

URS Building – University of Reading

Technical Note: Bat Emergence Survey

1. INTRODUCTION

- 1.1 Ecological Planning & Research Limited (EPR) was commissioned by the University of Reading (UoR) to carry out a bat emergence survey for the URS Building, located within the University of Reading, Reading, RG6 6AH (hereafter referred to as the “Site”).
- 1.2 This bat survey serves as an update to historic bat surveys and inspections previously carried out by EPR. Previous survey work includes an Ecological Appraisal and Bat Building Inspection carried out on 27/01/2015, a dusk emergence survey carried out on 17/08/2015, a dawn re-entry survey carried out on 28/08/2015, and an internal Bat Building Inspection of the water tower and western lift shaft and brief external visual assessment of the URS building carried out on 16/05/2023.
- 1.3 This note provides a summary of the methodology and results of the update bat survey. As the full extent of the redevelopment plans have not yet been finalised, the advice provided within this technical note should help inform the development of the proposals. If the final proposals extend beyond the outlined renovation works and cosmetic alterations, then the advice provided within this technical note may need to be updated and further surveys conducted.

Study Area

- 1.4 The Site is located approximately 3km from the city centre of Reading. The Site is located within the centre of the UoR's Whiteknights Campus (National Grid Reference: SU 7332 7172) and is southwest of the campus library.
- 1.5 The Site itself contains the URS building and adjacent soft landscaping to the south of the building and a hedgerow to the north of the building. The URS building is constructed over 3-5 storeys, including a basement, and uses an interlocking concrete pillar and block structure.

Legislation & Policy

- 1.6 There are 18 species of bat in the UK, seven of which are Species of Principal Importance in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006, making them a material consideration.
- 1.7 All bats and bat roosts are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Bats are also a European Protected Species protected under the Habitat Regulations 2017 (as amended). It is an offence to:
- Intentionally or deliberately kill, injure, or capture bats;

- Intentionally, deliberately or recklessly disturb bats in such a way as to be likely to significantly affect the ability of any significant group of bats to survive, breed or rear or nurture their young or the local distribution of or abundance of a species of bat;
- Intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection (i.e., bat roosts) or intentionally or recklessly disturb a bat whilst it is occupying such a place;
- Damage or destroy a breeding site or resting place of a bat; and
- Possess, sell or transport a bat, or anything derived from it.

The Zone of Influence

- 1.8 The area over which the activities associated with the proposed scheme are considered to potentially affect bat populations is referred to as The Zone of Influence (Zol). This has been predicted by considering the likely activities and resultant biophysical changes arising during the proposed renovation and cosmetic alteration works. Given the scale and nature of the proposal, this is limited to the URS building itself.

2. METHODOLOGY

Scope of Survey

- 2.1 The aim of the bat emergence survey was to characterise the bat assemblage within the Zol, including species diversity, and identifying any bat roosts present. A bat emergence survey also provides an understanding of how the local assemblage of bats utilise the habitats and features present on site.
- 2.2 All survey methods follow the guidance of the Chartered Institute of Ecology and Environmental Management (CIEEM) Good Practice Guidelines 4th Edition (2024).

Desktop Study

- 2.3 A biological records search was commissioned from Thames Valley Environment Records Centre (TVERC) in June 2024 in order to obtain existing records of protected and notable bat species within a 5km radius of the Site over the last 10 years. This incorporates the potential Zol and provides context with any other bat assemblages in the local area. The data received from TVERC is summarised in **Map 1**.
- 2.4 During the previously conducted bat building inspection in 2023, it was concluded that the building had negligible suitability for the water tower and the western lift shaft.
- 2.5 Although the URS building was deemed of low suitability and no evidence of roosting bats was recorded in both the 2015 and 2023 building inspections, the 2023 update visual assessment confirmed that the building still possesses a number of features that offer potential to support roosting bat activity. This includes gaps between the interlocking pillars, gaps in the concrete blockwork, gaps between window frames, some lifted metal flashing along roof and window edges, superficial cracks, gaps between and under plywood, and an air vent without a visible grill.

- 2.6 The external visual assessment in 2023 recommended one update emergence survey for any superficial proposals, and an update internal inspection should any major internal work be done. As the current Phase 2 proposals include only superficial works such as external concrete, roof and window repairs, it was advised that one dusk emergence survey would be sufficient for the time being. Should any further proposals come forward, then further surveys will need to be agreed.

Field Surveys - Dusk Emergence Survey

- 2.7 The dusk emergence survey was completed on 5th June 2024, in order to determine species present, identify bat roosting locations, identify key commuting routes, identify foraging areas and provide any other incidental data. Survey results are shown in **Map 2**.
- 2.8 The survey began 15 minutes prior to sunset and continued 1.5 hours after sunset. During the dusk emergence survey, eight surveyors and two night vision aid (NVA) Sony Canon cameras were located around the building at previously-identified vantage points from the 2023 building inspection. Each surveyor was equipped with a bat detector (Elekon Batlogger or Patterson 240x) and a personal NVA (Nightfox Whisker or Sony Canon) and a survey map of the Site to record results. For each bat pass, the time, species, behaviour and direction of travel was noted, where known. Behaviour was determined by observed flight patterns and call characteristics heard on the bat detector.
- 2.9 During the dusk emergence survey, temperature and weather information was also recorded to ensure that conditions were suitable to complete the survey which are given in **Table 2.1** below.

Table 2.1. Meta data from the dusk emergence survey completed on 05/06/2024.

Date	Start	End	* Sunset	Start Temp. (°C)	End Temp. (°C)	Wind (Beaufort Scale)	Rain	Cloud Cover (%)
05.06.24	20:58	22:58	21:13	15	12	1	0	20

Survey Constraints

- 2.10 At the time of the survey, there were some lights on within the building as well as some external streetlights surrounding the perimeter of the building. Motion sensor lights were activated occasionally by pedestrians.
- 2.11 Some views of the building were partially obscured by either trees or features on the building itself, however, to compensate for this, numerous surveyors (total of eight) were placed in strategic locations with personal NVAs along with the stand alone two Canon NVAs situated on the east/west sides of the building. This meant that any bats that may have flown from the building would be identified regardless of point of origin. If any were identified coming from the building, then further investigative work would be necessary to identify potential roosts.
- 2.12 Bats are nomadic and therefore the survey results only represent a snapshot in time.

3. RESULTS

Desktop study

- 3.1 Records of 12 bat species since 2014 were returned from within the 5km radius of the Site (**Map 1**). These include Brown Long-eared bat *Plecotus auritus*, Common pipistrelle *Pipistrellus pipistrellus*, Daubenton's bat *Myotis daubentonii*, Leisler's bat *Nyctalus leisleri*, Nathusius' pipistrelle *Pipistrellus nathusii*, Natterer's bat *Myotis nattereri*, Noctule *Nyctalus noctule*, Serotine *Eptesicus serotinus*, Soprano pipistrelle *Pipistrellus pygmaeus*, Whiskered bat *Myotis meystacinus*, and Western Barbastrelle *Barbastrella barbastellus*.

Dusk Emergence Survey

- 3.2 Results of the dusk emergence survey are summarised on **Map 2**.
- 3.3 No bats were recorded emerging from the URS building during the course of the survey.
- 3.4 During the bat emergence survey, three bat species were recorded on site; Common Pipistrelle, Soprano Pipistrelle and Noctule. Most activity was recorded along the hedgerow to the north of the URS building, where a small parcel of urban greenspace with trees exists that is outside of the Site boundary.
- 3.5 A higher number of Common Pipistrelle were recorded than Soprano Pipistrelle and Noctule. Any Noctule activity was recorded only once by four of the eight surveyors. Both Pipistrelle species were recorded commuting and foraging on both the north and south sides of the building, however the majority of the activity was recorded on the north side.
- 3.6 The majority of bat activity (for all three species) was recorded between 21:23 and 22:34. Sunset at the time of the survey was 21:13, so from 10 minutes after sunset for approximately one hour.
- 3.7 Soprano Pipistrelles and Common Pipistrelles were both recorded a little later into the survey (from 21:23 10 minutes after sunset, and 21:28, 15 minutes after sunset respectively), indicating that roosts for these species may be located nearby the Site.

4. CONCLUSIONS & RECOMMENDATIONS

- 4.1 A total of 3 bat species were recorded during the survey. These are common and widespread species; Common Pipistrelle, Soprano Pipistrelle and Noctule.
- 4.2 Bats were largely observed along the hedgerow to the north of the URS building. Activity was predominately foraging and commuting along the hedgerow line and within the trees of the urban greenspace parcel to the north of the Site boundary.
- 4.3 Soprano Pipistrelles and Common Pipistrelles were first recorded 10 and 15 minutes after sunset respectively, indicating that bat roosts are likely to be nearby.
- 4.4 No bats were recorded emerging from the URS building during the course of the survey.

Impact Avoidance & Mitigation

- 4.5 It is considered that there is a likely absence of bat roosts within the URS building. However, the Site does support commuting and foraging bat activity to multiple species. It will be possible to conduct the proposed renovation works as long as the following recommended mitigation measures are implemented.
- 4.6 As a precautionary measure, it is recommended that the proposed works occur during the period when bats are active (April to October inclusive). This ensures protection of bats that may use the building as an occasional roost. All individuals working on the Site should be made aware that the building has features suitable to support roosting bats and should be able to identify bats. Should bats be discovered at any point during works, all works must be stopped immediately, and a suitable-qualified ecologist contacted for advice.
- 4.7 As potential roost features may be lost as part of the proposed plans, the provision of alternative roosting opportunities within the University of Reading, Whiteknights campus is required. These could take the form of bat boxes integrated into new buildings or attached to mature trees within the campus. If used, bat boxes should be selected to be suitable for the species known to be present, and locations agreed with a suitable-qualified ecologist.
- 4.8 Ambient light levels are already relatively high surrounding the URS building and so it is not likely to present a serious limitation to the proposals. It will, however, be important to maintain light levels around the building at or below the current levels. Any planned outdoor lighting should be minimised and comprised of LED, down-lighting units/ low bollard-style lights. Any wall-mounted lights should be cowled. Motion sensor lighting would likely be an advantage as it will limit the duration of light pollution.
- 4.9 To maintain permeability throughout the landscape, green corridors (i.e., the hedgerow line) should be retained where possible. This retention of these habitats will also help maintain foraging opportunities as bats use these green corridors to commute from roosts to foraging sites.
- 4.10 Based on the result of the emergence survey, the hedgerow line on the north side of the URS building is the most important feature to retain for bats. This habitat would also benefit from removing nearby light sources to maintain its value to the local bat assemblage.
- 4.11 All mitigation advice follows CIEEM's UK Bat Mitigation Guidelines (2023).

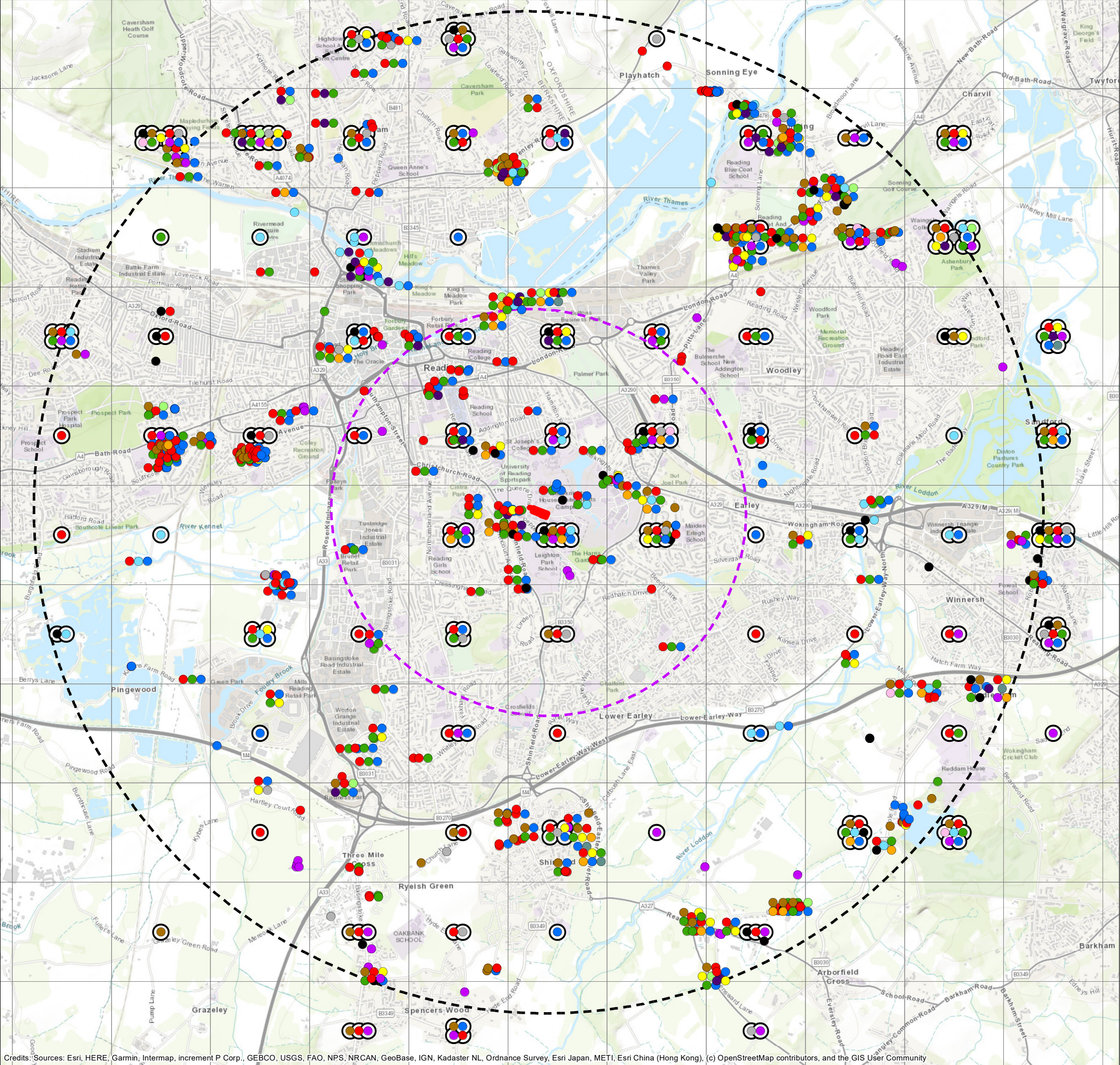
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Document Dated: 27 June 2024

Appendix

Maps

- **Map 1** – Protected & Notable Species – Bats
- **Map 2** – Bat Emergence Survey Results – 05/06/2024



MAP 1 Protected & Notable Species - Bats

KEY

Site boundary

2km linear distance from site boundary

5km linear distance from site boundary

Brown Long-eared

Common Pipistrelle

Daubenton's

Leisler's

Long-eared species

Myotis species

Nathusius's Pipistrelle

Natterer's

Noctule

Nyctalus species

Pipistrelle species

Serotine

Soprano Pipistrelle

Unidentified bat

Western Barbastelle

Whiskered/Brandt's

Record accurate to 1km grid square

1km grid

SCALE: 1:38,000 at A3

05001,0001,5002,000

Metres

N

EPR

CLIENT: University of Reading

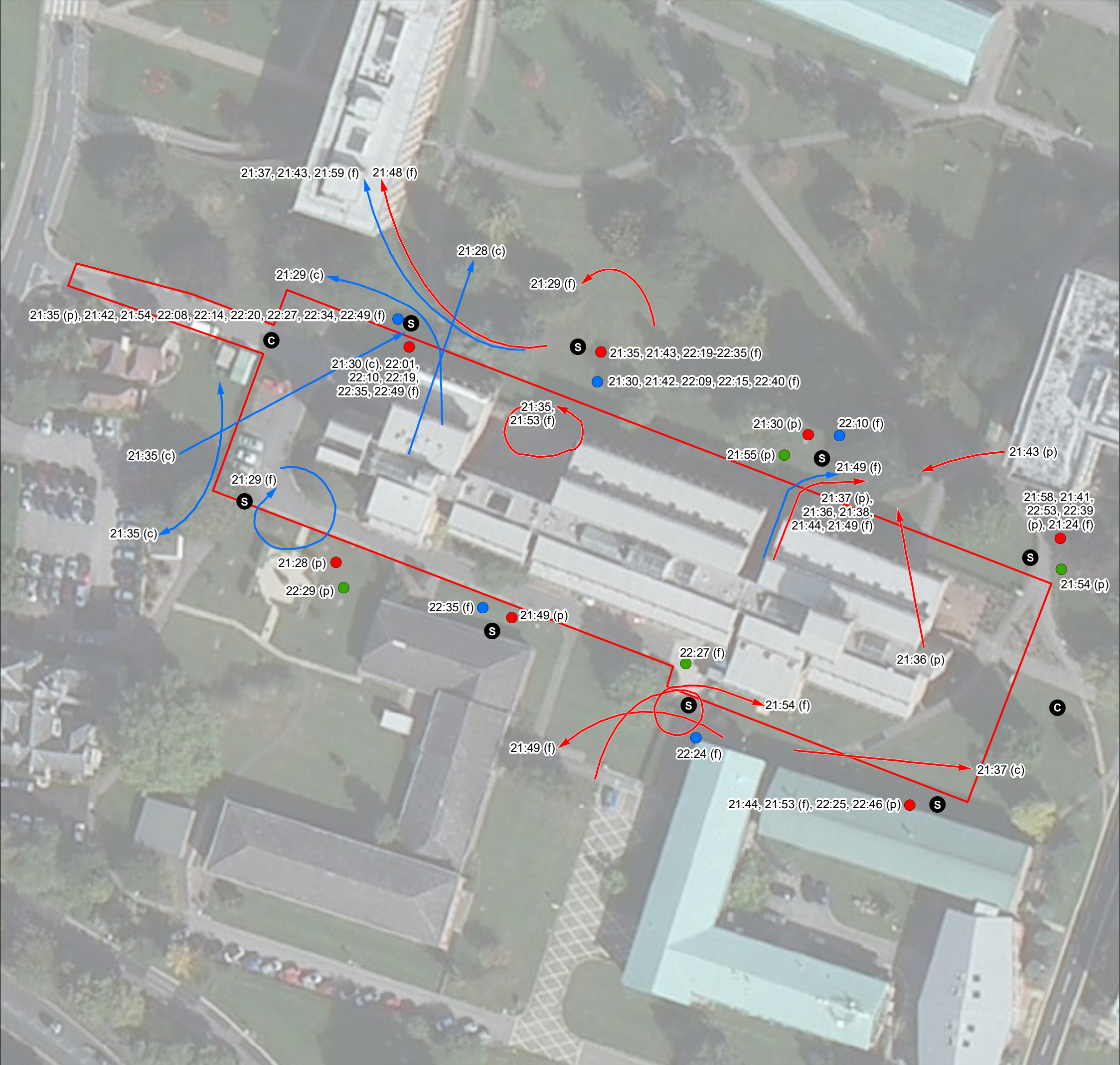
PROJECT: URS Building

DATE: 02 July 2024

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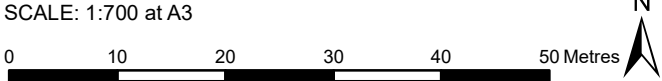
Species Records: © Thames Valley Environmental Records Centre (TVERC)



MAP 2 Bat Emergence Survey Results
05/06/2024

KEY

- Site boundary
- NVA Camera
- Surveyor
- Common Pipistrelle (heard not seen)
- Soprano Pipistrelle (heard not seen)
- Noctule (heard not seen)
- Common Pipistrelle observed flight
- Soprano Pipistrelle observed flight
- (c) Commuting
- (f) Foraging
- (p) Pass



CLIENT: University of Reading
PROJECT: URS Building
DATE: 04 July 2024