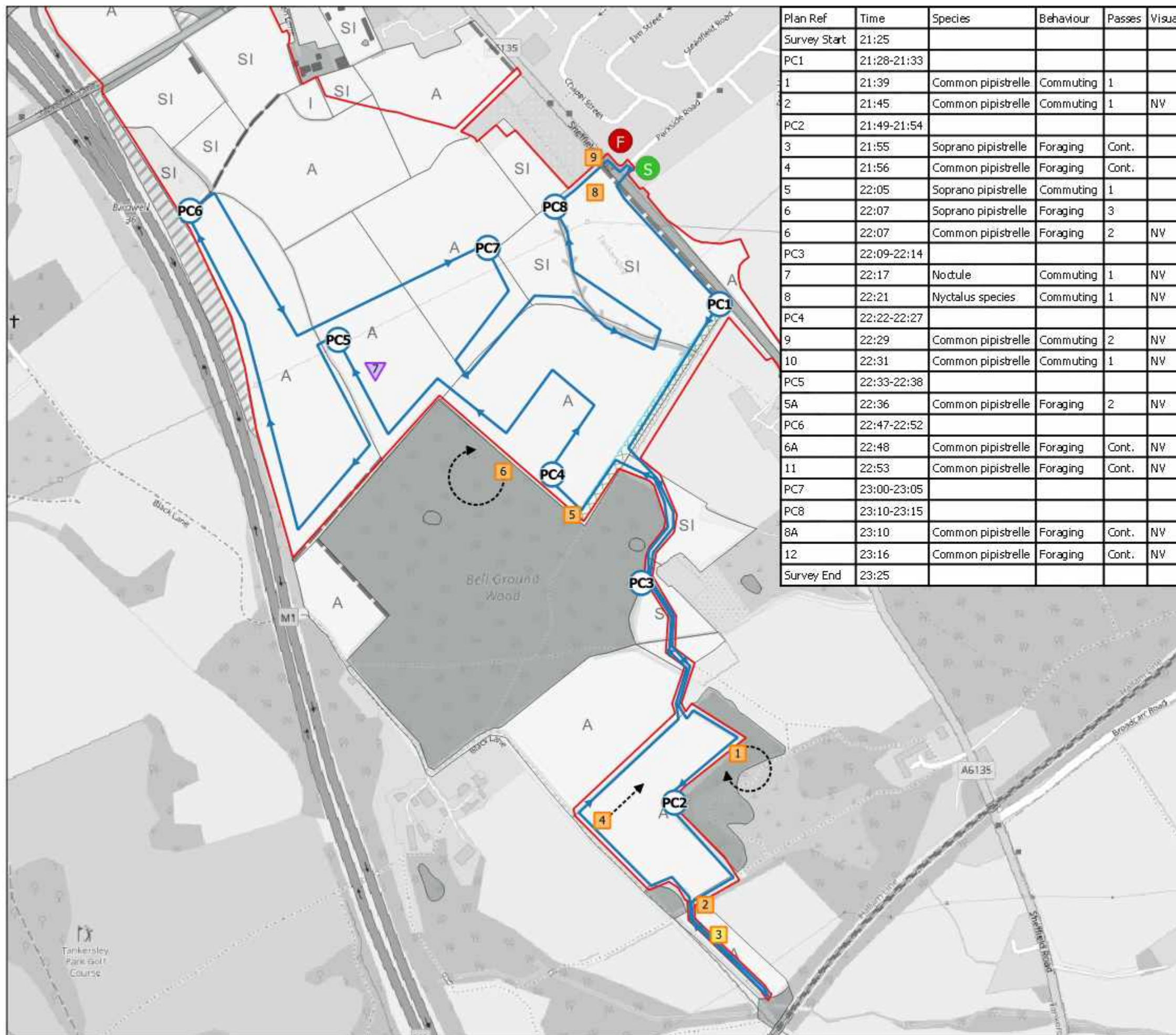
scale @ A3
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drawn
AMS

issue
9/9/2020

drawing / figure number
Figure 6A

rev
9295



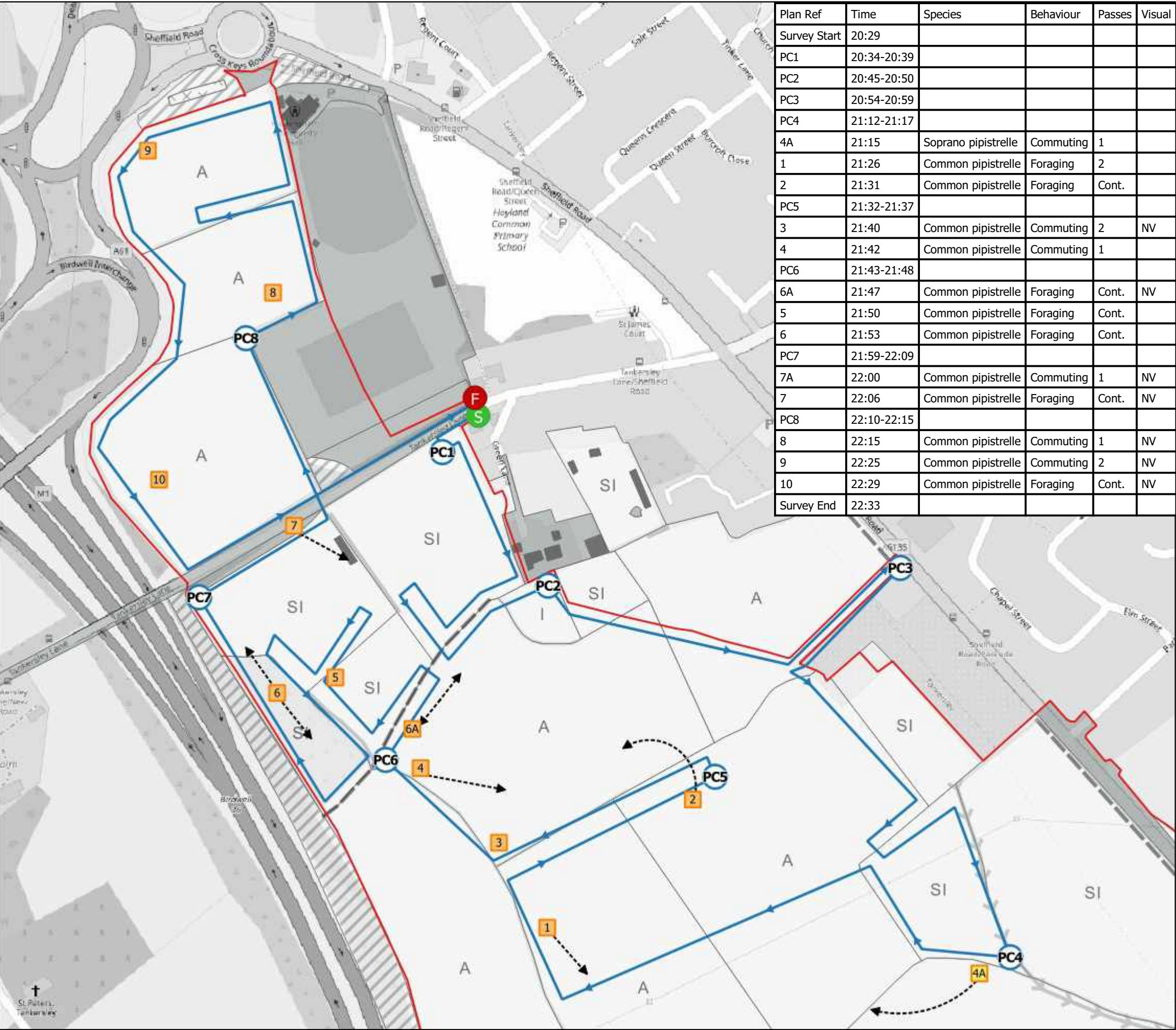
Plan Ref	Time	Species	Behaviour	Passes	Visual
Survey Start	21:25				
PC1	21:28-21:33				
1	21:39	Common pipistrelle	Commuting	1	
2	21:45	Common pipistrelle	Commuting	1	NV
PC2	21:49-21:54				
3	21:55	Soprano pipistrelle	Foraging	Cont.	
4	21:56	Common pipistrelle	Foraging	Cont.	
5	22:05	Soprano pipistrelle	Commuting	1	
6	22:07	Soprano pipistrelle	Foraging	3	
6	22:07	Common pipistrelle	Foraging	2	NV
PC3	22:09-22:14				
7	22:17	Noctule	Commuting	1	NV
8	22:21	Nyctalus species	Commuting	1	NV
PC4	22:22-22:27				
9	22:29	Common pipistrelle	Commuting	2	NV
10	22:31	Common pipistrelle	Commuting	1	NV
PC5	22:33-22:38				
5A	22:36	Common pipistrelle	Foraging	2	NV
PC6	22:47-22:52				
6A	22:48	Common pipistrelle	Foraging	Cont.	NV
11	22:53	Common pipistrelle	Foraging	Cont.	NV
PC7	23:00-23:05				
PC8	23:10-23:15				
8A	23:10	Common pipistrelle	Foraging	Cont.	NV
12	23:16	Common pipistrelle	Foraging	Cont.	NV
Survey End	23:25				

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Key:

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- S Start point
- F Finish point
- PC Point Count (with ref.)
- Transect Route
- Flight Path
- Bat Contacts (with ref.)**
- Common Pipistrelle
- Soprano Pipistrelle
- Common/Soprano Pipistrelle
- Nyctalus Species
- Noctule



Plan Ref	Time	Species	Behaviour	Passes	Visual
Survey Start	20:29				
PC1	20:34-20:39				
PC2	20:45-20:50				
PC3	20:54-20:59				
PC4	21:12-21:17				
4A	21:15	Soprano pipistrelle	Commuting	1	
1	21:26	Common pipistrelle	Foraging	2	
2	21:31	Common pipistrelle	Foraging	Cont.	
PC5	21:32-21:37				
3	21:40	Common pipistrelle	Commuting	2	NV
4	21:42	Common pipistrelle	Commuting	1	
PC6	21:43-21:48				
6A	21:47	Common pipistrelle	Foraging	Cont.	NV
5	21:50	Common pipistrelle	Foraging	Cont.	
6	21:53	Common pipistrelle	Foraging	Cont.	
PC7	21:59-22:09				
7A	22:00	Common pipistrelle	Commuting	1	NV
7	22:06	Common pipistrelle	Foraging	Cont.	NV
PC8	22:10-22:15				
8	22:15	Common pipistrelle	Commuting	1	NV
9	22:25	Common pipistrelle	Commuting	2	NV
10	22:29	Common pipistrelle	Foraging	Cont.	NV
Survey End	22:33				

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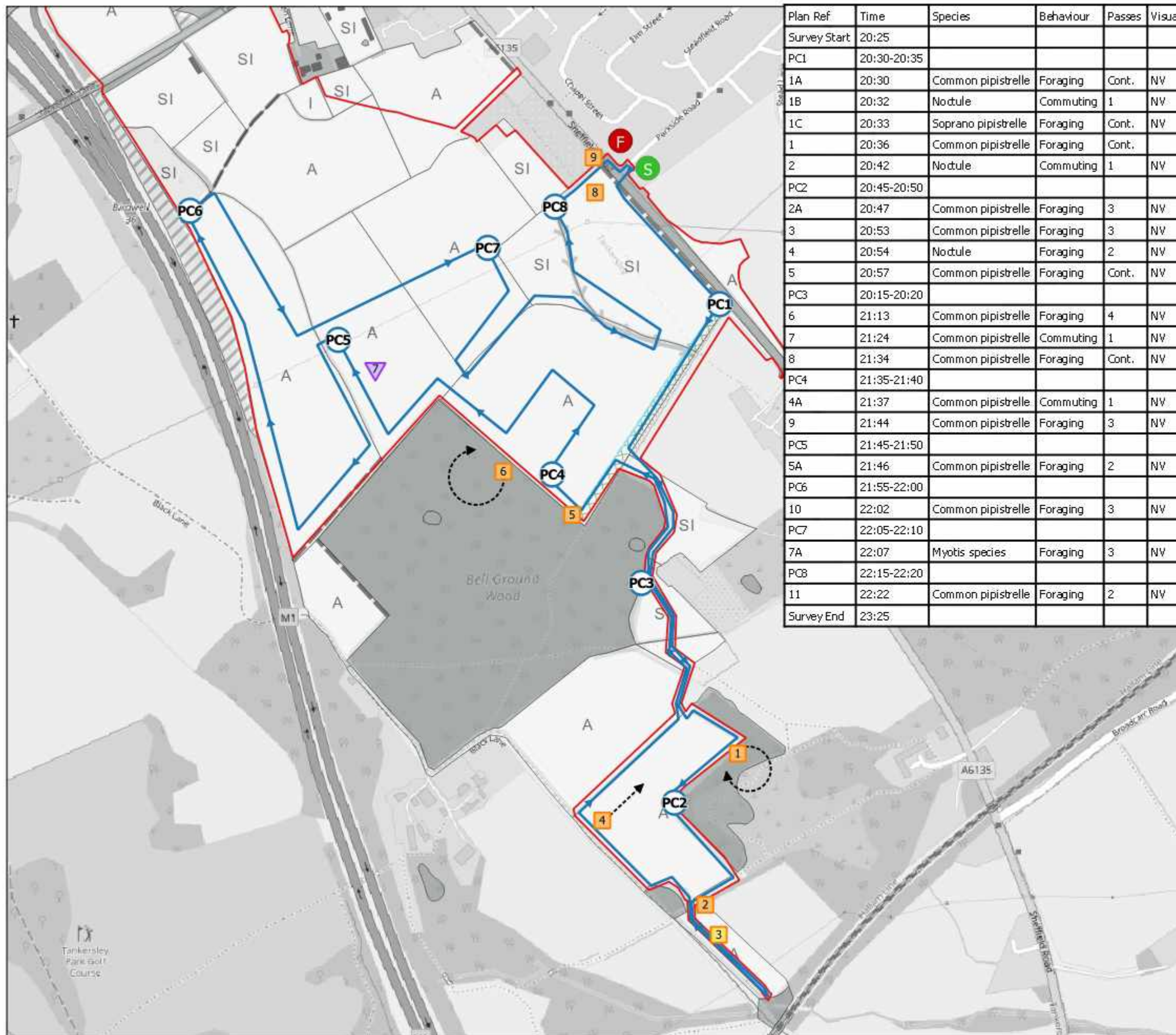
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Key:

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- Start Point
- Finish Point
- Point Count Locations (with ref.)
- Transect Route

Bat Contacts (with ref.)

- Common Pipistrelle
- Soprano Pipistrelle



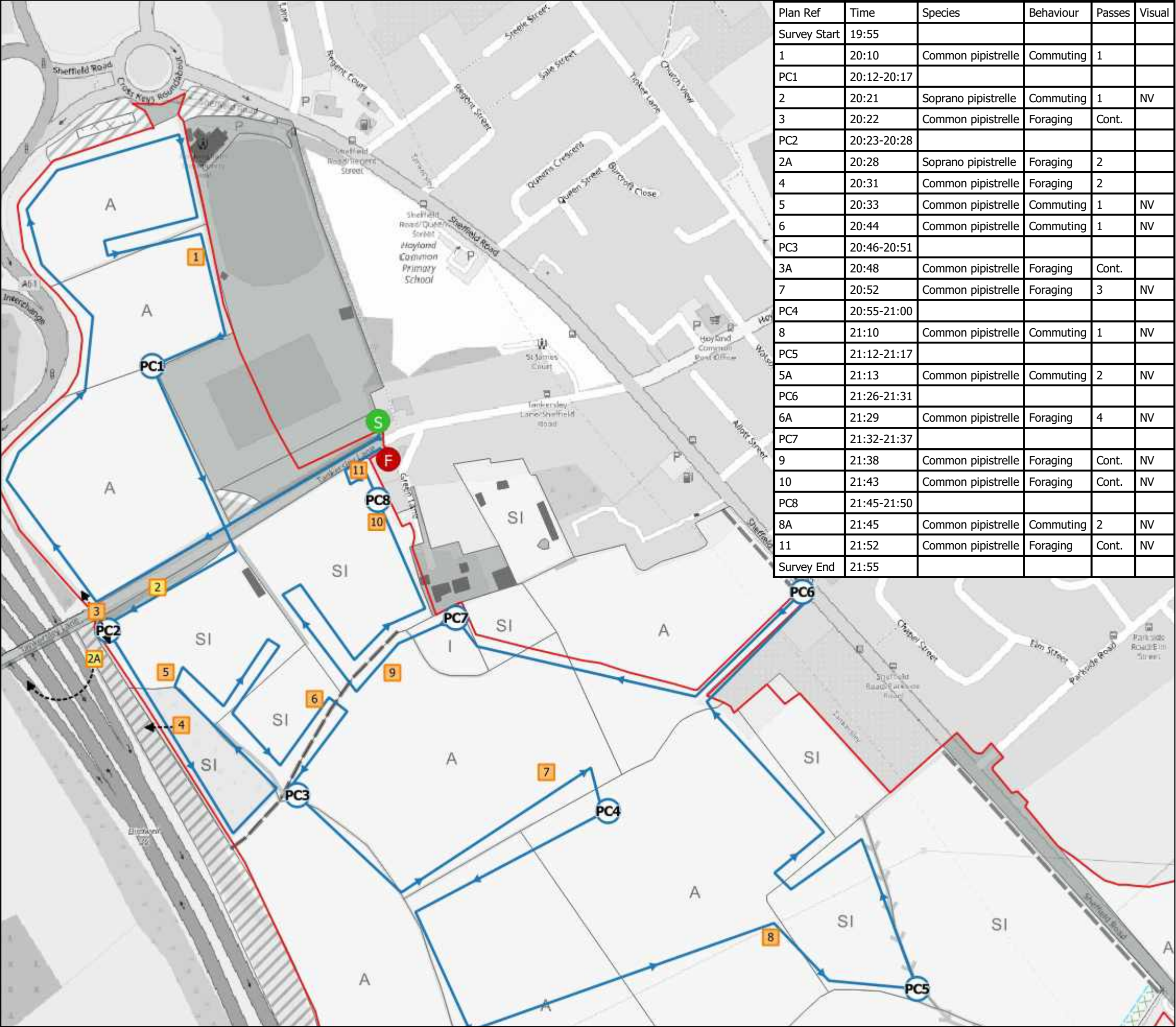
Plan Ref	Time	Species	Behaviour	Passes	Visual
Survey Start	20:25				
PC1	20:30-20:35				
1A	20:30	Common pipistrelle	Foraging	Cont.	NV
1B	20:32	Noctule	Commuting	1	NV
1C	20:33	Soprano pipistrelle	Foraging	Cont.	NV
1	20:36	Common pipistrelle	Foraging	Cont.	
2	20:42	Noctule	Commuting	1	NV
PC2	20:45-20:50				
2A	20:47	Common pipistrelle	Foraging	3	NV
3	20:53	Common pipistrelle	Foraging	3	NV
4	20:54	Noctule	Foraging	2	NV
5	20:57	Common pipistrelle	Foraging	Cont.	NV
PC3	20:15-20:20				
6	21:13	Common pipistrelle	Foraging	4	NV
7	21:24	Common pipistrelle	Commuting	1	NV
8	21:34	Common pipistrelle	Foraging	Cont.	NV
PC4	21:35-21:40				
4A	21:37	Common pipistrelle	Commuting	1	NV
9	21:44	Common pipistrelle	Foraging	3	NV
PC5	21:45-21:50				
5A	21:46	Common pipistrelle	Foraging	2	NV
PC6	21:55-22:00				
10	22:02	Common pipistrelle	Foraging	3	NV
PC7	22:05-22:10				
7A	22:07	Myotis species	Foraging	3	NV
PC8	22:15-22:20				
11	22:22	Common pipistrelle	Foraging	2	NV
Survey End	23:25				

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- Transect Route
- Flight Path
- Bat Contacts (with ref.)**
- Common Pipistrelle
- Noctule
- Myotis Species



Plan Ref	Time	Species	Behaviour	Passes	Visual
Survey Start	19:55				
1	20:10	Common pipistrelle	Commuting	1	
PC1	20:12-20:17				
2	20:21	Soprano pipistrelle	Commuting	1	NV
3	20:22	Common pipistrelle	Foraging	Cont.	
PC2	20:23-20:28				
2A	20:28	Soprano pipistrelle	Foraging	2	
4	20:31	Common pipistrelle	Foraging	2	
5	20:33	Common pipistrelle	Commuting	1	NV
6	20:44	Common pipistrelle	Commuting	1	NV
PC3	20:46-20:51				
3A	20:48	Common pipistrelle	Foraging	Cont.	
7	20:52	Common pipistrelle	Foraging	3	NV
PC4	20:55-21:00				
8	21:10	Common pipistrelle	Commuting	1	NV
PC5	21:12-21:17				
5A	21:13	Common pipistrelle	Commuting	2	NV
PC6	21:26-21:31				
6A	21:29	Common pipistrelle	Foraging	4	NV
PC7	21:32-21:37				
9	21:38	Common pipistrelle	Foraging	Cont.	NV
10	21:43	Common pipistrelle	Foraging	Cont.	NV
PC8	21:45-21:50				
8A	21:45	Common pipistrelle	Commuting	2	NV
11	21:52	Common pipistrelle	Foraging	Cont.	NV
Survey End	21:55				

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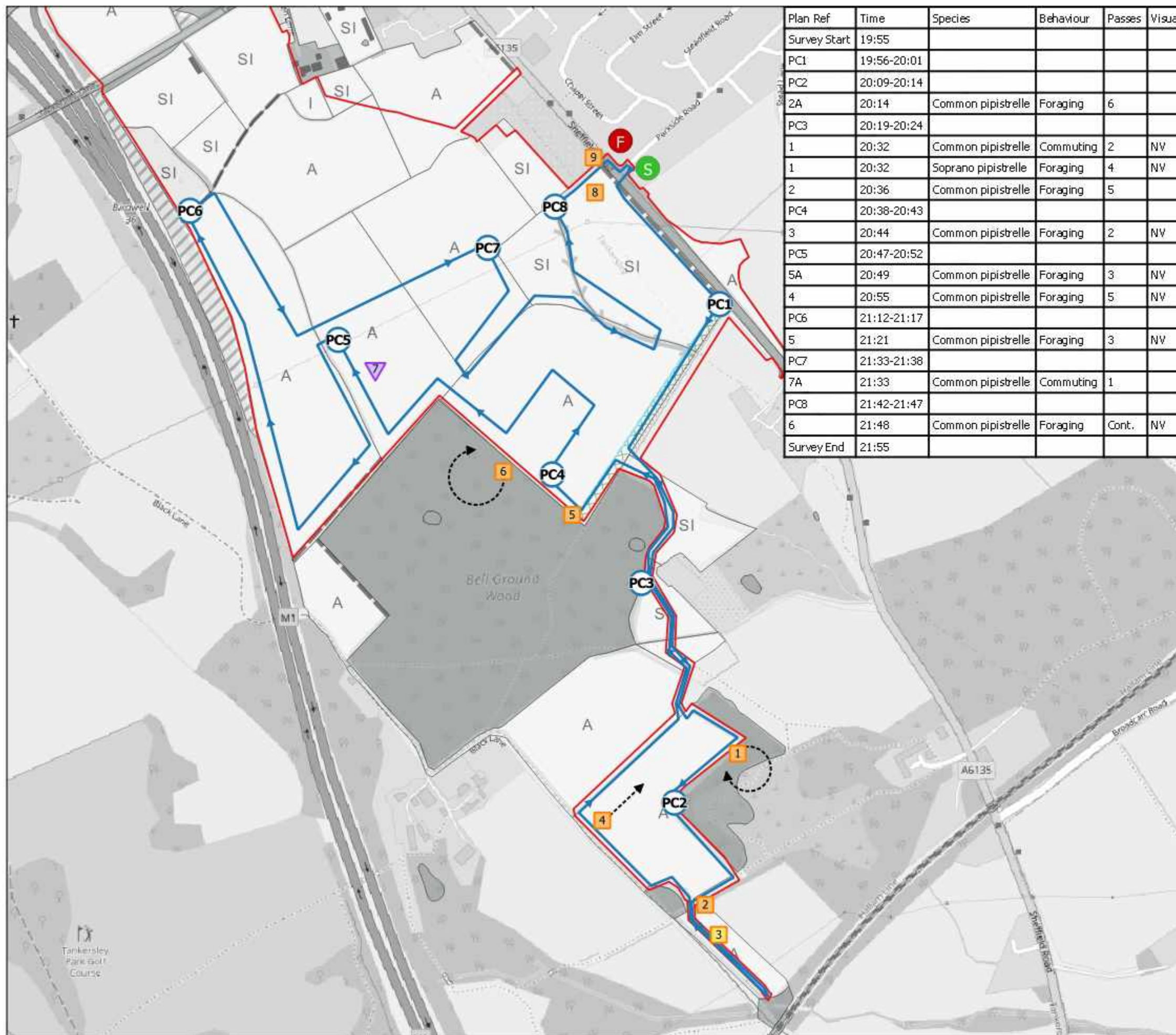
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- Transect Route

Bat Contacts (with ref.)

- Common Pipistrelle
- Soprano Pipistrelle



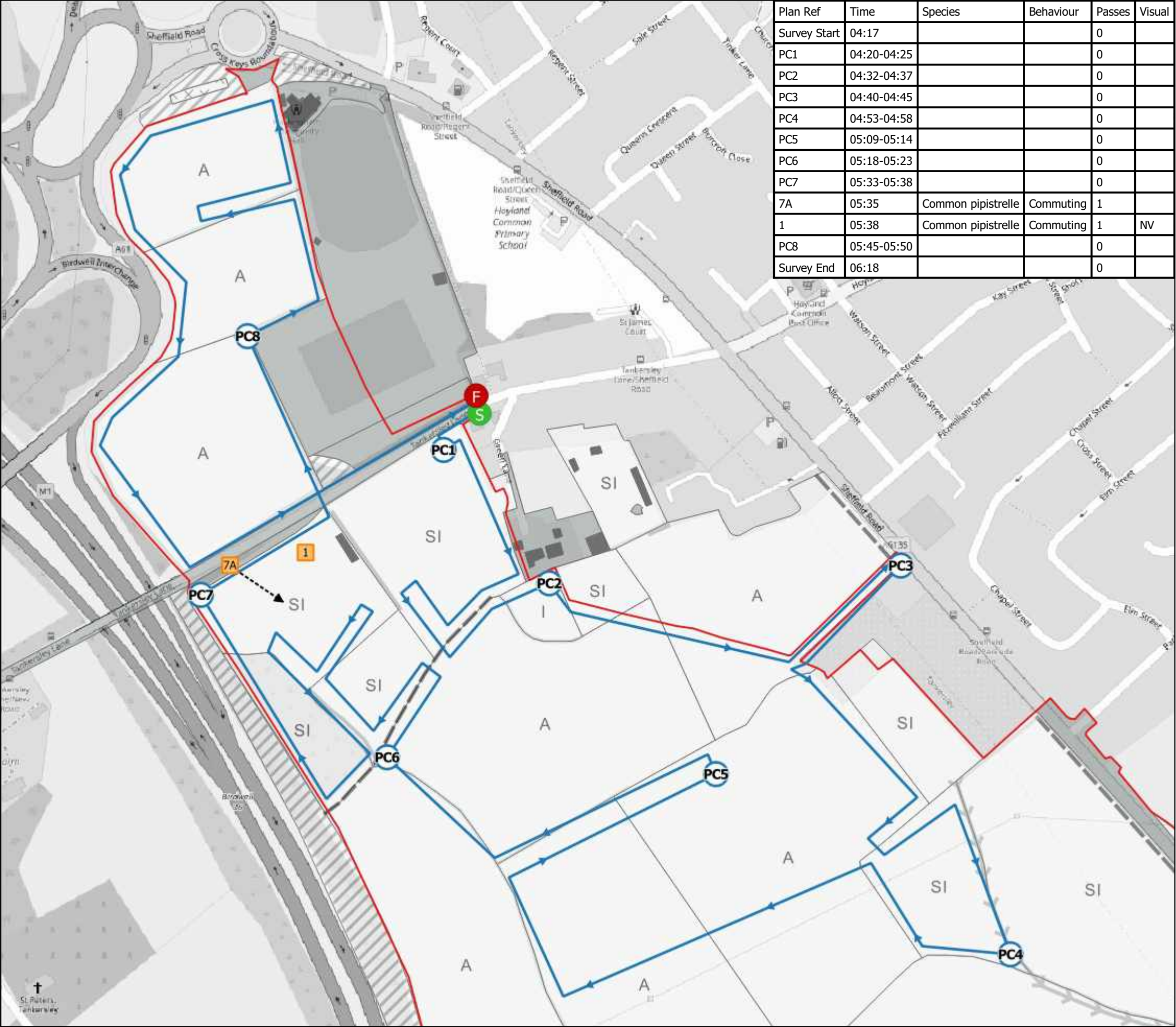
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- PC Point Count (with ref.)
- Transect Route
- Flight Path
- Bat Contacts**
- Common Pipistrelle
- Common/Soprano Pipistrelle

Client: Newlands Developments
Project: Land West of Sheffield Road, Hoyland
Drawn by: FPCR
BAT TRANSECT PLAN (1/09/20)
Scale: 1:6000
Date: 16/9/2020
Figure 8B
9295



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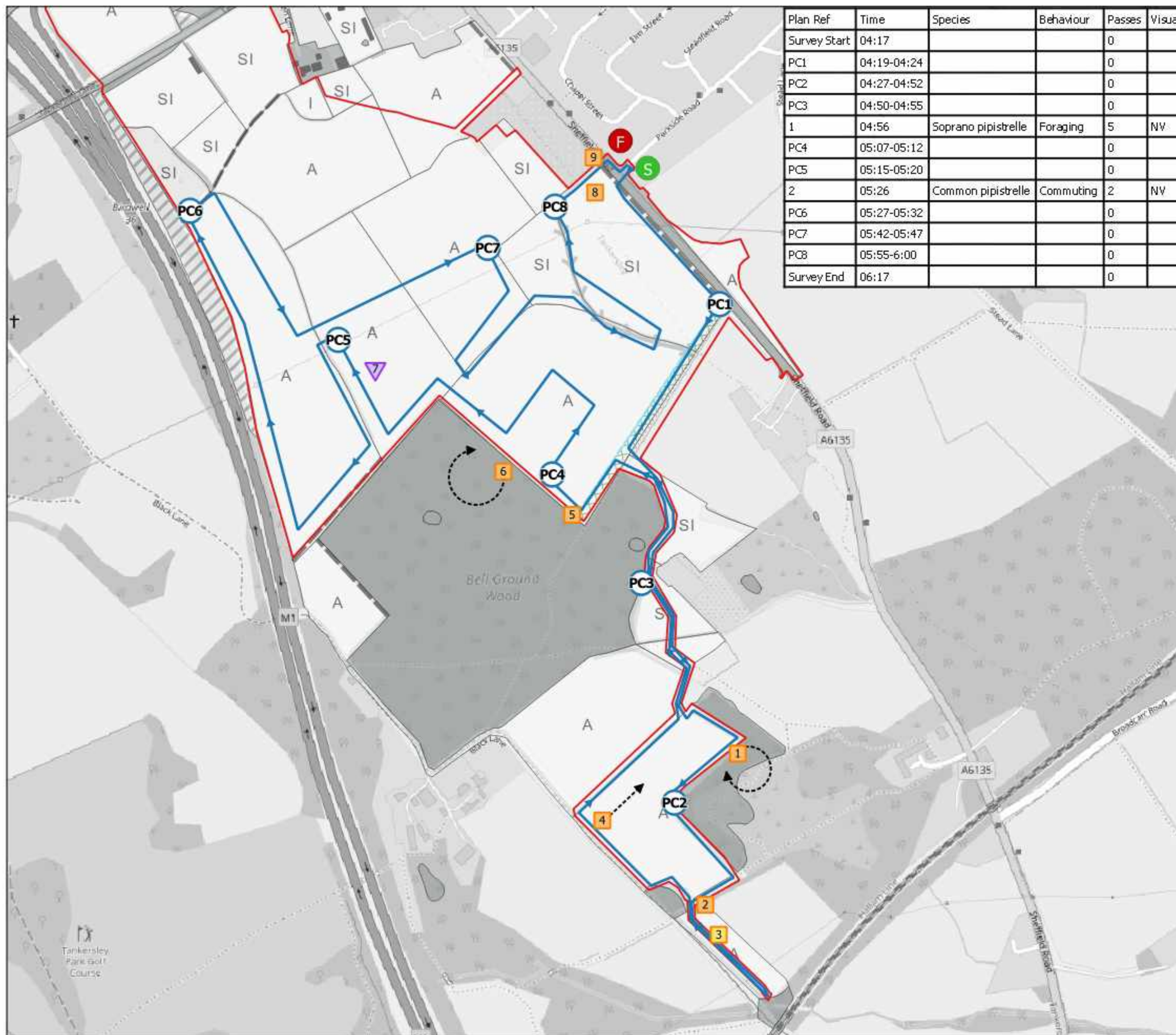
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Key:

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- Finish Point
- Point Count Locations (with ref.)
- Transect Route

Bat Contacts (with ref.)

- Common Pipistrelle



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Key:

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- Transect Route
- Flight Path

Bat Contacts

- Common Pipistrelle
- Soprano Pipistrelle

Appendix A: Photographs



Photograph 1: Building B1



Photograph 2: B1 (roof)



Photograph 3: B4 (damage to northern gable)



Photograph 4: B2 (internal view of northern gable)



Photograph 5: B3 (delaminating fascia)



Photograph 6: B3 (gap above door)



Photograph 7: B4 (southern aspect)



Photograph 8: B4a (internal view)



Photograph 9: B6 (gable end roost feature)



Photograph 10: B6 (internal view of gable end from below)



Photograph 11: B7 (north aspect)



Photograph 12: B7 (showing eastern gable and southern aspect)

Appendix B: Static Data Tables

Recording Period	Unit No.	Start Date	End Date	Survey Hours	Total Av. per hour	Total Registration	Common Pipistrelle			Myotis Species			Soprano Pipistrelle			Noctule		
							Period Total	Peak Count	Av. Per Hour	Period Total	Peak Count	Av. Per Hour	Period Total	Peak Count	Av. Per Hour	Period Total	Peak Count	Av. Per Hour
April	5	15/04/2020	20/04/2020	53:35:53	1.287	69	68	52	1.269	1	1	0.019	0	0	0.000	0	0	0.000
April	6	15/04/2020	20/04/2020	53:35:53	0.373	20	13	6	0.243	0	0	0.000	2	2	0.037	5	4	0.093
May	1	27/05/2020	01/06/2020	41:48:08	27.582	1153	878	221	21.004	263	85	6.292	5	2	0.120	4	3	0.096
May	5	27/05/2020	01/06/2020	41:48:05	2.320	97	37	14	0.885	14	6	0.335	16	6	0.383	29	9	0.694
June	7	15/06/2020	20/06/2020	39:51:19	14.703	586	281	119	7.051	153	50	3.839	113	57	2.835	32	12	0.803
June	8	15/06/2020	20/06/2020	39:51:18	50.859	2027	1980	515	49.680	1	1	0.025	14	10	0.351	32	14	0.803
July	7	16/07/2020	21/07/2020	43:28:44	14.513	631	558	266	12.834	59	28	1.357	5	4	0.115	8	4	0.184
July	8	16/07/2020	21/07/2020	43:28:44	35.235	1532	1458	647	33.534	10	5	0.230	62	32	1.426	0	0	0.000
August	1	12/08/2020	17/08/2020	51:12:02	6.152	315	269	95	5.254	10	4	0.195	15	10	0.293	9	6	0.176
August	5	12/08/2020	17/08/2020	51:12:02	6.797	348	282	134	5.508	39	12	0.762	14	10	0.273	4	2	0.078
September	9	01/09/2020	06/09/2020	57:55:49	8.010	464	408	195	7.043	21	14	0.363	19	8	0.328	12	5	0.207

Recording Period	Unit No.	Start Date	End Date	Survey Hours	Total Av. per hour	Total Registration	Common Pipistrelle			Myotis Species			Soprano Pipistrelle			Noctule		
							Period Total	Peak Count	Av. Per Hour	Period Total	Peak Count	Av. Per Hour	Period Total	Peak Count	Av. Per Hour	Period Total	Peak Count	Av. Per Hour
September	10	01/09/2020	06/09/2020	57:55:49	1.312	76	65	32	1.122	3	2	0.052	5	3	0.086	3	2	0.052
Total				575.:91:5	169.143	7318	6297	2296	145.427	574	208	13.469	270	144	6.247	138	61	169.143

Recording Period	Unit No.	Start Date	End Date	Pipistrelle Species			Nyctalus Species			Brown Long-eared		
				Period Total	Peak Count	Av. Per Hour	Period Total	Peak Count	Av. Per Hour	Period Total	Peak Count	Av. Per Hour
April	5	15/04/2020	20/04/2020	0	0	0.000	0	0	0.000	0	0	0.000
April	6	15/04/2020	20/04/2020	0	0	0.000	0	0	0.000	0	0	0.000
May	1	27/05/2020	01/06/2020	0	0	0.000	3	3	0.072	0	0	0.000
May	5	27/05/2020	01/06/2020	0	0	0.000	0	0	0.000	1	1	0.024
June	7	15/06/2020	20/06/2020	3	2	0.075	0	0	0.000	4	2	0.100
June	8	15/06/2020	20/06/2020	0	0	0.000	0	0	0.000	0	0	0.000
July	7	16/07/2020	21/07/2020	0	0	0.000	1	1	0.023	0	0	0.000
July	8	16/07/2020	21/07/2020	0	0	0.000	0	0	0.000	2	1	0.046
August	6	12/08/2020	17/08/2020	8	7	0.156	1	1	0.020	3	2	0.059
August	5	12/08/2020	17/08/2020	6	4	0.117	2	1	0.039	1	1	0.020
September	9	01/09/2020	06/09/2020	0	0	0.000	4	3	0.069	0	0	0.000

September	10	01/09/2020	06/09/2020	0	0	0.000	0	0	0.000	0	0	0.000
Total				3.186	17	13	0.348	11	9	0.223	11	7

Appendix C: Method Statement for Tree Works

This method statement applies to the felling operations on trees with low potential assessed in accordance with The Bat Conservation Trust (2016) Bat Surveys for Professional Ecologists: Good Practice Guide (3rd Edition)

Prior to any felling / pruning operations the contractors should undertake a pre-felling climbing inspection using an endoscope and inspection mirrors. This will be carried out by a tree surgeon, preferably one with previous experience of identifying evidence of bats. The tree surgeon will move around the tree to inspect all features that may have potential to support roosting bats. If the contractor identifies the presence of a bat or bat droppings all works will be delayed until further advice has been sought from a Licensed Bat Worker.

Providing no bats are discovered, felling will commence.

Felling will be undertaken in sections beginning with those parts of the tree that do not contain any such features to support bats. All sections will be lowered to the ground using ropes as to avoid any damage and disturbance to surrounding trees.

Finally those parts of the tree where bat roost potential features were identified will be removed and carefully lowered to the ground using ropes. To ensure that no bats are present, the piece of timber will be left on the ground for a minimum of 24 hours prior to removal to allow any bats to disperse.

AT ANY TIME DURING THE ABOVE PROCESSES, SHOULD A BAT BE FOUND ALL WORKS WILL CEASE AND THE LICENSED BAT WORKER WILL ADVISE ON WHAT MITIGATION / POSSIBLE LICENSING WOULD BE REQUIRED TO ENABLE WORKS TO CONTINUE.