Trafalgar Park, Standlynch

Masterplan for works impacting confirmed bat roosts.
Mr B. Jones

October 2023

Document Control

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Contents

1. **Timings** 4
2. **Impacts** 5
3. **Mitigation and Compensation** 7
4. **Monitoring** 8
5. **Outcome post works** 9

Trafalgar Park Masterplan

Works Phases

- Phase 1 works will take place between December 2022 to August 2023 - Building 4, 5 & 6
- Phase 2 works will take place between September 2023 to July 2024 - Building 1, 2, 3 & 7
- Phase 3 works will take place between April 2024 to September 2025 - Building 8 & 9



Building 1 - Southern pavilion

Building 1 – Southern pavilion - bat roosts recorded:

common pipistrelle – 3 summer day roost
serotine – 1 summer day roosts

Building 2 – Southern link gallery

Building 2 – Southern link gallery - bat roosts recorded:

None

Building 3 – Mansion house

Building 3 – Mansion house - bat roosts recorded:

brown long-eared – 1 summer, day roost
common pipistrelle – 2 summer, day roosts
soprano pipistrelle – 3 summer, day roosts

Building 4 – Northern link gallery

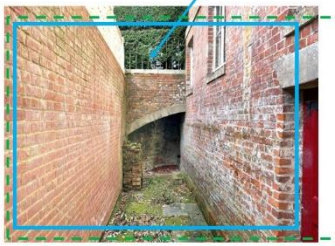
Building 4 – Northern link gallery – bat roosts recorded:

common pipistrelle – 1 summer, day roost

Building 5 – Northern pavilion

Building 5 – Northern pavilion – bat roosts recorded:

barbastelle – 1 summer, day roost
Brandt's – 1 summer, day roost
brown long-eared – 1 summer, day roost
common pipistrelle – 4 summer, day roosts
lesser horseshoe – 1 summer, day roost
natterer's – 1 summer, day roost
serotine – 1 summer, day roost
soprano pipistrelle – 2 summer, day roosts



Building 1A – Southern pavilion vault - bat roosts recorded:

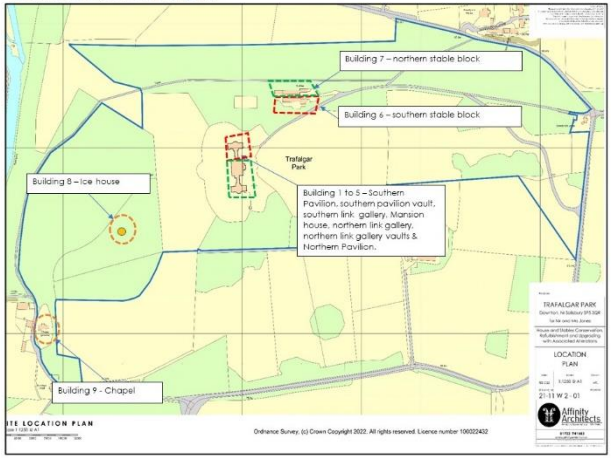
greater horseshoe – 1 summer, day roost recorded



Building 4A – Northern link gallery vaults - bat roosts recorded:

Brandt's – 1 hibernation roost
common pipistrelle – 2 hibernation roosts
greater horseshoe – 1 summer, day roost recorded
natterers – 1 hibernation roost
soprano pipistrelle – 2 hibernation roosts

Figure 1 4471.2 Trafalgar Park Phasing Plan





Building 6 - Southern stable block

Building 6 – Southern stable block - bat roosts recorded:

brown long-eared – 1 summer, day roost
common pipistrelle – 1 summer day roost
soprano pipistrelle – 3 summer day roosts

Building 7 – Northern stable block - bat roosts recorded:

common pipistrelle – 1 summer day roost
serotine – 1 summer, day roost
soprano pipistrelle – 3 summer day roosts

Building 9 - Chapel



Building 9 – Chapel - bat roosts recorded:

common pipistrelle – 1 summer, day roost
serotine – 1 summer, day roost
soprano pipistrelle – 2 summer day roosts

Building 8 – Ice house



Building 8 – Ice house - bat roosts recorded:

lesser horseshoe – 1 summer, day roost
soprano pipistrelle – 2 summer day roosts

Building 7 - Northern stable block



1. Timings

Phase 1

1.1. Buildings 4, 5 and 6 are scheduled to be refurbished in 2022 and 2023 between 1st December and 30th August. These buildings are a mix of two storey (building 4), three storey (building 5) and two storey (building 6). In 2022, all of these buildings were confirmed to house roosts for bats, see Table 1, below. (Daniel Ahern Ecology, 2022).

Table 1 Bat roosts in buildings 4, 5 & 6.

Building	Bat species	Maximum number	Roost type
4	common pipistrelle	1	summer, day roost
5	barbastelle	1	summer, day roost
	Brandt's	1	summer, day roost
	brown long-eared	1	summer, day roost
	common pipistrelle	12	summer, day roost
	lesser horseshoe	1	summer, day roost
	natterers	3	summer, day roost
	serotine	1	summer, day roost
	soprano pipistrelle	4	summer, day roost
6	brown long-eared	2	summer, day roost
	common pipistrelle	2	summer, day roost
	soprano pipistrelle	7	summer, day roost

1.2. Refurbishment to buildings 4, 5 and 6 will involve the removal of roof slates and leading, replacement of any rotten roof timbers, installation of new roof slates, installation of type 1F roofing felt, repair of any rotten window frames, replacement of any broken window panes, repair of any damaged external stonework, repointing of all external brick and stonework and repair of all internal ceilings and plasterwork.

1.3. These works will take place under a mitigation licence from Natural England (2022-62817-EPS-MIT).

Phase 2

1.4. Buildings 1, 1A, 2, 3, 4A and 7 are scheduled for refurbishment in 2023 and 2024 between 30th September and 1st April. These buildings are a mix of three storey (building 1), two storey (building 2), four storey (building 3) and two storey (building 7). Building 1A is a vault under building 1, buildings 4A are a suite of four vaults adjacent to building 4. In 2023, five of these buildings were confirmed to house roosts for bats, see Table 2, below. (Daniel Ahern Ecology, 2023).

Table 2 Bat roosts in buildings 1, 1A, 2, 3, 4A & 7.

Building	Bat species	Maximum number	Roost type
1	common pipistrelle	4	summer, day roost
	serotine	2	summer, day roost
1A	greater horseshoe	1	summer, day roost
2	none	0	n/a
3	brown long-eared	2	summer, day roost
	common pipistrelle	2	summer, day roost
	soprano pipistrelle	7	summer, day roost
4A	greater horseshoe	1	summer, day roost

	common pipistrelle	2	hibernation roost
	natterers	1	hibernation roost
	soprano pipistrelle	2	hibernation roost
7	common pipistrelle	8	summer, day roost
	serotine	2	summer, day roost
	soprano pipistrelle	3	summer, day roost

1.5. Refurbishment to buildings 1, 2, 3 and 7 will involve the removal of roof slates and leading, replacement of any rotten roof timbers, installation of new roof slates, installation of type 1F roofing felt, repair of any rotten window frames, replacement of any broken window panes, repair of any damaged external stonework, repointing of all external brick and stonework and repair of all internal ceilings and plasterwork. No works are planned for building 1A, there will be works taking place approximately 10m from this structure. Three of the four structures in 4A are in the process of collapsing and require removal of some of the bricks facing the walls, structural repairs and refixing of bricks and repointing with lime mortar. No works are planned for the fourth structure, the works to the three adjacent structures will cause some disturbance.

Phase 3

1.6. Buildings 8 and 9 are scheduled for refurbishment in 2024 between 1st April and 30th September. These buildings are an icehouse (building 8) and a chapel (building 9). Surveys in 2023 confirmed that building 8 and 9 contained roosts for bats, see Table 3 below.

Table 3 Bat roosts in buildings 8 & 9.

Building	Bat species	Maximum number	Roost type
8	lesser horseshoe	4	summer, day roost
	soprano pipistrelle	8	summer, day roost
9	common pipistrelle	2	summer, day roost
	serotine	2	summer, day roost
	soprano pipistrelle	14	summer, day roost

1.7. Refurbishment to buildings 8 will involve the installation of acroprops to support the roof, the repointing of all internal brickwork and the removal of all vegetation from the ground above the structure. The entrance canopy will also be rebuilt. The refurbishment of building 9 will involve the removal of roof slates and leading, replacement of any rotten roof timbers, installation of new roof slates, installation of type 1F roofing felt, repair of any rotten window frames, replacement of any broken window panes, repair of any damaged external stonework, repointing of all external brick and stonework and repair of all internal ceilings and plasterwork.

2. Impacts

Phase 1

2.1. The planned works to buildings 4, 5 and 6 will result in the disturbance or destruction of the roosts recorded in these structures during 2022. Details of the impacts are set out in Table 4, below.

Table 4 Impacts to bat roosts in buildings 4, 5 & 6.

Building	Bat species	Roost type	Result of works
4	common pipistrelle	summer, day roost	roost destroyed
5	barbastelle	summer, day roost	roost destroyed
	Brandt's	summer, day roost	roost destroyed
	brown long-eared	summer, day roost	roost destroyed
	common pipistrelle	summer, day roost	roost destroyed
	lesser horseshoe	summer, day roost	roost destroyed
	natterers	summer, day roost	roost destroyed
	serotine	summer, day roost	roost destroyed
	soprano pipistrelle	summer, day roost	roost destroyed
6	brown long-eared	summer, day roost	roost destroyed
	common pipistrelle	summer, day roost	roost destroyed
	soprano pipistrelle	summer, day roost	roost destroyed

2.2. The refurbishment works will result in the loss of a number of potential roost features in the external fabric of the buildings and also the loss of a number of ingress points into the building and roof void.

2.3. The roosts listed in Table 1 will be destroyed as a result of the works if suitable mitigation is not adopted.

Phase 2

2.4. The planned works to buildings 1, 1A, 2, 3, 4A and 7 will result in the disturbance or destruction of the roosts recorded in these structures during 2023. Details of the impacts are set out in Table 5, below.

Table 5 Impacts to bat roosts in buildings 1, 1A 2, 3, 4A & 7.

Building	Bat species	Roost type	Result of works
1	common pipistrelle	summer, day roost	roost destroyed
	serotine	summer, day roost	roost destroyed
1A	greater horseshoe	summer, day roost	roost disturbed
2	none	n/a	n/a
3	brown long-eared	summer, day roost	roost destroyed
	common pipistrelle	summer, day roost	roost destroyed
	soprano pipistrelle	summer, day roost	roost destroyed
4A	greater horseshoe	summer, day roost	roost disturbed
	common pipistrelle	hibernation	roost destroyed
	natterers	hibernation	roost destroyed
	soprano pipistrelle	hibernation	roost destroyed
7	common pipistrelle	summer, day roost	roost destroyed
	serotine	summer, day roost	roost destroyed
	soprano pipistrelle	summer, day roost	roost destroyed

2.5. The refurbishment works will result in the loss of a number of potential roost features in the external fabric of the buildings and also the loss of a number of ingress points into the building and roof void.

2.6. The roosts listed in Table 2 will be destroyed as a result of the works if suitable mitigation is not adopted.

Phase 3

2.7. The planned works to buildings 8 and 9 will result in the disturbance or destruction of the roosts recorded in these structures during 2023. Details of the impacts are set out in Table 6, below.

Table 6 Impacts to bat roosts in buildings 8 & 9.

Building	Bat species	Roost type	Result of works
8	lesser horseshoe	summer, day roost	roost destroyed
	soprano pipistrelle	summer, day roost	roost destroyed
9	common pipistrelle	summer, day roost	roost destroyed
	serotine	summer, day roost	roost destroyed
	soprano pipistrelle	summer, day roost	roost destroyed

3. Mitigation and Compensation

Phase 1

3.1. The bat roosts in building 5 & 6 are to be retained in situ. Access points to the roosts in the roofs of these structures will be created by the installation of bat access tiles, eight in the roof of building 5 and six in the roof of building 6. Two of the access tiles in building 6 will align with the location of the small, existing roof void.

3.2. Roofing works will be carried out under the supervision of the Named Ecologist or Accredited Agent.

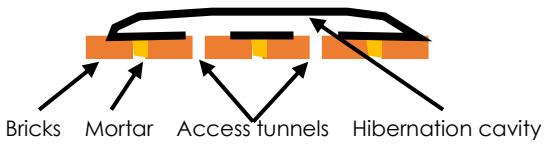
Phase 2

3.3. The bat roosts in building 1, 1A, 3 & 7 are to be retained in situ. Access points to the roosts in the roofs of these structures will be created by the installation of bat access tiles, eight each in the roof of building 1 and 3 and six in the roof of building 7. Two of the access tiles in building 7 will align with the location of the existing roof void. The access to building 1A will remain unchanged.

3.4. Roofing works will be carried out under the supervision of the Named Ecologist or Accredited Agent.

3.5. The hibernation roost located in three of the structures in building 4A will be destroyed in the process of restoring these features. As part of the restoration of each of these three structures, three hibernation cavities will be created in each one. Each will be located behind the brick facing with two access tunnels created through the lime pointing. Nine hibernation roost spaces will be created in this way, see Figure 1 below.

Figure 1. Illustration of one of the nine bat hibernation cavities to be created in building 4A.



3.6. It is expected that the hibernation roosts will be used by the following crevice dwelling bat species: Brandt's, common pipistrelle, Nathusius pipistrelle, soprano pipistrelle, whiskered.

3.7. The bat roosts in the two vaults, 1A and 4A which greater horseshoe bats have been recorded using as summer, day roosts, will not be included in the programme of works. The fabric of the two structures will be retained exactly as it currently is. On this basis no enhancement or compensation work is planned for these two structures. Advisory signs will be installed above the entrances to these two features with the wording ***Care : summer roosting bats May to September.***

Phase 3

3.8. The bat roosts in building 8 & 9 are to be retained in situ. Access points to the roosts in the roof of building 8 will be created by the creation of small voids within the repaired brickwork. Each void will measure 10cm in diameter and have two 2cm diameter accesses. There will be six voids created within the roof of this structure. Access points to the roosts in the roof of building 9 will be created by the installation of six bat access tiles.

3.9. The entrance to building 8 will be restored to the original covered tunnel measuring 2.5 metres long. This will reduce the ambient light entering this structure. A locked, grilled door will be installed at the entrance of the feature. This will prevent accidental or malicious access and permit easy access for bats of all sizes. The grilled design of the door will include two letterbox shaped holes measuring 15cm long by 8cm high to facilitate access for horseshoe bats.

3.10. It is expected that the hibernation roosts will be used by the following crevice dwelling bat species: Brandt's, common pipistrelle, Nathusius pipistrelle, soprano pipistrelle, whiskered.

3.11. Roofing works will be carried out under the supervision of the Named Ecologist or Accredited Agent.

4. Monitoring

4.1. Post-development monitoring, dawn or dusk emergence or re-entry surveys, will be carried out on Buildings 1, 1A, 3, 4, 4A, 5, 6 and 7 in summer (May-July) 2025 and in summer on Buildings 1A and 4A in 2026 and 2027. Overnight temperatures must be consistently above 10^0C during these surveys for them to be valid.

4.2. Hibernation surveys will take place on Buildings 1A and 4A in winter 2025, 2026 and 2027. Given that the nature of the works to be completed on Site are remedial it is believed that there will be no significant change in environmental conditions and so data loggers will not be required to monitor any changes in temperature or humidity. In these circumstances monitoring will be by means of static bat detectors deployed for a minimum of 10 consecutive days in two months out of December, January and February. The overnight temperatures must be consistently below 5^0C for these surveys to be valid.

4.3. A monitoring review meeting, between the site owners management team and the monitoring team lead, will take place early 2026 to review the data collected during the 2025 monitoring. This will consider whether any modification of the mitigation measures in place should be adopted.

5. Outcome post works

5.1. A summary of roosts which will be available after all phases of work have been completed are set out in Table 7, below. Bat species which were recorded roosting in each of the buildings are also set out in Table 7.

Table 7 Roosts after all works have been completed to buildings 1, 1A 2, 3, 4, 4A, 5, 6, 7, 8 & 9.

Building	Bat species present	Roost opportunities
1	common pipistrelle	8 bat access tiles, large roof void (200m^2)
	serotine	
1A	greater horseshoe	existing vault (15m^2)
2	none	n/a
3	brown long-eared	8 bat access tiles, large roof void (450m^2)
	common pipistrelle	
	soprano pipistrelle	
4	none	n/a
4A	greater horseshoe	existing vault (15m^2)
	common pipistrelle	3 existing vaults, restored – each with 3 hibernation cavities created as part of the restoration. Total 9 hibernation cavities
	natterers	
	soprano pipistrelle	
5	barbastelle	8 bat access tiles, large roof void (200m^2)
	Brandt's	
	brown long-eared	
	common pipistrelle	
	lesser horseshoe	
	natterers	
	serotine	
	soprano pipistrelle	
6	brown long-eared	8 bat access tiles, small roof void (45m^2)
	common pipistrelle	
	soprano pipistrelle	
7	common pipistrelle	6 bat access tiles, small roof void (50m^2)
	serotine	
	soprano pipistrelle	
8	lesser horseshoe	existing ice house (1250m^3)
	soprano pipistrelle	
9	common pipistrelle	6 bat access tiles, barn owl box on the gable end of the chapel
	serotine	
	soprano pipistrelle	