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# The Cambridge South East Transport Order

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## Transport And Works Act 1992

## Transport And Works (Applications And Objections Procedure) (England And Wales) Rules 2006

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### Appendix 10.6 – Hedgehog Surveys

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|--------------------|-------------------------------|
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Freedom of Information

Capita understands and acknowledges the Authority’s legal obligations and responsibilities under the Freedom of Information Act 2000 (the “Act”) and fully appreciates that the Authority may be required under the terms of the Act to disclose any information which it holds. Capita maintains that the report contains commercially sensitive information that could be prejudicial to the commercial interests of the parties. On this basis Capita believes that the report should attract exemption from disclosure, at least in the first instance, under Sections 41 and/or 43 of the Act. Capita accepts that the damage which it would suffer in the event of disclosure of certain of the confidential information would, to some extent, reduce with the passage of time and therefore proposes that any disclosure (pursuant to the Act) of the confidential information contained in the report should be restricted until after the expiry of 24 months from the date of the report.

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1 Summary

Capita Real Estate & Infrastructure’s Ecologists was commissioned by the Greater Cambridgeshire Partnership to undertake hedgehog activity surveys across the route of Phase 2 of the Cambridge South East Transport (CSET) Scheme. The surveys have been carried out to provide baseline ecological information for the CSET Project to inform the design and environmental assessment of the proposals.

Surveys were carried out between 11 November and 1 December 2020, focussing on the proposed areas of land to be affected by the CSET Phase 2 scheme.

The results are summarised as follows:

- No hedgehog prints or droppings were identified during the hedgehog tunnel survey.
- No images of hedgehogs were recorded during the period of trail camera deployment.

This report describes the methods and results of the hedgehog survey.

## 2 Introduction

### 2.1 Background

- 2.1.1. Capita Real Estate & Infrastructure's Ecologists were commissioned by the Greater Cambridgeshire Partnership in March 2020 to undertake hedgehog surveys. These surveys were undertaken in relation to the development of Phase 2 of the Cambridge South East Transport (CSET) Project, (the 'Scheme'). The Scheme and the survey area are depicted in Figure 1.
- 2.1.1 The aim of the report is to summarise the results of the baseline surveys conducted in November 2020 to inform the design and Environmental Statement for the Scheme.

### 2.2 Project Description and Purpose of the Scheme

- 2.2.1 The Cambridge South East Transport (CSET) Project aims to create a vital link to ease congestion, offer sustainable travel choices, connect communities and support growth in the in South East of Cambridge. CSET will form part of the Cambridgeshire Autonomous Metro, providing high quality, frequent and affordable public transport.
- 2.2.2 CSET Phase 2 comprises a segregated public transport route from the A11 (near Brabham) to the Cambridge Biomedical Campus (CBC). This will include new walking, cycling and equestrian links.

### 2.3 Legislation and Policy

- 2.3.1. Hedgehogs receive only limited legal protection under Schedule 6 of the Wildlife and Countryside Act 1981 (as amended): They cannot be killed or trapped by certain methods.
- 2.3.2. Hedgehogs are also classified as vulnerable to extinction under the IUCN Red List for British Mammals.

#### Planning Policy

- 2.3.3. National Planning Policy is set out by the National Planning Policy Framework (NPPF February 2019) combined with the guidance document Planning for Biodiversity and Geological Conservation: A Guide to Good Practice" (ODPM 2005).
- 2.3.4. Biodiversity net gains are referenced strongly in terms of developing local planning policy and decision-making for development applications. The environmental test

of sustainable development requires planning policy and planning decisions to help to 'improve biodiversity' (paragraph 8c).

- 2.3.5. References to biodiversity net gain elsewhere in the new NPPF (such as paragraph 175d) support the delivery of biodiversity net gain through sustainable development. Net gain for biodiversity is far more prominent than in the previous NPPF and considers a holistic landscape approach to protect, and enhance biodiversity promoting conservation, restoration and enhancement of Priority Habitats (also listed as Habitats of Principal Importance) identified under the NERC Act 2006), ecological networks and the protection and recovery of Priority Species (also listed as Species of Principal Importance) identified under the NERC Act 2006). The NPPF includes requirements for planning authorities to identifying and pursuing opportunities for securing measurable net gains for biodiversity (paragraph 174b).
  - 2.3.6. Protected sites and species are a material consideration in determining planning applications and therefore all information relating to protected sites and species must be submitted with planning submissions for determination of the whole application. The NPPF (paragraph 175) which promotes Local Planning Authorities to assess if significant harm would occur to biodiversity and decide accordingly.
- #### Biodiversity Policy
- 2.3.7. Section 41 of the NERC Act requires the Secretary of State to draw up a list of Habitats and Species of Principal Importance which should be used to guide decision-makers (which include local authorities) in implementing their duty under Section 40.
  - 2.3.8. Hedgehogs are listed as Species of Principal Importance and are highlighted as requiring conservation action in line with UK.

## 2.4 Personnel and Quality Assurance

- 2.4.1. All ecologists employed by Capita adopt best practice working methods in undertaking surveys including the Chartered Institute of Ecology and Environmental Management's (CIEEM) code of professional and all fieldwork is carried out in accordance with current best practice guidelines and under the supervision of senior staff and appropriately licensed ecologists where necessary.

- 2.4.2. The hedgehog surveys were led by Principal Ecologist, James Johnston and assisted by Assistant Ecologists, Mark Johnson and Thomas Severn.

James is an Associate member of CIEEM and has over seven years' experience working in ecology and conservation. James has worked on a wide range of projects including large infrastructure developments and demolitions. He has conducted numerous Extended Phase I Habitat surveys and is competent in assessing a site's baseline ecological value.

Mark Johnson has three years' experience working within ecological consultancy. He has previous experience using footprint tracking tunnels as part of the People's Trust for Endangered Species' (PTES) voluntary National Hedgehog Survey. He also has previously completed a camera trapping training course for mammal monitoring, with The Mammal Society.

Thomas Severn has two years' experience working within ecological consultancy. He has worked on a wide range of projects and has conducted surveys on species including badger, reptile, breeding birds and bats.

## 3 Methods

### 3.1 Survey and Report Objectives

- 3.1.1. The surveys and report were carried out to fulfil the following objectives.

1. To identify whether hedgehogs are present along the proposed route
2. To provide an assessment of the likely importance of the site for hedgehog and their conservation.

### 3.2 Desk-based Study

- 3.2.1. A biological record report was obtained by Mott MacDonald. This report was reviewed, and the results have been included within this report.

### 3.3 Field Survey

#### Presence/Absence Surveys

- 3.3.1 The People's Trust for Endangered Species methodology "Guidance for detecting hedgehogs using footprint tracking tunnels" (PTES. 2015) was used for the surveys.
- 3.3.2 The survey involved the use of footprint tunnels, that consist of ink, paper and bait to record animal track and prints.
- 3.3.3 Tunnels were placed evenly distributed across the site, a minimum of 100m apart, at linear features that were suitable for hedgehog as illustrated in Appendix C.
- 3.3.4 Surveys were carried out in November 2020. This is in accordance with the PTES guidance which recommend these surveys are undertaken between April to November.
- 3.3.5 The tunnels were baited and left out on for a minimum of five consecutive days.
- 3.3.6 The paper was then collected for footprint analysis.
- 3.3.7 Due to the size of the survey area, it was split into two using the River Granta as a natural barrier to reduce the risk of animals moving between the two areas of survey.

Location of Tunnels

3.3.8 Table 1 summarises the locations the tunnels were left out for survey which are also shown on plans in Appendix A.

Table 1: Summary of Tunnel Location Sites

| Tunnel Reference | Location                                                                  | Grid Reference | Habitat type              |
|------------------|---------------------------------------------------------------------------|----------------|---------------------------|
| S01-T01          | Granhams Road, Great Shelford, CB22 5JY                                   | TL 46499 53425 | Hedgerow adjacent to road |
| S01-T02          | Granhams Road, Great Shelford, CB22 5JY                                   | TL 46547 53476 | Hedgerow                  |
| S01-T03          | Granhams Road, Great Shelford, CB22 5JY                                   | TL 46466 53550 | Hedgerow                  |
| S01-T04          | Granhams Road, Great Shelford, CB22 5JY                                   | TL 46382 53625 | Hedgerow                  |
| S01-T05          | Granhams Road, Great Shelford, CB22 5JY                                   | TL 46306 53692 | Hedgerow                  |
| S01-T06          | Addenbrookes-Great Shelford Cycleway, Great Shelford, CB22 5EF            | TL 46217 53769 | Hedgerow                  |
| S01-T07          | Nine Wells, Addenbrookes-Great Shelford Cycleway, Great Shelford, CB2 0AX | TL 46104 53871 | Hedgerow                  |
| S01-T08          | Addenbrookes-Great Shelford Cycleway, Great Shelford, CB22 5EF            | TL 46005 53958 | Hedgerow                  |
| S01-T09          | Nine Wells, Addenbrookes-Great Shelford Cycleway, Great Shelford, CB2 0AX | TL 46036 54015 | Hedgerow                  |
| S01-T10          | Nine Wells, Addenbrookes-Great Shelford Cycleway, Great Shelford, CB2 0AX | TL 46091 54073 | Hedgerow                  |
| S02-T11          | Granhams Road, Great Shelford, CB22 5JY                                   | TL 46515 53420 | Hedgerow adjacent to road |

| Tunnel Reference | Location                                 | Grid Reference | Habitat type                 |
|------------------|------------------------------------------|----------------|------------------------------|
| S02-T12          | Granhams Road, Great Shelford, CB22 5JY  | TL 46552 53321 | Field margin                 |
| S02-T13          | Granhams Road, Great Shelford, CB22 5JY  | TL 46654 53246 | Field margin                 |
| S02-T14          | Coppice Avenue, Great Shelford, CB22 5AQ | TL 46752 53163 | Field margin                 |
| S02-T15          | Coppice Avenue, Great Shelford, CB22 5AQ | TL 46882 53180 | Field margin                 |
| S02-T16          | Coppice Avenue, Great Shelford, CB22 5AQ | TL 46853 53149 | Woodland edge / field margin |
| S02-T17          | Coppice Avenue, Great Shelford, CB22 5AQ | TL 46900 53086 | Field margin near gardens    |
| S02-T18          | Coppice Avenue, Great Shelford, CB22 5AQ | TL 46974 53015 | Field margin near garden     |
| S02-T19          | Hinton Way, Great Shelford, CB22 5AD     | TL 47035 52949 | Field margin near gardens    |
| S02-T20          | Hinton Way, Great Shelford, CB22 5AD     | TL 47099 52883 | Hedgerow / field margin      |
| S03-T21          | Hinton Way, Stapleford, CB22 5AD         | TL 47322 52993 | Field margin near gardens    |
| S03-T22          | Hinton Way, Stapleford, CB22 5AD         | TL 47313 52932 | Field margin near gardens    |
| S03-T23          | Hinton Way, Stapleford, CB22 5AD         | TL 47340 52885 | Field margin near gardens    |
| S03-T24          | Hinton Way, Stapleford, CB22 5AD         | TL 47387 52834 | Field margin near gardens    |

| Tunnel Reference | Location                                                    | Grid Reference | Habitat type              |
|------------------|-------------------------------------------------------------|----------------|---------------------------|
| S03-T25          | Hinton Way, Stapleford, CB22 5AD                            | TL 47360 52770 | Hedgerow                  |
| S04-T26          | Haverhill Road, Stapleford, CB22 5BX                        | TL 48133 52605 | Hedgerow                  |
| S04-T27          | Middlefield Cottage, Haverhill Road, Stapleford, CB22 5BX   | TL 48049 52676 | Hedgerow near gardens     |
| S04-T28          | The House on the Hill, Haverhill Road, Stapleford, CB22 5BX | TL 47957 52738 | Hedgerow near gardens     |
| S04-T29          | Haverhill Road, Stapleford, CB22 5BX                        | TL 48095 52510 | Hedgerow                  |
| S04-T30          | Haverhill Road, Stapleford, CB22 5BX                        | TL 48031 52436 | Hedgerow                  |
| S05-T31          | Chalk Hill, Stapleford, CB22 5DQ                            | TL 47658 52242 | Track edge                |
| S05-T32          | Chalk Hill, Stapleford, CB22 5DQ                            | TL 47685 52270 | Field margin near gardens |
| S05-T33          | Chalk Hill, Stapleford, CB22 5DQ                            | TL 47698 52212 | Field margin near gardens |
| S05-T34          | Gog Magog Way, Stapleford, CB22 5DQ                         | TL 47747 52177 | Field margin near gardens |
| S05-T35          | Haverhill Road, Stapleford, CB22 5BX                        | TL 47797 52152 | Hedgerow                  |
| S06-T36          | Haverhill Road, Stapleford, CB22 5BX                        | TL 47934 52308 | Field margin              |
| S06-T37          | Haverhill Road, Stapleford, CB22 5BX                        | TL 47824 52070 | Hedgerow near gardens     |
| S06-T38          | Haverhill Road, Stapleford, CB22 5BX                        | TL 47891 52032 | Hedgerow near gardens     |
| S06-T39          | Haverhill Road, Stapleford, CB22 5BX                        | TL 47965 51992 | Hedgerow                  |

| Tunnel Reference | Location                             | Grid Reference | Habitat type                 |
|------------------|--------------------------------------|----------------|------------------------------|
| S06-T40          | Haverhill Road, Stapleford, CB22 5BX | TL 48036 51954 | Hedgerow                     |
| S07-T41          | Fox Hill, Stapleford, CB22 5FX       | TL 48028 51328 | Field margin / scrub         |
| S07-T42          | Fox Hill, Stapleford, CB22 5FX       | TL 48097 51343 | Field margin / ditch         |
| S07-T43          | Fox Hill, Stapleford, CB22 5FX       | TL 48164 51351 | Field margin / ditch         |
| S07-T44          | Fox Hill, Stapleford, CB22 5FX       | TL 48235 51357 | Field margin / ditch         |
| S07-T45          | Fox Hill, Stapleford, CB22 5FX       | TL 48279 51362 | Field margin / ditch         |
| S08-T46          | Deal Farm, Sawston                   | TL 48269 50927 | Track edge / field margin    |
| S08-T47          | Deal Farm, Sawston                   | TL 48301 50992 | Woodland edge / field margin |
| S08-T48          | Deal Farm, Sawston                   | TL 48225 51007 | Woodland edge/ field margin  |
| S08-T49          | Deal Farm, Sawston                   | TL 48245 51037 | Woodland edge / field margin |
| S08-T50          | Deal Farm, Sawston                   | TL 48386 50971 | Woodland edge / field margin |
| S08-T51          | Deal Farm, Sawston                   | TL 48351 50945 | Woodland edge / field margin |
| S08-T52          | Deal Farm, Sawston                   | TL 48428 50904 | Woodland edge / field margin |
| S08-T53          | Deal Farm, Sawston                   | TL 48503 50884 | Woodland edge / field margin |
| S08-T54          | Deal Farm, Sawston                   | TL 48463 50932 | Woodland edge / field margin |

| Tunnel Reference | Location                                     | Grid Reference | Habitat type                 |
|------------------|----------------------------------------------|----------------|------------------------------|
| S08-T55          | Deal Farm, Woodland Road, Sawston, CB22 3DT  | TL 48658 50816 | Field margin / ditch         |
| S08-T56          | Deal Farm, Sawston                           | TL 48638 51042 | Field margin / scrub         |
| S08-T57          | Deal Farm, Sawston                           | TL 48576 51117 | Field margin / ditch         |
| S08-T58          | Deal Farm, Sawston                           | TL 48525 51190 | Field margin / scrub         |
| S08-T59          | Deal Farm, Sawston                           | TL 48659 51080 | Hedgerow                     |
| S08-T60          | Deal Farm, Sawston                           | TL 48681 50914 | Field margin / ditch         |
| S09-T61          | Sawston-Babraham Cycleway, Sawston, CB22 3JH | TL 49709 49993 | Hedgerow                     |
| S09-T62          | Sawston-Babraham Cycleway, Sawston, CB22 3JH | TL 49774 49987 | Hedgerow                     |
| S09-T63          | Sawston-Babraham Cycleway, Sawston, CB22 3JH | TL 49852 49960 | Hedgerow                     |
| S09-T64          | Sawston-Babraham Cycleway, Sawston, CB22 3JH | TL 49808 50044 | Hedgerow                     |
| S09-T65          | Sawston-Babraham Cycleway, Sawston, CB22 3JH | TL 49941 49980 | Hedgerow                     |
| S10-T66          | High Street, Babraham, CB22 3AS              | TL 50713 49502 | Hedgerow                     |
| S10-T67          | High Street, Babraham, CB22 3AS              | TL 50653 49443 | Woodland edge / field margin |
| S10-T68          | High Street, Babraham, CB22 3AS              | TL 50568 49506 | Woodland edge / field margin |
| S10-T69          | Sawston-Babraham Cycleway, Sawston, CB22 3JH | TL 50476 49566 | Woodland edge / field margin |

| Tunnel Reference | Location                                                  | Grid Reference | Habitat type                 |
|------------------|-----------------------------------------------------------|----------------|------------------------------|
| S10-T70          | Sawston-Babraham Cycleway, Sawston, CB22 3JH              | TL 50415 49615 | Hedgerow                     |
| S11-T71          | A11, Bourn Bridge, Little Abington, CB21 6AP              | TL 51851 49842 | Woodland edge / field margin |
| S11-T72          | A11, Bourn Bridge, Little Abington, CB21 6AP              | TL 51886 49797 | Hedgerow                     |
| S11-T73          | A11, Bourn Bridge, Little Abington, CB21 6AP              | TL 51964 49770 | Hedgerow                     |
| S11-T74          | A11, Bourn Bridge, Little Abington, CB21 6AP              | TL 51939 49684 | Hedgerow                     |
| S11-T75          | A505, Fourwentways, Babraham, CB21 6AW                    | TL 51888 49568 | Hedgerow                     |
| S12-T76          | Newmarket Road, Four Went Ways, Little Abington, CB21 6AN | TL 52043 49504 | Woodland edge / field margin |
| S12-T77          | A11, Bourn Bridge, Little Abington, CB21 6AR              | TL 52000 49532 | Woodland edge / field margin |
| S12-T78          | A11, Bourn Bridge, Little Abington, CB21 6AR              | TL 51992 49599 | Woodland edge / field margin |
| S12-T79          | A11, Bourn Bridge, Little Abington, CB21 6AR              | TL 52013 49671 | Woodland edge / field margin |
| S12-T80          | A11, Bourn Bridge, Little Abington, CB21 6AR              | TL 52025 49729 | Woodland edge / field margin |
| S12-T81          | A11, Bourn Bridge, Little Abington, CB21 6AR              | TL 52116 49902 | Hedgerow                     |
| S12-T82          | A11, Bourn Bridge, Little Abington, CB21 6AR              | TL 52143 49957 | Hedgerow                     |

| Tunnel Reference | Location                                       | Grid Reference | Habitat type |
|------------------|------------------------------------------------|----------------|--------------|
| S12-T83          | A11, Bourn Bridge, Little Abington, CB1 6AR    | TL 52169 50004 | Hedgerow     |
| S12-T84          | Bourn Bridge, Little Abington, CB21 6AR        | TL 52208 50000 | Hedgerow     |
| S12-T85          | A11, Bourn Bridge, Little Abington, CB21 6AR   | TL 52194 49942 | Hedgerow     |
| S13-T86          | A1307, Bourn Bridge, Little Abington, CB21 6AR | TL 52318 50126 | Field margin |
| S13-T87          | Bourn Bridge, Little Abington, CB21 6AR        | TL 52292 50093 | Field margin |
| S13-T88          | Bourn Bridge, Little Abington, CB21 6AR        | TL 52301 50037 | Field margin |
| S13-T89          | Bourn Bridge, Little Abington, CB21 6AR        | TL 52322 49968 | Field margin |
| S13-T90          | A11, Bourn Bridge, Little Abington, CB21 6AR   | TL 52366 49918 | Field margin |

3.3.9 The tunnels for location sites 1-7 (S01-07) were first set up on the 9 November 2020. GPS locations were taken to aid with re-locating the tunnels. The tunnels were baited with hedgehog food mix.

3.3.10 Daily checks of the tunnels were implemented over five days. On each of the checking days, sheets of paper were removed from each tunnel and replaced. Bait was replaced each day and old bait removed. Data recorded each day included the presence of prints and droppings, evidence of tunnel disturbance and whether bait was taken or remained in place.

3.3.11 On 16 November 2020, sites 1-7 tunnels were retrieved and sites 8-13 (S08-13) set up. These tunnels were then collected in on 23 November 2020.

Trail Camera Survey

3.3.12 Trail cameras were also deployed during this period, then collected on 1 December 2020.

Table 2: Summary of Trail Camera Locations

| Camera Reference | Location                                                  | Grid Reference | Habitat type                |
|------------------|-----------------------------------------------------------|----------------|-----------------------------|
| TC-1             | Granhams Road, Great Shelford, CB22 5JY                   | TL 46493 53420 | Hedgerow/ gate              |
| TC-2             | Coppice Avenue, Great Shelford, CB22 5AQ                  | TL 46849 53144 | Woodland edge/ field margin |
| TC-3             | Middlefield Cottage, Haverhill Road, Stapleford, CB22 5BX | TL 48105 52632 | Hedgerow                    |
| TC-4             | Haverhill Road, Stapleford, CB22 5BX                      | TL 47800 52155 | Field Margin/ hedgerow      |
| TC-5             | Haverhill Road, Stapleford, CB22 5BX                      | TL 47931 52010 | Hedgerow                    |
| TC-6             | Fox Hill, Stapleford, CB22 5FX                            | TL 48132 51348 | Field margin/ ditch         |
| TC-7             | Deal Farm, Sawston                                        | TL 48686 50914 | Field margin/ ditch         |
| TC-8             | A11, Bourn Bridge, Little Abington, CB21 6AP              | TL 51843 49826 | Woodland edge/ field margin |

3.4 Survey Limitations and Assumptions

The commissioning of this survey came later in the 2020 survey programme so it was not possible to schedule this earlier in the survey season.

4 Results

4.1 Desk Study

Biological Records for hedgehog

- 4.1.1 A data search requested by Mott MacDonald produced 28 results for hedgehogs within 2km of the Scheme. Two records were returned from within the survey area along Babraham High Street.
- 4.1.2 The majority of the records are of dead hedgehogs along the surrounding roads. Records were returned from Great Shelford, Sawston and Babraham.

4.2 Field Survey

Footprint Tunnel Surveys

- 4.2.1 Animal prints were recorded in all tunnel locations.
- 4.2.2 None of the sheets collected from the surveys showed presence of hedgehog prints.
- 4.2.3 Cat *Felis catus*, fox *Vulpes vulpes* and small mammal tracks, such as mice and rat *Rattus* sp, were present.
- 4.2.4 The motion sensitive cameras did not capture evidence of hedgehog, however badger *Meles meles*, fox and muntjac deer *Muntiacus reevesi* footage was obtained.

Site 1

Table 3: Site 1

| Survey Number | Date of Survey | Weather Conditions     | Results                   |
|---------------|----------------|------------------------|---------------------------|
| 01            | 10/11/2020     | 12°C, Passing clouds   | Mice prints and droppings |
| 02            | 11/11/2020     | 11°C, Scattered clouds | Mice and fox prints       |
| 03            | 12/11/2020     | 10°C, Passing clouds   | Mice prints and droppings |
| 04            | 13/11/2020     | 12°C, Scattered clouds | Mice prints               |

| Survey Number | Date of Survey | Weather Conditions   | Results             |
|---------------|----------------|----------------------|---------------------|
| 05            | 16/11/2020     | 10°C, Passing clouds | Mice and rat prints |

## Site 2

Table 4: Site 2

| Survey Number | Date of Survey | Weather Conditions     | Results                   |
|---------------|----------------|------------------------|---------------------------|
| 01            | 10/11/2020     | 13°C, Passing clouds   | Mice prints and droppings |
| 02            | 11/11/2020     | 12°C, Scattered clouds | Mice prints and droppings |
| 03            | 12/11/2020     | 11°C, Passing clouds   | Mice prints and droppings |
| 04            | 13/11/2020     | 12°C, Scattered clouds | Mice and fox prints       |
| 05            | 16/11/2020     | 10°C, Passing clouds   | Mice prints and droppings |

## Site 3

Table 5: Site 3

| Survey Number | Date of Survey | Weather Conditions     | Results                   |
|---------------|----------------|------------------------|---------------------------|
| 01            | 10/11/2020     | 14°C, Passing clouds   | Mice prints and droppings |
| 02            | 11/11/2020     | 12°C, Passing clouds   | Mice prints and droppings |
| 03            | 12/11/2020     | 12°C, Passing clouds   | Mice prints and droppings |
| 04            | 13/11/2020     | 11°C, Scattered clouds | Mice prints and droppings |
| 05            | 16/11/2020     | 10°C, Passing clouds   | Mice prints and droppings |

## Site 4

Table 6: Site 4

| Survey Number | Date of Survey | Weather Conditions     | Results                   |
|---------------|----------------|------------------------|---------------------------|
| 01            | 10/11/2020     | 14°C, Scattered clouds | Mice prints and droppings |
| 02            | 11/11/2020     | 13°C, Passing clouds   | Mice prints and droppings |
| 03            | 12/11/2020     | 12°C, Passing clouds   | Mice prints and droppings |
| 04            | 13/11/2020     | 12°C, Passing clouds   | Mice prints and droppings |
| 05            | 16/11/2020     | 10°C, Passing clouds   | Mice prints and droppings |

## Site 5

Table 7: Site 5

| Survey Number | Date of Survey | Weather Conditions     | Results                   |
|---------------|----------------|------------------------|---------------------------|
| 01            | 10/11/2020     | 13°C, Scattered clouds | Mice, bird and cat prints |
| 02            | 11/11/2020     | 13°C, Passing clouds   | Mice and cat prints       |
| 03            | 12/11/2020     | 12°C, Passing clouds   | Mice prints and droppings |
| 04            | 13/11/2020     | 12°C, Passing clouds   | Mice and bird prints      |
| 05            | 16/11/2020     | 10°C, Passing clouds   | Mice and fox prints       |

## Site 6

Table 8: Site 6

| Survey Number | Date of Survey | Weather Conditions     | Results                   |
|---------------|----------------|------------------------|---------------------------|
| 01            | 10/11/2020     | 14°C, Scattered clouds | Mice prints and droppings |

| Survey Number | Date of Survey | Weather Conditions   | Results                   |
|---------------|----------------|----------------------|---------------------------|
| 02            | 11/11/2020     | 13°C, Passing clouds | Mice prints and droppings |
| 03            | 12/11/2020     | 12°C, Passing clouds | Mice prints and droppings |
| 04            | 13/11/2020     | 12°C, Passing clouds | Mice prints and droppings |
| 05            | 16/11/2020     | 10°C, Passing clouds | Mice prints and droppings |

## Site 7

Table 9: Site 7

| Survey Number | Date of Survey | Weather Conditions     | Results                   |
|---------------|----------------|------------------------|---------------------------|
| 01            | 10/11/2020     | 14°C, Scattered clouds | Mice prints and droppings |
| 02            | 11/11/2020     | 13°C, Passing clouds   | Mice prints and droppings |
| 03            | 12/11/2020     | 12°C, Passing clouds   | Mice prints and droppings |
| 04            | 13/11/2020     | 12°C, Passing clouds   | Mice prints and droppings |
| 05            | 16/11/2020     | 11°C, Passing clouds   | Mice prints and droppings |

## Site 8

Table 10: Site 8

| Survey Number | Date of Survey | Weather Conditions | Results                   |
|---------------|----------------|--------------------|---------------------------|
| 01            | 17/11/2020     | 14°C, Partly sunny | Mice prints and droppings |
| 02            | 18/11/2020     | 12°C, Sunny        | Mice prints and droppings |

| Survey Number | Date of Survey | Weather Conditions | Results                   |
|---------------|----------------|--------------------|---------------------------|
| 03            | 19/11/2020     | 9°C, Partly sunny  | Mice prints and droppings |
| 04            | 20/11/2020     | 4°C, Partly sunny  | Mice prints and droppings |
| 05            | 23/11/2020     | 5°C, Sunny         | Mice prints and droppings |

## Site 9

Table 11: Site 9

| Survey Number | Date of Survey | Weather Conditions | Results                   |
|---------------|----------------|--------------------|---------------------------|
| 01            | 17/11/2020     | 14°C, Partly sunny | Mice prints and droppings |
| 02            | 18/11/2020     | 13°C, Sunny        | Mice prints and droppings |
| 03            | 19/11/2020     | 9°C, Partly sunny  | Mice prints and droppings |
| 04            | 20/11/2020     | 5°C, Overcast      | Mice prints and droppings |
| 05            | 23/11/2020     | 8°C, Sunny         | Mice prints and droppings |

## Site 10

Table 12: Site 10

| Survey Number | Date of Survey | Weather Conditions             | Results                   |
|---------------|----------------|--------------------------------|---------------------------|
| 01            | 17/11/2020     | 14°C, Partly sunny             | Mice prints and droppings |
| 02            | 18/11/2020     | 13°C, Sunny                    | Mice and vole prints      |
| 03            | 19/11/2020     | 8°C, Light rain. Mostly cloudy | Mice prints and droppings |

| Survey Number | Date of Survey | Weather Conditions             | Results                   |
|---------------|----------------|--------------------------------|---------------------------|
| 04            | 20/11/2020     | 6°C, Light rain. Mostly cloudy | Mice and vole prints      |
| 05            | 23/11/2020     | 8°C, Sunny                     | Mice prints and droppings |

Site 11

Table 13: Site 11

| Survey Number | Date of Survey | Weather Conditions             | Results                   |
|---------------|----------------|--------------------------------|---------------------------|
| 01            | 17/11/2020     | 14°C, Scattered clouds         | Mice prints and droppings |
| 02            | 18/11/2020     | 14°C, Scattered clouds         | Mice prints and droppings |
| 03            | 19/11/2020     | 8°C, Light rain. Mostly cloudy | Mice prints and droppings |
| 04            | 20/11/2020     | 7°C, Overcast                  | Mice prints and droppings |
| 05            | 23/11/2020     | 9°C, Sunny                     | Mice prints and droppings |

Site 12

Table 14: Site 12

| Survey Number | Date of Survey | Weather Conditions     | Results                   |
|---------------|----------------|------------------------|---------------------------|
| 01            | 17/11/2020     | 14°C, Scattered clouds | Mice prints and droppings |
| 02            | 18/11/2020     | 14°C, Scattered clouds | Mice prints and droppings |
| 03            | 19/11/2020     | 9°C, Broken clouds     | Mice prints and droppings |
| 04            | 20/11/2020     | 7°C, Overcast          | Mice prints and droppings |

| Survey Number | Date of Survey | Weather Conditions | Results                   |
|---------------|----------------|--------------------|---------------------------|
| 05            | 23/11/2020     | 9°C, Sunny         | Mice prints and droppings |

Site 13

Table 15: Site 13

| Survey Number | Date of Survey | Weather Conditions     | Results                     |
|---------------|----------------|------------------------|-----------------------------|
| 01            | 17/11/2020     | 14°C, Partly sunny     | Mice prints and droppings   |
| 02            | 18/11/2020     | 14°C, Scattered clouds | Mice prints and droppings   |
| 03            | 19/11/2020     | 9°C, Broken clouds     | Mice prints and droppings   |
| 04            | 20/11/2020     | 7°C, Overcast          | Mice prints – tunnel chewed |
| 05            | 23/11/2020     | 9°C, Sunny             | Mice prints and droppings   |

Incidental sightings

4.4.2 No hedgehogs have been recorded during other surveys which have been undertaken during 2020.

## 5 References

Department of Communities and Local Government. (2012). The National Planning Policy Framework (NPPF). HSMO.

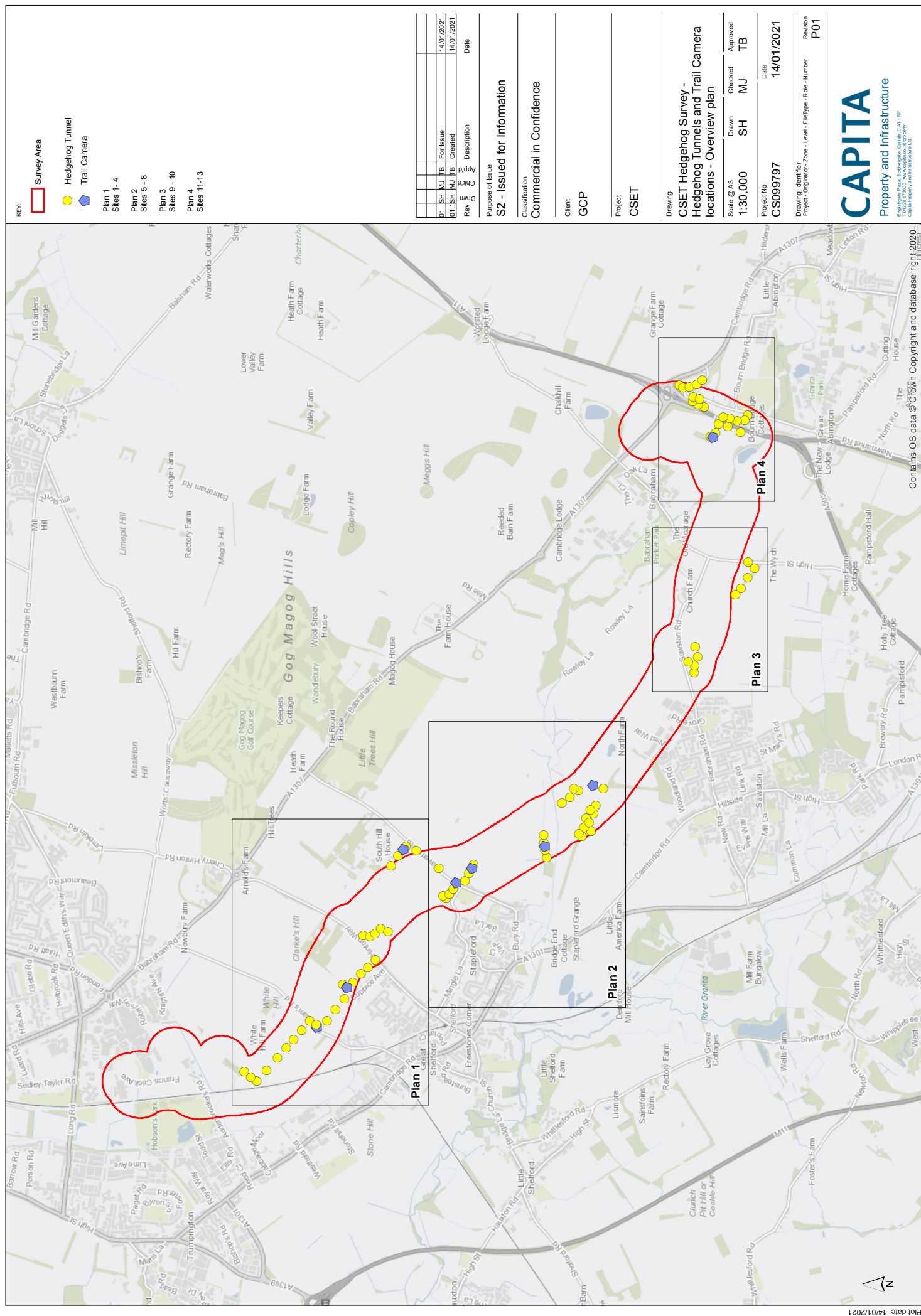
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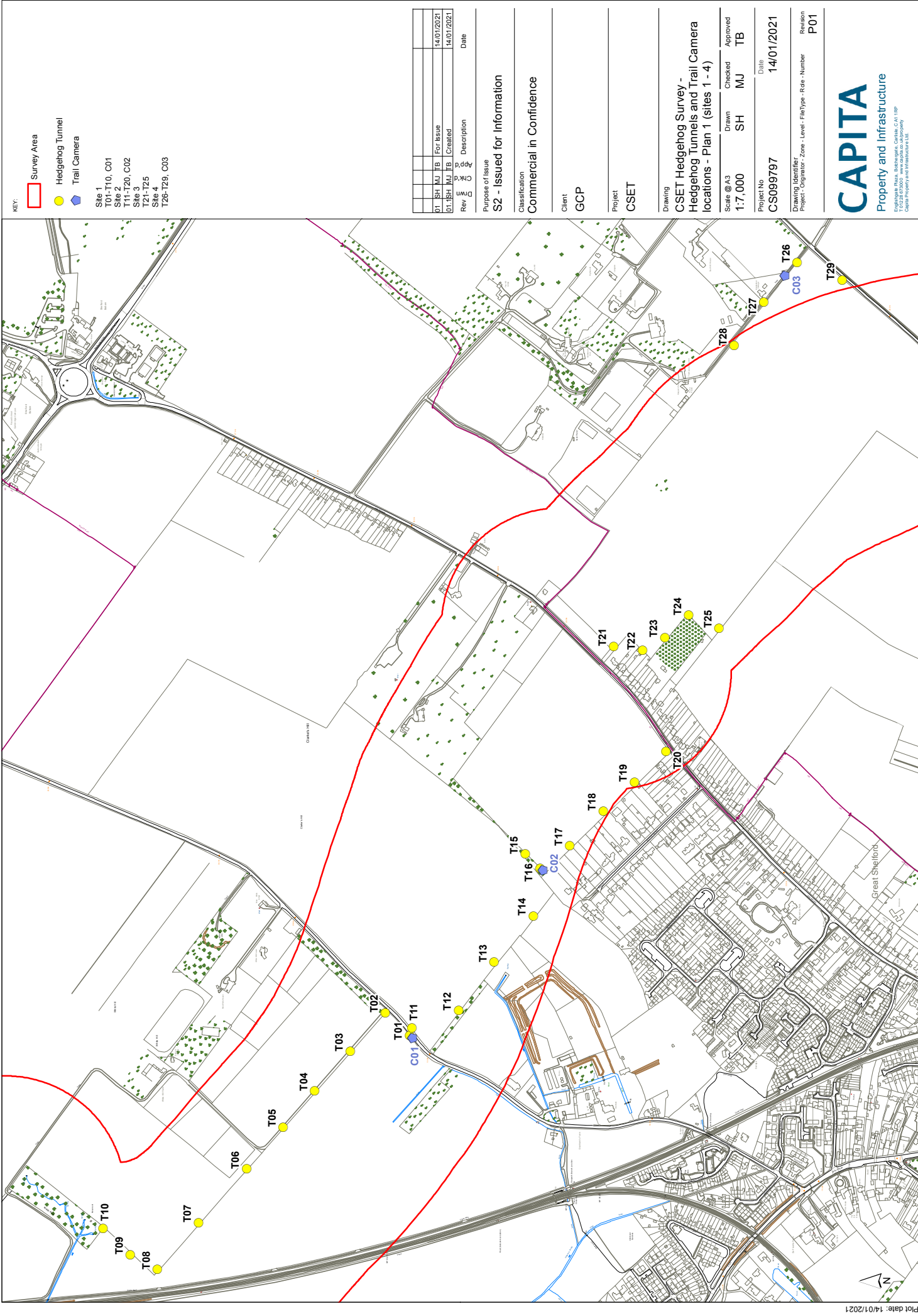
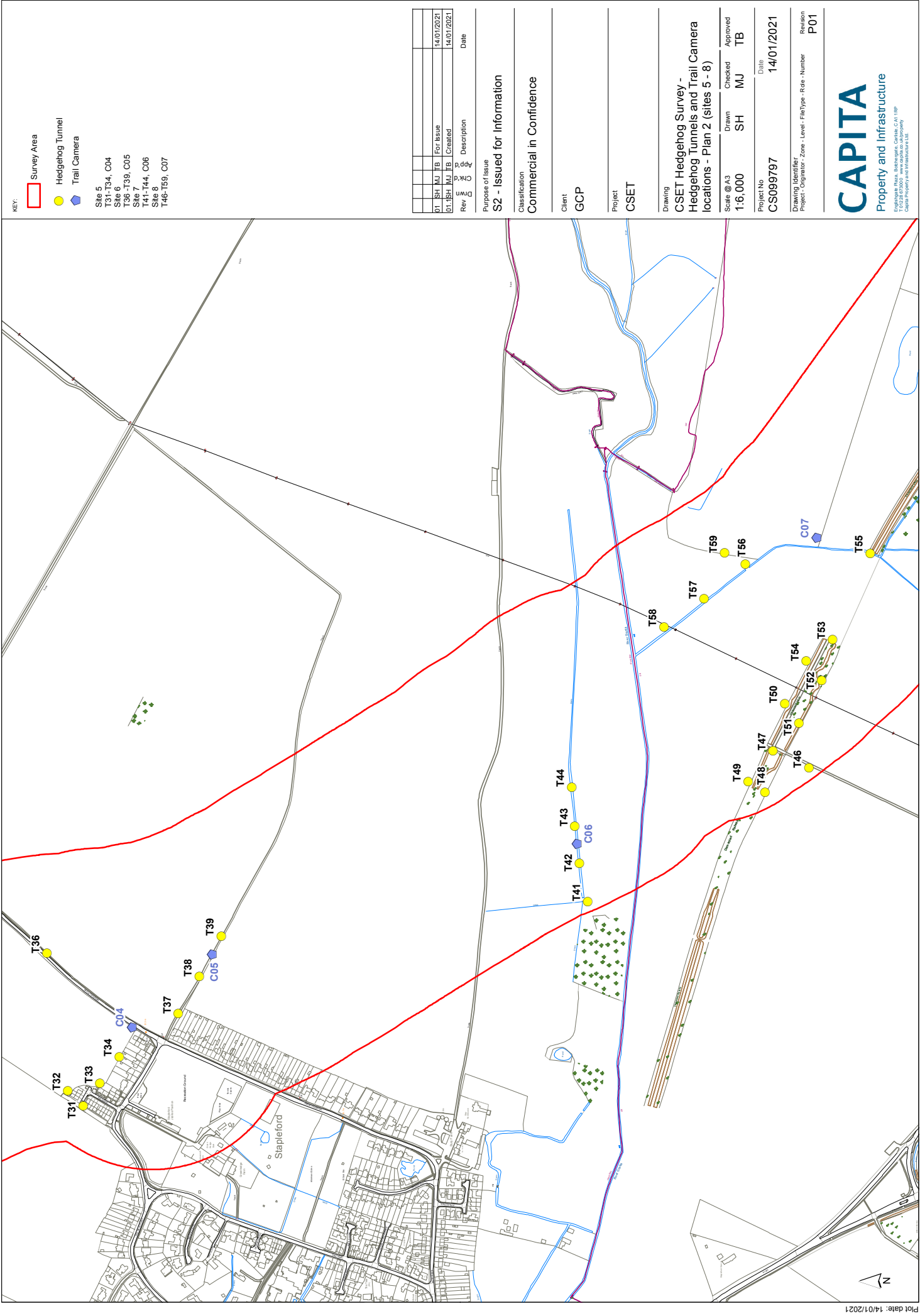
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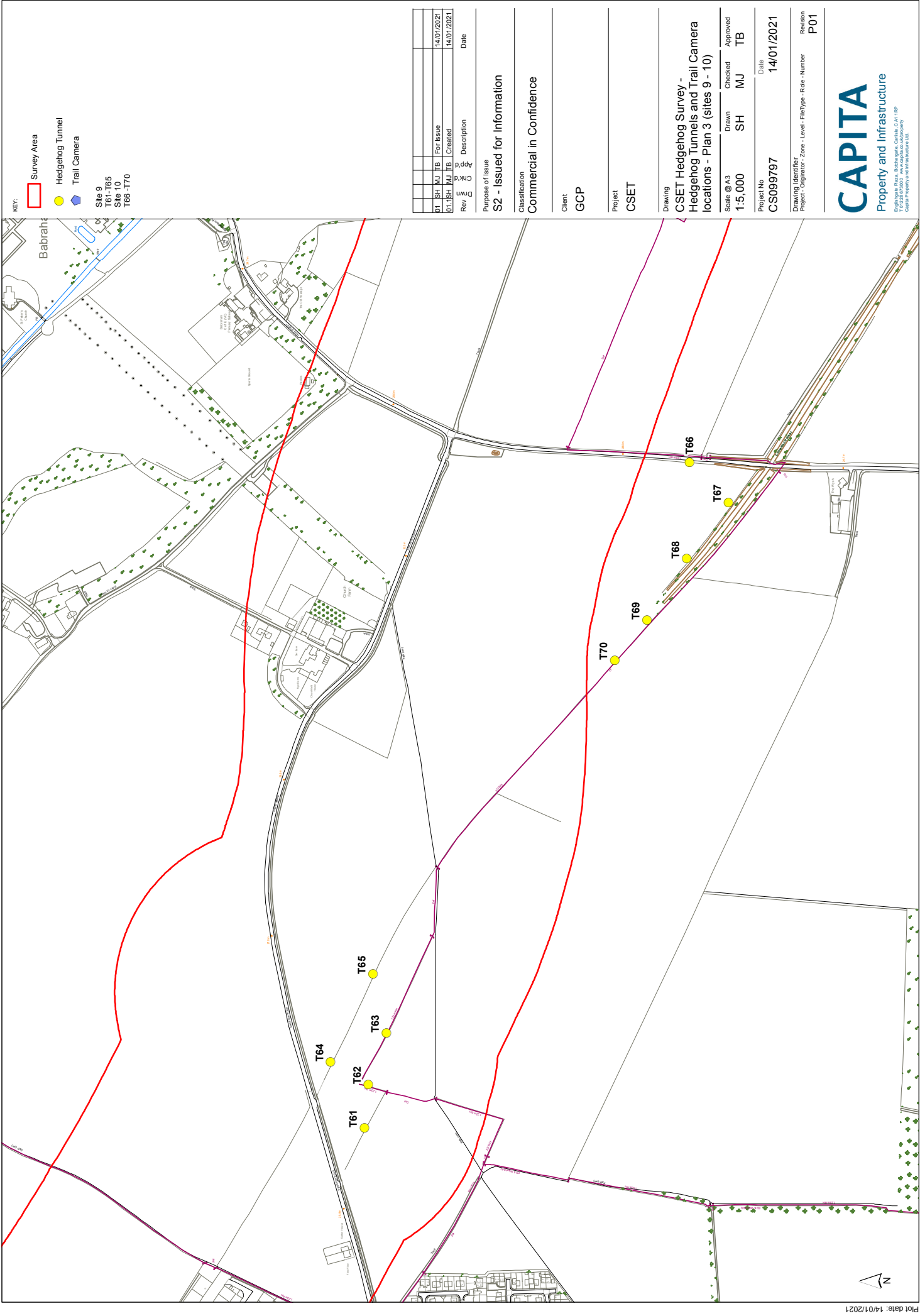
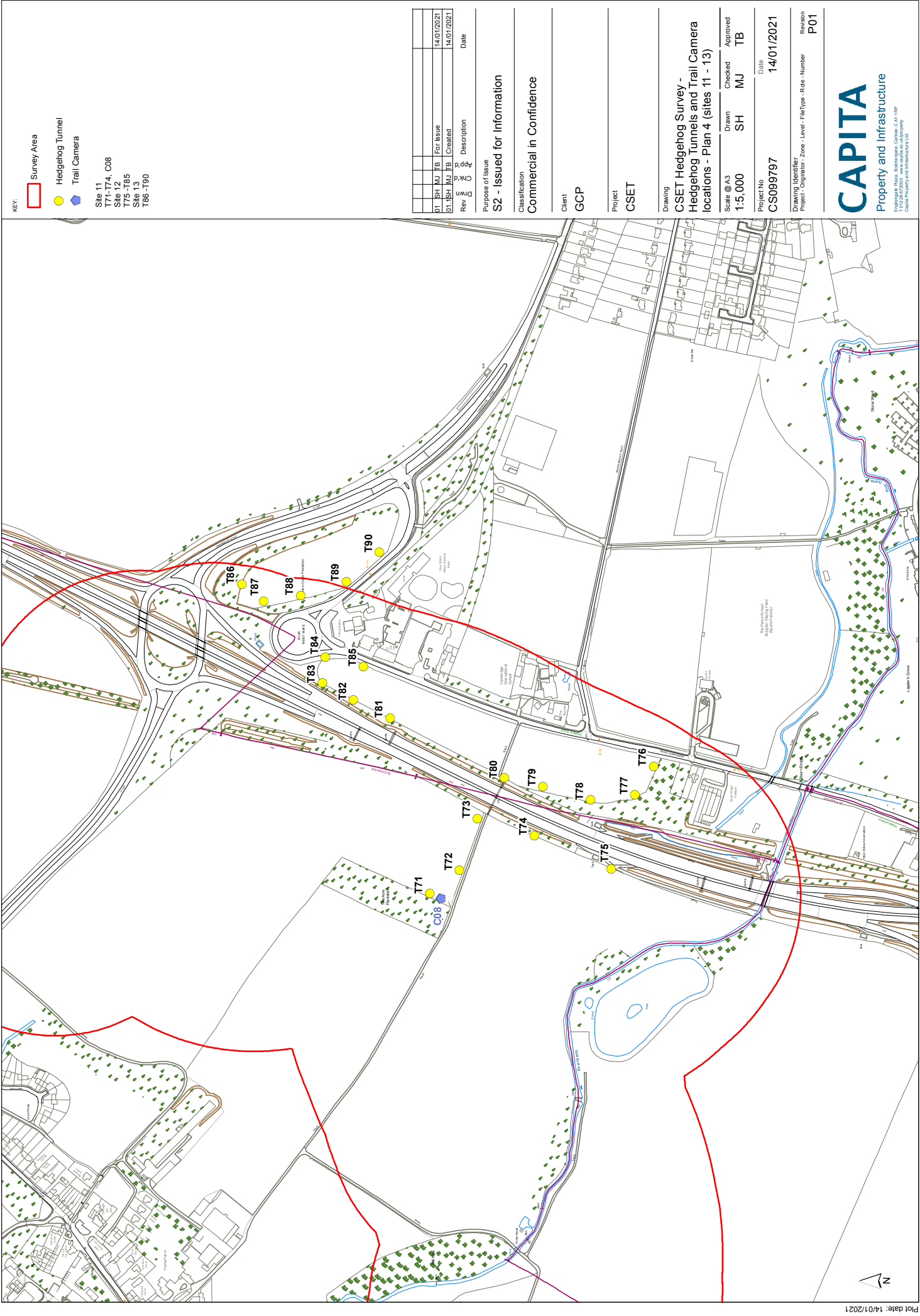
Guidance for detecting hedgehogs using footprint tracking tunnels, Version 1 May 2015 <https://ptes.org/wp-content/uploads/2015/06/Guidance-for-detecting-hedgehogs-using-tracking-tunnels.pdf> [Date accessed: 06/11/2020]

## Figures

Figure 1 – Scheme and Survey Area







## Appendix B – Trail Camera Data Results

Table 16: Trail Camera 1 (C01)

| Species         | Time          | Date       | Camera Clip Number   |
|-----------------|---------------|------------|----------------------|
| Reeve's muntjac | 16:55         | 05-11-2020 | VIDO0010             |
| European badger | 21:16         | 05-11-2020 | VIDO0011             |
| European badger | 21:38         | 05-11-2020 | VIDO0012             |
| European badger | 21:02         | 06-11-2020 | VIDO0019             |
| European badger | 21:21         | 06-11-2020 | VIDO0020             |
| Red fox         | 03:40         | 06-11-2020 | VIDO0013             |
| Red fox         | 00:48         | 07-11-2020 | VIDO0021             |
| Red fox         | 18:31         | 09-11-2020 | VIDO0035             |
| Red fox         | 00:39 – 00:41 | 10-11-2020 | VIDO0066 to VIDO0069 |
| Red fox         | 17:57         | 10-11-2020 | VIDO0092             |
| Red fox         | 04:12         | 11-11-2020 | VIDO0097             |
| Red fox         | 03:49         | 12-11-2020 | VIDO0156             |
| European badger | 02:36         | 24-11-2020 | VIDO0020             |
| Reeve's muntjac | 02:14         | 27-11-2020 | VIDO0068             |
| Red fox         | 19:37         | 29-11-2020 | VIDO0090             |

Table 17: Trail Camera 2 (C02)

| Species         | Time          | Date       | Camera Clip Number  |
|-----------------|---------------|------------|---------------------|
| Reeve's muntjac | 02:07 – 02:10 | 06-11-2020 | VIDO0005 – VIDO0008 |
| Reeve's muntjac | 07:20         | 06-11-2020 | VIDO0011            |
| Reeve's muntjac | 09:26         | 06-11-2020 | VIDO0013            |
| Reeve's muntjac | 17:02 – 17:05 | 06-11-2020 | VIDO0016 – VIDO0021 |
| Reeve's muntjac | 22:35         | 06-11-2020 | VIDO0022            |
| Reeve's muntjac | 00:14         | 07-11-2020 | VIDO0023            |
| Reeve's muntjac | 01:41 – 01:42 | 07-11-2020 | VIDO0024 - 0025     |
| Red fox         | 03:24         | 08-11-2020 | VIDO0033            |
| Reeve's muntjac | 08:39         | 08-11-2020 | VIDO0037            |
| Reeve's muntjac | 00:14         | 10-11-2020 | VIDO0061            |
| Reeve's muntjac | 18:35         | 10-11-2020 | VIDO0093            |
| Reeve's muntjac | 18:47 – 18:48 | 10-11-2020 | VIDO0094 - 0095     |
| Red fox         | 02:35         | 11-11-2020 | VIDO0097            |
| Reeve's muntjac | 18:33         | 11-11-2020 | VIDO0102            |
| Reeve's muntjac | 18:37         | 11-11-2020 | VIDO0103            |
| Reeve's muntjac | 23:15         | 11-11-2020 | VIDO0104            |
| Red fox         | 23:45         | 11-11-2020 | VIDO0105            |
| Reeve's muntjac | 04:48         | 12-11-2020 | VIDO0108            |

| Species                            | Time          | Date       | Camera Clip Number |
|------------------------------------|---------------|------------|--------------------|
| Reeve's muntjac                    | 05:08         | 12-11-2020 | VIDO0109           |
| Reeve's muntjac                    | 07:08         | 12-11-2020 | VIDO0110           |
| Reeve's muntjac                    | 02:38         | 13-11-2020 | VIDO0006           |
| Reeve's muntjac x2                 | 02:49         | 13-11-2020 | VIDO0007           |
| Reeve's muntjac                    | 04:05         | 13-11-2020 | VIDO0008           |
| Reeve's muntjac                    | 23:10         | 13-11-2020 | VIDO0016           |
| European badger                    | 23:27         | 13-11-2020 | VIDO0017-0018      |
| Reeve's muntjac                    | 00:02         | 14-11-2020 | VIDO0020           |
| Reeve's muntjac                    | 16:57         | 14-11-2020 | VIDO0023           |
| Reeve's muntjac                    | 21:12         | 14-11-2020 | VIDO0025           |
| Reeve's muntjac                    | 23:05 - 23:07 | 14-11-2020 | VIDO0027-0028      |
| Reeve's muntjac                    | 00:21         | 16-11-2020 | VIDO0040           |
| Reeve's muntjac                    | 02:43         | 16-11-2020 | VIDO004            |
| Reeve's muntjac                    | 04:29         | 16-11-2020 | VIDO0045           |
| Reeve's muntjac                    | 05:55         | 16-11-2020 | VIDO0046           |
| Reeve's muntjac                    | 07:09-07:10   | 16-11-2020 | VIDO0047-0048      |
| Reeve's muntjac                    | 18:26-18:27   | 16-11-2020 | VIDO0056-0057      |
| Reeve's muntjac                    | 20:19         | 16-11-2020 | VIDO0058           |
| Reeve's muntjac                    | 22:26-22:27   | 16-11-2020 | VIDO0059-0060      |
| Reeve's muntjac                    | 23:05         | 17-11-2020 | VIDO0065           |
| Reeve's muntjac                    | 00:35-00:40   | 18-11-2020 | VIDO0066-0070      |
| Reeve's muntjac                    | 03:15         | 18-11-2020 | VIDO0071           |
| Reeve's muntjac                    | 20:30         | 18-11-2020 | VIDO0078           |
| Reeve's muntjac                    | 21:55         | 18-11-2020 | VIDO0079           |
| Reeve's muntjac (adult + juvenile) | 21:13         | 19-11-2020 | VIDO0005           |
| Reeve's muntjac                    | 02:30-02:31   | 20-11-2020 | VIDO0006-0007      |
| European Badger                    | 00:05         | 21-11-2020 | VIDO0021           |
| European Badger                    | 00:51         | 21-11-2020 | VIDO0022           |
| Reeve's muntjac                    | 00:55         | 21-11-2020 | VIDO0023           |
| Reeve's muntjac                    | 02:02         | 21-11-2020 | VIDO0024           |
| Reeve's muntjac                    | 02:27         | 21-11-2020 | VIDO0026           |
| Red fox                            | 02:42         | 21-11-2020 | VIDO0027           |
| Red fox                            | 04:15         | 21-11-2020 | VIDO0031           |
| Reeve's muntjac                    | 06:02         | 21-11-2020 | VIDO0032           |
| Reeve's muntjac                    | 10:26-10:29   | 21-11-2020 | VIDO0035-0038      |
| Reeve's muntjac                    | 16:34-16:35   | 21-11-2020 | VIDO0048-0049      |
| Reeve's muntjac                    | 16:45-16:47   | 21-11-2020 | VIDO0050-0051      |
| Reeve's muntjac                    | 18:36         | 21-11-2020 | VIDO0055           |
| Reeve's muntjac                    | 19:01         | 21-11-2020 | VIDO0056           |
| Reeve's muntjac                    | 20:02         | 21-11-2020 | VIDO0057           |
| Reeve's muntjac                    | 20:20         | 21-11-2020 | VIDO0059           |
| Reeve's muntjac                    | 21:02         | 21-11-2020 | VIDO0061           |
| Reeve's muntjac                    | 23:25         | 21-11-2020 | VIDO0063           |

| Species                                         | Time          | Date       | Camera Clip Number |
|-------------------------------------------------|---------------|------------|--------------------|
| Reeve's muntjac                                 | 02:07         | 22-11-2020 | VIDO0064           |
| Reeve's muntjac                                 | 03:43         | 22-11-2020 | VIDO0065           |
| Reeve's muntjac                                 | 05:43         | 22-11-2020 | VIDO0067           |
| Reeve's muntjac                                 | 10:47         | 22-11-2020 | VIDO0070           |
| Reeve's muntjac                                 | 16:09         | 22-11-2020 | VIDO0071           |
| Reeve's muntjac                                 | 16:49         | 22-11-2020 | VIDO0072           |
| Reeve's muntjac (adult male, female + juvenile) | 19:44         | 22-11-2020 | VIDO0073           |
| Reeve's muntjac                                 | 16:01-16:02   | 23-11-2020 | VIDO0096-0097      |
| Reeve's muntjac                                 | 17:28         | 23-11-2020 | VIDO0098           |
| Reeve's muntjac                                 | 00:08         | 24-11-2020 | VIDO0101           |
| Reeve's muntjac                                 | 01:49         | 24-11-2020 | VIDO0102           |
| Reeve's muntjac                                 | 21:24         | 24-11-2020 | VIDO0118           |
| Reeve's muntjac                                 | 01:43-01:45   | 25-11-2020 | VIDO0119-0120      |
| Reeve's muntjac                                 | 03:13         | 25-11-2020 | VIDO0122           |
| Red fox                                         | 15:18         | 25-11-2020 | VIDO0131           |
| European badger                                 | 20:31         | 25-11-2020 | VIDO0134           |
| Reeve's muntjac                                 | 21:00         | 25-11-2020 | VIDO0135           |
| Reeve's muntjac                                 | 14:16         | 26-11-2020 | VIDO0145           |
| Reeve's muntjac                                 | 20:50         | 26-11-2020 | VIDO0147           |
| Reeve's muntjac                                 | 05:31         | 27-11-2020 | VIDO0149           |
| Red fox                                         | 06:08         | 27-11-2020 | VIDO0150           |
| Reeve's muntjac                                 | 07:35         | 27-11-2020 | VIDO0151           |
| Red fox                                         | 11:04         | 27-11-2020 | VIDO0156           |
| Red fox                                         | 12:46         | 27-11-2020 | VIDO0160           |
| Red fox                                         | 14:21         | 27-11-2020 | VIDO0162           |
| Reeve's muntjac (adult + juvenile)              | 17:40         | 27-11-2020 | VIDO0163           |
| Reeve's muntjac                                 | 18:04         | 27-11-2020 | VIDO0165           |
| Reeve's muntjac                                 | 20:14-20:15   | 27-11-2020 | VIDO0166-0167      |
| Reeve's muntjac                                 | 21:43         | 27-11-2020 | VIDO0168           |
| Reeve's muntjac                                 | 23:17         | 27-11-2020 | VIDO0169           |
| Reeve's muntjac                                 | 05:12         | 28-11-2020 | VIDO0170           |
| European badger                                 | 00:45         | 29-11-2020 | VIDO0174           |
| Reeve's muntjac                                 | 02:14 – 02:16 | 29-11-2020 | VIDO0175-0177      |
| Reeve's muntjac                                 | 03:02         | 29-11-2020 | VIDO0179           |
| Reeve's muntjac (adult + juvenile)              | 03:32         | 29-11-2020 | VIDO0180           |
| Reeve's muntjac (adult + juvenile)              | 03:37         | 29-11-2020 | VIDO0181           |
| Reeve's muntjac                                 | 05:46         | 29-11-2020 | VIDO0182           |
| Reeve's muntjac                                 | 05:53         | 29-11-2020 | VIDO0184           |

| Species                   | Time        | Date       | Camera Clip Number |
|---------------------------|-------------|------------|--------------------|
| Red fox + Reeve's muntjac | 12:45       | 29-11-2020 | VIDO0189           |
| Reeve's muntjac           | 12:46-12:48 | 29-11-2020 | VIDO0190-0192      |
| Reeve's muntjac           | 20:40       | 29-11-2020 | VIDO0193           |
| Reeve's muntjac           | 22:56       | 29-11-2020 | VIDO0196           |
| Red fox                   | 23:20       | 29-11-2020 | VIDO0197           |
| Red fox                   | 03:05       | 30-11-2020 | VIDO0201           |
| Reeve's muntjac           | 16:28       | 30-11-2020 | VIDO0207           |
| European badger           | 18:58       | 30-11-2020 | VIDO0208           |
| Reeve's muntjac           | 00:36       | 01-12-2020 | VIDO0211           |
| Reeve's muntjac           | 02:01       | 01-12-2020 | VIDO0214           |
| Reeve's muntjac           | 05:37       | 01-12-2020 | VIDO0216           |
| Reeve's muntjac           | 06:33       | 01-12-2020 | VIDO0218           |

Table 18: Trail Camera 3 (C03)

| Species             | Time | Date | Camera Clip Number |
|---------------------|------|------|--------------------|
| No species recorded | N/A  | N/A  | N/A                |

Table 19: Trail Camera 4 (C04)

| Species          | Time  | Date       | Camera Clip Number |
|------------------|-------|------------|--------------------|
| Reeves's muntjac | 00:22 | 08-11-2020 | VIDO0008           |
| Red fox          | 02:59 | 10-11-2020 | VIDO0021           |
| Red fox          | 03:06 | 10-11-2020 | VIDO0023           |

Table 20: Trail Camera 5 (C05)

| Species             | Time | Date | Camera Clip Number |
|---------------------|------|------|--------------------|
| No species recorded | N/A  | N/A  | N/A                |

Table 21: Trail Camera 6 (C06)

| Species         | Time        | Date       | Camera Clip Number |
|-----------------|-------------|------------|--------------------|
| European badger | 20:43-20:44 | 22-11-2020 | VIDO0113-114       |
| European badger | 21:07       | 27-11-2020 | VIDO0117           |
| European badger | 19:43       | 29-11-2020 | VIDO0118           |
| European badger | 21:25       | 29-11-2020 | VIDO0119           |
| Reeve's muntjac | 22:42       | 29-11-2020 | VIDO0120           |

| Species         | Time  | Date       | Camera Clip Number |
|-----------------|-------|------------|--------------------|
| Reeve’s muntjac | 18:21 | 30-11-2020 | VIDO0121           |
| European badger | 18:47 | 30-11-2020 | VIDO0122           |

Table 22: Trail Camera 7 (C07)

| Species             | Time | Date | Camera Clip Number |
|---------------------|------|------|--------------------|
| No species recorded | N/A  | N/A  | N/A                |

Table 23: Trail Camera 8 (C08)

| Species         | Time  | Date       | Camera Clip Number |
|-----------------|-------|------------|--------------------|
| Reeve’s muntjac | 21:19 | 13-11-2020 | VIDO0141           |
| European badger | 23:32 | 13-11-2020 | VIDO0146           |

Appendix C – Hedgehog Tunnel



Hedgehog Tunnel (T11) along hedgerow field boundary (TL 46515 53420)

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