



Bat survey report

The Flour Mill, Ashford

Clients Name: Hume Planning Consultancy Ltd.

Date of Completion: 04/10/21

Version: 1.0

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1 Executive Summary

ECOassistance were commissioned to undertake bat emergence and re-entry surveys at the Flour Mill in Ashford, Kent. The survey objectives were to determine whether bats of any species were using the building as a place of rest or shelter and/or using the surrounding habitats for commuting or foraging. The survey findings have been used to outline any constraints, mitigation and compensation requirements to ensure a planning application at the site does not contravene wildlife legislation and is in line with National Planning Policy.

The main findings of the surveys were that:

1. Day roosts of small numbers of widespread species are present within part of the building which is to be demolished.
 2. The trees, hedgerows and waterways surrounding the site are used by bats including light-averse species.
 3. There was no evidence to suggest bats are using the internal spaces for feeding at night.
- The works as outlined are sure to result in the loss of day roosts of a low number of widespread species.
 - A Natural England derogation licence will need to be granted to impact the day roosts as avoiding impact will not be possible.
 - Bat sensitive lighting of the site will be required during and after construction to ensure the development does not have a negative impact on well-used bat habitats surrounding the site.

Mitigation and compensation measures for all impacts are provided in this report. Enhancement measures to ensure a net gain for bats at the site are also provided.

Disclaimer

This bat survey and report considers the instructions and requirements of the client and is not intended for and should not be relied upon by any third party.

The results contained within this report can be relied on for decision-making purposes without the need to be updated for twenty-four months providing there is no significant change in land use or land management in that time.

Interpretations and recommendations contained in this report represent the author's professional opinions. They are based on currently accepted industry practices and personal experience. This is a working document and must be updated if development proposals change, or new information become available.

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2 Introduction

ECOassistance were instructed by Hume Planning Consultancy Ltd. (Hereafter: the client) to undertake bat emergence and re-entry surveys (BERS) at the Ashford Flour Mill, East Hill in Ashford, Kent (hereafter referred to as: the site). This survey report will inform a planning application for redevelopment of the site to provide residential accommodation with amenities. The ground floor masterplan (left) provided by Hume Planning Consultancy Ltd. is shown alongside a satellite image of the existing layout (right) in Figure 1 below:

Figure 1: Ground floor masterplan and overhead satellite image of the existing layout



The development will include demolition of the most recent parts of the structure adjoined to the south of the original mill building. The plan has gone through many iterations during collaboration with the local planning authority (LPA) before reaching this point.

2.1 Bat surveys

The surveys were led by Edward Clark and assisted by experienced bat field surveyors Charlie Birch, Jack Clark, Matt Kelk, Mike Rivarno, Joshua Griffiths, Chris Potts, Victoria May and Geoff Morley. Edward has more than 12 years professional and voluntary experience surveying for bats and has extensive experience in site assessment including ground-based and aerial tree surveys, cave and bridge inspections and is registered to use a Level 2 Class licence (2018-33670-CLS-CLS) with all add-ons.

All native species of bat, their places of rest or shelter and foraging and commuting habitats are protected under both The Conservation of Habitats and Species Regulations 2017 and the 1981 Wildlife & Countryside Act (as amended). The presence of protected species and habitats is a material concern for planning authorities when deliberating planning applications. For more information on the relevant legislation refer to the appendix of this document.

The key objectives of the survey undertaken was to:

- Assess the presence or likely absence of bat roosts within the site and its local environs.
- Characterise the roost size and type if present.
- Design appropriate levels of avoidance, mitigation, compensation and enhancements for bats at the site.

This report describes the survey findings.

3 Methodology

3.1 Internal inspection

An internal inspection survey visit was carried out on 10/09/21 by Edward Clark and Matt Kelk. The internal spaces including all accessible loft voids were inspected for signs of bat habitation. This included searches for observable field signs including bat droppings, discolouration, urine staining and dead and/or alive bats but was primarily focussed on searching for insect prey feeding remains which might indicate that the site was being used for night time feeding. Night roosts or feeding perches can be used throughout the night and would not necessarily be observable during BERS.

3.1.1 Internal inspection equipment

A Clulite CB2-L2 clubman torch was used to identify PRF and evidence of bat signs during the internal search. Accessible cavities, crevices and recesses were inspected with LED survey mirrors and/or a Dewalt DCT410 endoscope. Other survey equipment included an android tablet device for making notes and taking photos, a magnification lens, survey sample tubes and a telescopic survey ladder.

3.2 BERS

In total three BERS were undertaken: two emergence surveys (hereafter: dusk surveys) and one re-entry survey (hereafter: dawn survey).

The dusk surveys were carried out in accordance with good practice guidance (Collins, 2016) from 15 minutes before sunset until 90 minutes afterwards and in favourable weather conditions. The dawn survey was carried out in accordance with good practice guidance (Collins, 2016) from 90 minutes before sunrise until 15 minutes afterwards and in favourable weather conditions.

The initial dusk emergence survey was carried out on 17/06/21; this was followed up by a dawn survey on 14/07/21 with a final dusk survey undertaken on 02/09/21.

The surveys were carried out using a Batlogger M and Batlogger A+ bat detector, two EM touch; two EM touch 2 and an EM touch 2 pro bat detectors (ultrasonic modules) with android or ipad tablets.

Surveyors were positioned to ensure as many aspects of the building as possible could be seen and that bats entering or exiting the structure would be readily observed. Survey design was iterative, with each survey informed by the previous one and so positions changed to counteract limitations encountered or to more closely observe areas of interest. The survey positions for each survey are shown in figures 3 & 4 below.

Figure 2: Surveyor positions survey 1 & 2 (white, red and blue cross) with field of view (dotted yellow line) indicated



The final BERS was carried out using the same equipment (as before) but surveyor positions were altered to confirm the exact location of emergence/re-entry points observed during the previous surveys and to ensure no bats were missed to inform future licensing and mitigation at the site.

Figure 3: Surveyor positions survey 3 (white, red and blue cross) with field of view (dotted yellow line) indicated



3.2.1 Other survey equipment

Each surveyor was provided with a Motorola Talkabout walkie talkie to discuss activity and to enable surveyors to collaborate in real time to ensure emergences from or returns to the structure were not missed.

The location, appearance, flight characteristics and times of bat sightings or activity were recorded on ECOassistance BERS results forms to provide information on how bats are using the site. If the surveyors were unsure whether they had witnessed an emergence; and it could not be corroborated or ruled out by the surveyor on the opposite side of the structure, these were recorded as 'possible emergence' requiring further investigation. Surveyors unsure of which species had been recorded would add a '?' to the record to show that further sound analysis was required.

The survey results forms are presented in Appendix 2.

Bat calls were automatically recorded by the detectors to enable sound analysis where needed and post-operative sound analysis was carried out by Edward Clark using Bat explorer and kaleidoscope software.

3.2.2 Impact assessment

The CIEEM bat mitigation guidelines (beta version 1.0) assessment criteria and BCT Good Practice Guidelines and professional judgement were used to assign a level of importance to bat roosts and assess the importance of assemblages and commuting and foraging habitats in order to:

- predict the level of impact on bats
- determine suitable and proportionate avoidance, mitigation and enhancement schemes.

4 Constraints and Limitations

Surveys such as this provide a snapshot of activity and in conjunction with the internal inspection are designed to determine presence or likely absence of roosting bats. The BERS were carried out within the main activity season and the findings are in line with those of the PRA. Whilst the survey effort is therefore not exhaustive it fulfils the brief and guidelines which the planning authority adheres to.

During the internal survey the top part of the central tower could not be accessed. Anecdotal evidence suggested that this part of the building had not been serviced by a stairway for many years. It is therefore possible that this part of the site could be used for feeding during the night by bats if they are able to access it. No bats were observed entering or exiting this part during the BERS therefore bats are deemed likely absent but should bat feeding remains or any other bat field signs be found when this area is accessed then work should stop and advice sought from a qualified bat worker of legal constraints before work can continue.

Long eared bats of the *Plecotinae* often do not echolocate, instead making use of their relatively good eyesight to navigate. As a result, long eared bats more than any other UK species are likely to be under-recorded during activity or emergence and re-entry surveys.

It is difficult to identify some species of bats from recordings alone. This is particularly true when trying to differentiate between the two UK resident long eared *plecotus spp.* and *myotis Myotis spp.* bats.

- The long eared bats observed during this survey are presumed to be brown long eared bat *Plecotus auritus* due to the location of The Site and the known distribution of both grey and brown long eared bats. Grey long eared bats are not known to occur in Kent.
- An unidentified *myotis bat Myotis sp.* was recorded during the surveys. Further survey effort to identify the bat will not be undertaken as knowing the exact species will not change the recommendations in this report or the levels of mitigation and enhancement which are required. Therefore, the cost in time and effort it would take to determine the species is not proportionate to the value of having such data (in relation to this planning application).

5 Results

5.1 Internal inspection

No bat field signs were encountered. The numerous broken windows rather than providing access for bats to feed instead made internal areas very drafty and unsuitable for bats.

5.2 BERS

During the surveys five species of bat were recording flying over or near to the site. These were: common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, Noctule *Nyctalus noctula*, brown long eared bat *Plecotus auritus* and an unidentified myotis bat *Myotis sp.*

Bats, including light averse species, were observed foraging and/or commuting near to the site and utilising the surrounding trees, hedgerows and waterways.

A small number of common pipistrelle individuals were found to be roosting within the fabric of the structure.

- a peak count of three common pipistrelles were observed emerging from the timber cladded, south facing elevation located to the south of the mill during the survey carried out on 17/06/21.
- A single individual was observed returning to the same part of the structure during the survey carried out on 14/07/21.
- A single individual was observed emerging from the same part of the structure during the survey carried out on 02/09/21.

The location of the roost access points are indicated on the surveyors' photos and the overhead satellite image below:

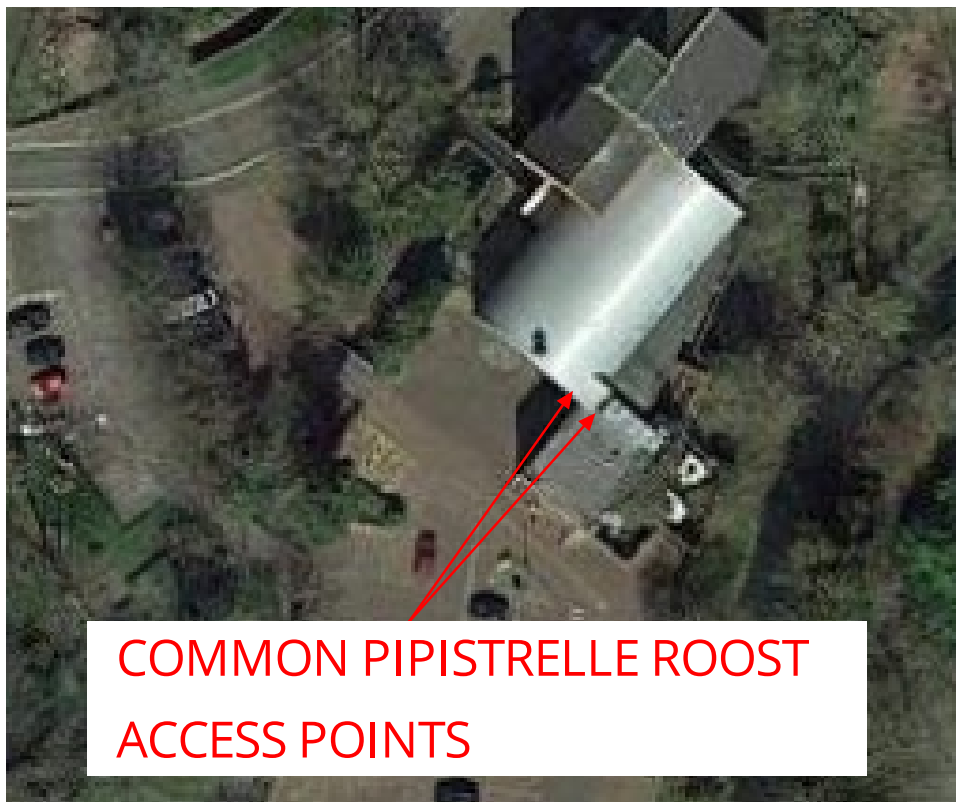
Figure 4: Emergence points of three common pipistrelles 17/06/21



Figure 5: Emergence point of single common pipistrelle 02/09/21



Figure 6: Location of common pipistrelle roost access points



6 Conclusion and Recommendations

The survey data indicate that:

- a day roost of low numbers of common pipistrelle bats is present.

Common pipistrelle bats are considered 'abundant and widespread' in south-east England to The Wash; non breeding day roosts of a small number of individuals are deemed to be of 'local' importance.

- The trees, hedgerows and waterways which surround the site represent important foraging and commuting habitats.

In line with current guidance, for works to be carried out, any impacts to the bat species that are present must be reduced to a non-significant level. Where this cannot be achieved, appropriate compensation must be offered. The impacts from the development are assessed below.

6.1 Roosts

In total three different roost access points were identified during the surveys.

There are many potential roost access points through gaps in the cladding and once inside the bats could potentially be roosting anywhere behind these cladded areas.

Although bats can move around inside of roosts it is assumed that two roosts: one containing a single individual and the other containing two individuals are present.

6.1.1 Development proposal with regards to known roosts

Due to the nature of the development proposal, the day roosts and access points contained within contained with the timber cladded elevation will be directly impacted through development and will be lost as a result of the development.

6.1.2 Avoidance/mitigation/compensation Group B

Potential impacts on the day roosts that are present cannot be avoided. In situations where the potential impact relates to total loss of a feature such as this (or the modification of such a feature to an extent that it will no longer have the same function) then the significance of the impact is deemed to be the same as the valuation of the feature; in this case: Local.

Table 3: assessment of impacts on day roost

Roost to be impacted	Value of roost	Impact	Likely significance
Day roost of low numbers of common pipistrelle.	Local	Permanent. Area containing known roosts is to be demolished therefore roosts will be lost.	Negligible/local; unlikely to be the only day roost used

Despite the low significance in terms of demography of the bats that are present, the roost is protected by law and works to impact it must be licensed by Natural England with adequate compensation offered.

6.1.3 Mitigation

Works to impact the roost must be supervised by a licensed bat worker as well as under a site specific derogation licence. Structural materials around the roosting space will be removed by hand to reduce the likelihood of bats being injured and if found will be removed by the licensed bat worker and placed carefully into one of the bat boxes already provided.

6.1.4 Licensing and compensation

A licence is required and must be granted prior to works in order to impact a known roost(s). In order for a licence to be granted the application must satisfy the following three tests:

1. the activity must be for a certain purpose - for example, for scientific research or in the public interest.
2. there must be no satisfactory alternative that will cause less harm to the species.

3. the activity must not harm the long-term conservation status of the species - you may need to create new habitats to offset any damage.

The client is likely to be successful when applying for a derogation licence because:

1. Derogation licenses are granted for the purposes of development. In this instance to provide much needed accommodation.
2. It is not possible to retain the roosting feature where this part of the building is to be demolished. The site plan has been through many iterations in order to achieve something which is viable for the local community and the developer.
3. The roost is of local importance only and the impact is considered: local/negligible as it is unlikely to be the only day roost used by the animal. Compensation by way of bat boxes and enhancements/habitat improvements will need to be included in the development plan.

A bat low impact class licence (BLICL) to impact the roost will be suitable for the type of bat roosts present or alternatively a mitigation licence will need to be sought from Natural England (NE).

- A BLICL to impact the roost or a European protected species licence (EPSL) to impact the bat roosts must be granted by NE prior to any works which might affect them are started.
- An EPSL or BLICL application can only be made once planning permission has been granted.

Mitigation and compensation requirements for impacting a day roost of low numbers of common pipistrelle individuals:

- there is flexibility over provision of bat boxes and no conditions about timing or monitoring (English Nature: Bat Mitigation guidelines).

The following mitigation measures are likely to be conditions of any mitigation licence.

- Bat boxes should be provided as mitigation prior to destruction or modification of any roost.
- Demolition/dismantling will be supervised by a licensed bat worker following a methodology set out in the licence application which has been agreed by Natural England.
- There is unlikely to be any condition over timing of works.

6.2 Surrounding habitats

Disturbance from excess lighting must be avoided both during construction and post completion. The foraging and commuting habitats which surround the site are protected by law.

- As light-averse species (brown long eared and myotis bats) were recorded during the survey new lighting at the site should avoid lighting any key habitats and features. This includes the tree lines and hedgerows, mature trees, bat boxes provided as enhancements or mitigation and the waterways at the base of and surrounding the site.
- New external lighting should be restricted to downward facing lighting and low level downlights such as downward facing bollard lighting where these do not shine into the waterways. There should be no additional lighting of the waterways. It is also recommended that as much of the new lighting as is practicable be activated by motion sensors.
- During construction, external works should not be carried out after dusk and the construction site should not be lit after dark.

6.3 Enhancements

As well as mitigating negative impacts the application must also be demonstrated to result in a net gain for the bat species present to be in line with National Planning Policy.

Installing enhancements to promote invertebrates such as log piles at the base of boundary features which surround the site will improve the area for bats.

Two bat boxes suitable for pipistrelle bats are likely to be a condition of the licence; to be installed prior to destroying the known roosts. This should be doubled to four bat boxes to provide net gain. The boxes can be of varied designs but must include at least two boxes which are designed for use by common pipistrelle bats.

Two of the bat boxes should be affixed to the walls of the new builds after completion; positioned as near to the former roost access points as possible. The additional bat boxes should be installed onto mature trees in the grounds of the site away from the development.

Bat boxes should be of the woodcrete type to ensure longevity. Standard advice is that they are: erected in a sheltered location, in close proximity or with a strong unlit linear connection to good quality foraging habitat. For all types of boxes, Collins et al. (2020) found that the box height most frequently occupied was 4m (2020). A height of at least 3 metres is recommended; to be hung from a mature tree in the grounds.

Suitable bat box designs for pipistrelle bats are given in the appendix¹.

¹ the product shown is from the NHBS website: www.nhbs.com

7 References

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Appendix 1: Review of Protected Species UK Legislation and Policy

The level of protection afforded to protected species varies dependent on the associated legislation. A full list of protected species and their specific legal protection is provided within the Schedules and/or Sections of the associated legislation. Case law may further clarify the nature of the legal protection afforded to species.

The legal protection afforded to protected species overrides all planning decisions. European Protected Species (EPS) - and the Conservation of Habitats and Species Regulations 2010 (as amended)

European Protected Species (EPS) are afforded the highest level of protection through the Conservation of Habitats and Species Regulations 2017. EPS are also afforded legal protection by parts of the Wildlife and Countryside Act 1981 (as amended).

In general, any person and/or activity that:

- Damages or destroys a breeding or resting place of an EPS. (This is sometimes referred to as the strict liability or absolute offence);
- Deliberately captures, injures or kills an EPS (including their eggs);
- Deliberately disturbs an EPS, and in particular disturbance likely to impair animals' ability to survive, breed or nurture young, their ability to hibernate and migrate and disturbance likely to have a significant effect on local distribution and abundance; intentionally or recklessly disturbs an EPS while occupying a structure or place used for shelter and/or protection (Wildlife and Countryside Act 1981)1 (as amended); and
- Intentionally or recklessly obstructs access to any structure or place that an EPS uses for shelter or protection (Wildlife and Countryside Act 1981) (as amended). may be guilty of an offence.

The legislation applies to the egg, larval and adult life stages of great crested newts and to bat roosts even when they are not occupied.

Actions affecting multiple animals can be construed as separate offences and therefore penalties can be applied per animal impacted.

Under certain circumstances licences can be granted by the Statutory Nature Conservation Organisation (Natural England in England) to permit actions that would otherwise be unlawful.

There are some very specific defences associated with the Conservation of Habitats and Species Regulations 2017. However, these are unlikely to apply to construction related projects. The Sections of the Regulations provide further details of these defences.

The Wildlife and Countryside Act (1981) includes defence for those aspects of the legislation that apply to an EPS. These defences are unlikely to apply to construction related projects and do not apply to those acts included in the Conservation of Habitats and Species Regulations 2010 (as amended). The Schedules of the Act provide further details of defences.

Local authorities have obligations under sections 40 and 41 of the Natural Environment and Rural Communities Act (NERC) 2006 to have regard to the purpose of conserving biodiversity in carrying out their duties. The majority of EPS are listed on Section 41 the NERC Act.

The Natural Environment and Rural Communities Act 2006 (as amended)

Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act (2006) requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers, including local and regional authorities, in implementing their duty under Section 40 of the act to have regard to the conservation of biodiversity in England when carrying out their normal functions. S41 lists 56 habitats and 943 species of principal importance. Section 42 of the NERC Act relates to Wales.

Wildlife and Countryside Act 1981 (as amended)

The level of protection afforded to species listed on the Wildlife and Countryside Act 1981 (as amended) varies considerably. 'Fully protected species', such as water vole, are afforded the highest level of protection. Any person who intentionally kills, injures, or takes 'fully protected species', or who intentionally or recklessly damages or destroys a structure or place used for shelter and/or protection, disturbs the animal whilst occupying a structure and/or place used for shelter and protection, or obstructs access to any structure and/or place used for shelter or protection is likely to have committed an offence.

Other species, such as common reptiles, are afforded less protection and for these species it may only be an offence to intentionally or recklessly kill or injure animals.

All active bird nests, eggs and young are protected from intentional destruction. Schedule 1 listed birds are also protected from intentional and reckless disturbance whilst breeding.

Schedule 9 of The Wildlife and Countryside Act lists plant species for which it is an offence for a person to plant, or otherwise cause to grow in the wild. Schedule 9 also lists animals for which it is an offence to release into the wild.

The National Planning Policy Framework

Planning policy requires new developments to take into consideration our local and national wildlife. With the objective to maintain or increase the viability of the site for wildlife. The existing proposals are considered to determine whether Habitat enhancements are offered and whether they are adequate to meet the policy requirements. Again, national, regional, county and borough policies are considered.

The National Planning Policy Framework states that the planning system should contribute to and enhance the natural and local environment by minimizing impacts on biodiversity and delivering net gains in biodiversity where possible.

Ecological habitat enhancements measures need to be over and above any mitigation measures.

Appendix 2: Survey results forms and plates



Site Name/Survey visit		Ashford Flour Mill/1	Date			17/06/2021			
Start Time		20:59		Surveyor			Charlie Birch		
Sunset/ Sunrise Time		21:14		Detector number			E2D02546		
Finish Time		22:44		Position relative to Structure			west		
Weather Conditions pre sunset/post sunrise		wind 2, cloud 100%, rain 0		Equipment Used			Echo meter		
Air Temperature Start		19		Air Temperature end			18c		
Brief summary (fill out at end of survey)									
*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislrs Noctule = Leis; Serotine = ser									
**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.									
Time	Species *	Activity**	Notes including flight direction (if seen)						
21:17	p45	C	over building to S						
21:25	Noc	HNS							
21:31	p55	HNS							
21:33	p45	C	towards south west						
21:34	p45	F			over water , intermittent continuation for 33 minutes				
21:35	p55	HNS	2 passes						
21:38	p55	HNS							
21:44	p55	F	over water,ranged intermittent continuation						

Site Name/Survey visit		Ashford Flour Mill/1	Date	17/06/2021
Start Time		20:59	Surveyor	GM
Sunset/ Sunrise Time		21:14	Detector number	GM1
Finish Time		22:44	Air Temperature end	
Weather Conditions pre sunset/post sunrise		Overcast	Equipment Used	GM iphone5
Air Temperature Start		19	Air Temperature end	

Brief summary (fill out at end of survey)								
*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser								
**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.								
Time	Species*	Activity**	Notes including flight direction (if seen)					
21:24	Noc	Commuting						
21:25	Noc	Commuting						
21:26	Noc	Commuting						
21:27	Noc	Commuting						
21:28	P45	Commuting						
21:31	P45	Commuting	NW-SE overhead towards mill					
21:32	Noc	Commuting						
21:33	Noc	Foraging	HxS					
21:56	P45	Commuting	HxS					
22:00	P45	Commuting	HxS					
22:07	P45	Commuting	HxS					

Site Name/Survey visit		Ashford Flour Mill/1	Date	17/06/2021
Start Time		20:59	Surveyor	Matt Kelk
Sunset/ Sunrise Time		21:14	Detector number	Serial number: 01841
Finish Time		22:44	Position relative to structure	South East corner of structure
Weather Conditions pre sunset/post sunrise		Wind 1, 100% cloud, rain 0.	Equipment Used	Echo meter touch & ipad
Air Temperature Start		19	Air Temperature end	18
Brief summary (fill out at end of survey)		No emergence from South East of structure. lots of heard but not seems. Only one seen. Light rain towards the end.		
*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser				
**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.				

Time	Species*	Activity**	Notes including flight direction (if seen)				
21:26	Noc		HNS				
21:28	P45	Commuting	SNH				
21:29	P45		Hns				
21:33	Noc		HNS				
21:34	Noc		HNS				
21:36	P45		Hns				
21:37	Ser		Hns				
21:42	P45		HNS				
21:59	P45		HNS				
22:02	P55		HNS				
22:03	P45		Hns				
22:10	P45		Travel west to east and looped back over building				

Site Name/Survey visit		Ashford Flour Mill/1		Date		17/06/2021	
Start Time		20:59		Surveyor		Victoria May	
Sunset/ Sunrise Time		21:14		Detector number		E2C01558	
Finish Time		22:44		Position Relative to Structure		South West	
Weather Conditions pre sunset/post sunrise		wind 2 cloud 100% Rain 0		Equipment Used		Echo Meter Touch Pro +Tablet	
Air Temperature Start		19		Air Temperature end		18	
Brief summary (fill out at end of survey)							
*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser							
**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.							
Time	Species*	Activity**	Notes including flight direction (if seen)				
21:17	P45	E	Around building to the west				
21:24	Noc	C	over roof of building North to South				
21:27	P45	C		South treeline of building flying to north East			

21:29	P45	F		2x bats from south of building				
21:33	Noc	hns						
21:34	P45	e		2 x emergence				
21:35	P55	c		South towards building				
21:36	p45	f		4 passes west to east				
21:40	P55	F		2 passes from south of building				
21:45	P45	C		North to south 50+ passes active 30mins. 3x bats				

Site Name/Survey visit		Ashford Flour Mill/1		Date		17/06/2021	
Start Time		20:59		Surveyor		Ed Clark	
Sunset/ Sunrise Time		21:14		Detector number		1818 3290	
Finish Time		22:44		Position relative to structure		north east	
Weather Conditions pre sunset/post sunrise		Rain		Equipment Used		batlogger m	
Air Temperature Start		19		Air Temperature end		18	
Brief summary (fill out at end of survey)							
*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser							
**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.							
Time	Species*	Activity**		Notes including flight direction (if seen)			
21:25	noc	c		ne - sw over building			
21 26	p45			distant constant activity			
	p55	ns		distant constant activity			
21 32	noc	ns					
21 33	p45 x multi	f		over river			
21:52	p55	ns		brief pass			

Site Name/Survey visit		Ashford Flour Mill/1		Date		17/06/2021	
Start Time		20:59		Surveyor		Jack Clark	
Sunset/ Sunrise Time		21:14		Detector number		E2B00251	
Finish Time		22:44		Position relative to structure		E Corner	
Weather Conditions pre sunset/post sunrise		wind 1, 100% cloud, rain 0		Equipment Used		Echo meter touch	
Air Temperature Start		19		Air Temperature end		18	
Brief summary (fill out at end of survey)							
*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser							
**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.							
Time	Species*	Activity**	Notes including flight direction (if seen)				
21:15	pip 55	E	SW-NE 1 pass from tree line				
21:25	noctule	HNS	1 pass				
21:26	pip 55	C					
21:27	pip 45	C	SW-NE 1 pass				
21:30	p45	C	NE-SW 1 Pass				
21:30	p45	C	intermittent activity				
21:34	p45	E	NW-SE 2 Bats from curved roof				
21:38	p55	C	NE-SW 1 Pass				
21:44	p45	F	2 passes around NE Corne				
21:48	p45	F	NE-SW 1 Pass				
22:04	p45	c	SE-NW 1 Pass towards the building				
22:11	p45	c		SE-NW 1 pass towards building			

Site Name/Survey visit		Flour Mill 2		Date		14/07/2021	
Start Time		03:28		Surveyor		Charlie Birch	

Sunset/ Sunrise Time		04 58	Detector number	E2D02546		
Finish Time		05 13	Position Relative to Structure	west		
Weather Conditions pre sunset/post sunrise	wind 2 cloud 0% Rain 0		Equipment Used	Echo Meter		
Air Temperature Start	14		Air Temperature end	14		
Brief summary (fill out at end of survey)						
*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser						
**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.						
Time	Species*	Activity**	Notes including flight direction (if seen)			
03:26	p45	F	over the water, intermittent continuation throughout survey with activity stopping at 4:45am			
03:47	p55	HNS				
04:23	noc	HNS	3 passes			
04:36	noc	HNS				

Site Name/Survey visit	Flour Mill 2		Date	14/07/2021		
Start Time	03:28		Surveyor	Matt Kelk		
Sunset/ Sunrise Time		04 58	Detector number	00:00		
Finish Time		05 13	Position Relative to Structure	South		
Weather Conditions pre sunset/post sunrise	wind 2 cloud 0% Rain 0		Equipment Used	Echo Meter Touch 01841		
Air Temperature Start	14		Air Temperature end	14c		
Brief summary (fill out at end of survey)						
*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser						
**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.						
Time	Species*	Activity**	Notes including flight direction (if seen)			
03:50	P45	Circling	Heading over building from S position in N direction			

03:55	P45	Commuting?	SW direction over building			
04:07	P45	Hns				
04:08	Myo n	Hns				
04:08	Noc	Hns				
04:22	Noc	Hns				
04:23	Noc	Hns				
04:25	Noc	Hns				
04:31	P55	Hns				
04:35	Noc	Hns				
04:37	Noc	Hns				

Site Name/Survey visit		Flour Mill 2		Date		14/07/2021	
Start Time		03:28		Surveyor		Victoria May	
Sunset/ Sunrise Time		04 58		Detector number		E2C01558	
Finish Time		05 13		Position Relative to Structure		South West	
Weather Conditions pre sunset/post sunrise		wind 2 cloud 0% Rain 0		Equipment Used		EM Touch and Tablet	
Air Temperature Start		14		Air Temperature end		14	
Brief summary (fill out at end of survey)							
*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser							
**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.							
Time	Species*	Activity**	Notes including flight direction (if seen)				
03:31	p45	NS					
03:38	p45	NS	active for 3 mins. believed to be flying over river west of building				
03:43	p45	NS					
03:50	Noc	C		SE to NW over building			
04:08	p45	F	se to west over building				
04:10	Noc	NS	distant				
04:22	Noc	C	south to north over building 3 passes				

04:34	p45	R	Same place as 1 st surveyj

Site Name/Survey visit		Flour Mill 2	Date	14/07/2021
Start Time		03:28	Surveyor	EC
Sunset/ Sunrise Time		04 58	Detector number	1818 3290
Finish Time		05 13	Position Relative to Structure	ne
Weather Conditions pre sunset/post sunrise		wind 2 cloud 0% Rain 0	Equipment Used	Batlogger M
Air Temperature Start		14	Air Temperature end	14
Brief summary (fill out at end of survey)		some f c pips and a noc only		
*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislars Noctule = Leis; Serotine = ser				
**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.				

Time	Species*	Activity**	Notes including flight direction (if seen)				
03 34	p45	hns					
03 45	p45	hns	1 pass				
03 55	p45	f	nw end 5 passes				
04 04	p45	hns	brief distant				
04 22	noc	hns	intemi27tent activity til 04 37 then seen c ne away from building				
04 25							

Site Name/Survey visit		Flour Mill 2	Date	14/07/2021
Start Time		03:28	Surveyor	GM
Sunset/ Sunrise Time		04 58	Detector number	1818 3290
Finish Time		05 13	Position Relative to Structure	NE
Weather Conditions pre sunset/post sunrise		wind 2 cloud 0% Rain 0	Equipment Used	Echo Meter + iphone

Air Temperature Start		14			Air Temperature end			
Brief summary (fill out at end of survey)								
*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislars Noctule = Leis; Serotine = ser								
**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.								
Time	Species*	Activity**	Notes including flight direction (if seen)					
03:26	P45	F	Almost continuous foraging to 03.35. 45khz ish NS					
03:34	P55	F	Intermittent foraging. 52/53Khz NS					
03:36	P55	F	NS					
03:41	P45	F	NS					
03:49	Noc	C	Single pass 20Khz. NS					
03:50	P45	F	NS					
03:55	P55	F	NS					
04:00	P45	C	Single pass 44Khz					
04:03	P55	F	53Khz					
04:03	P45	F	47Khz z	Continuous				
04:14	Noc	F	20Khz z					
04:22	Noc	C	20Khz z	SW-NE Along the	road at the	front of the	Mill	
04:30	Noc	F	20Khz z	Continuously	reoccurring	until 04.41	Touch and Go?	NS

Site Name/Survey visit		Flour Mill 3		Date	02/09/2021
Start Time		19:25		Surveyor	Charlie Birch
Sunset/ Sunrise Time		19:40		Detector number	E2D02546
Finish Time		21:10		Position Relative to Structure	south west
Weather Conditions pre sunset/post sunrise		Wind 2 Cloud 80% Rain 0		Equipment Used	Echo meter
Air Temperature Start		16		Air Temperature end	
Brief summary (fill out at end of survey)					

*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser							
**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.							
Time	Species*	Activity*	Notes including flight direction (if seen)				
20:02	p45	E	Wooden slat				
20:13	p45	C	Circled the building				
20:14	p55	F	intermittently	for 3 minutes			
20:19	p45	F	intermittently	until 21:08			
20:59	p55	HNS					
21:06	p55	HNS					

Site Name/Survey visit		Flour Mill 3		Date		02/09/2021	
Start Time		19:25		Surveyor		Mike Rivarno	
Sunset/ Sunrise Time		19:40		Detector number		1818 3290	
Finish Time		21:10		Position Relative to Structure		East/North East	
Weather Conditions pre sunset/post sunrise		Wind 2 Cloud 100% Rain 0		Equipment Used		Batlogger M	
Air Temperature Start		16		Air Temperature end		14	
Brief summary (fill out at end of survey)							
*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser							
**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.							
Time	Species*	Activity**	Notes including flight direction (if seen)				
19:55	P55	NS					
20:03	P45	NS					
20:07	P55	C	Commuting South to North				
20:09	P55	NS					
20:13	P45	NS					
20:16	P45	F	Overhead				
20:18	P45	NS	Intermittent activitie				

20:24	P55	NS	Intermittent activitie				
20:31	P45	F					
20:48	MYO	NS					

Site Name/Survey visit		Flour Mill 3		Date		02/09/2021	
Start Time		19:25		Surveyor		Joshua Griffiths	
Sunset/ Sunrise Time		19:40		Detector number		E2D04045	
Finish Time		21:10		Position Relative to Structure		NW	
Weather Conditions pre sunset/post sunrise		Wind 2 Cloud 80% Rain 0		Equipment Used		Echo meter	
Air Temperature Start		16		Air Temperature end		14	
Brief summary (fill out at end of survey)							
*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislars Noctule = Leis; Serotine = ser							
**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.							
Time	Species*	Activity**		Notes including flight direction (if seen)			
20:04	p45	HNS					
20:21	p45	HNS					
20:30	p45	HNS		intermittent for 7 minutes			
20:44	p45	HNS					
21:10	p45	HNS					

Site Name/Survey visit		Flour Mill 3		Date		02/09/2021	
Start Time		19:25		Surveyor		MK	
Sunset/ Sunrise Time		19:40		Detector number		00:00	
Finish Time		21:10		Position Relative to Structure		South	
Weather Conditions pre sunset/post sunrise		Wind 1 Cloud 100% Rain 0		Equipment Used		Echo meter touch 01841	

Air Temperature Start		15		Air Temperature end		14	
Brief summary (fill out at end of survey)		Nothing emerged from south of building. Some hns of P45 p55 and Brown Long Eared					
*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser							
**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.							
Time	Species*	Activity**	Notes including flight direction (if seen)				
20:03	?	Commuting	1 pass NW - E over top of building				
20:25	P45	?	Hns for around 10 mins				
20:38	P45	?	Hns for around 2-3 mins				
20:51	P45	?	Hns				
20:59	Ble	?	Hns				
21:03	P55	?	Hns				

Site Name/Survey visit		Flour Mill 3	Date	02/09/2021
Start Time		19:25	Surveyor	Chris
Sunset/ Sunrise Time		19:40	Detector number	E2C00158
Finish Time		21:10	Position Relative to Structure	south west
Weather Conditions pre sunset/post sunrise		Wind 2 Cloud 80% Rain 0	Equipment Used	Echo meter
Air Temperature Start		16	Air Temperature end	15'
Brief summary (fill out at end of survey)				
*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislers Noctule = Leis; Serotine = ser				
**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.				
Time	Species*	Activity**	Notes including flight direction (if seen)	
20:01	p45	E	Wooden slat cladding on side of building	
20:13	p45	C	Circling the building and car park area	

21:15	p55?	F	along stream running un front of building			
21:20	p45	F	along stream running un front of building			
21:00	p55	Hns				

Site Name/Survey visit		Flour Mill 3		Date		02/09/2021	
Start Time		19:25		Surveyor		Jack Clark	
Sunset/ Sunrise Time		19:40		Detector number		E2B00251	
Finish Time		21:10		Position Relative to Structure		NW Position	
Weather Conditions pre sunset/post sunrise		Wind 1 Cloud 100% Rain 0		Equipment Used		Echo meter touch	
Air Temperature Start		16		Air Temperature end		14	
Brief summary (fill out at end of survey)		common pip detected but not seen moderate activity					
*Shorthand: Common Pipistrelle = P45; Soprano Pipistrelle = P55 Brown/Grey long eared = LE; All Myotis = myo followed by single letter; Greater Horseshoe - GHS; Greater Noctule = Noc; Leislars Noctule = Leis; Serotine = ser							
**Shorthand - 'NS' = not seen; 'SNH' = seen not heard; 'E' = emergence; 'R' = return; 'F' = foraging; 'C' = commuting.							
Time	Species*	Activity**	Notes including flight direction (if seen)				
20:16	p45	c	HNS 2 Passes				
20:21	p45	c	HNS 1 Pass				
20:35	p45	c	HNS 1 Pass				
20:35	p45	c	HNS 1 Pass				
20:38	p45	c	HNS 1 Pass				
20:45	p45	c	HNS 3 Passes				
20:48	p45	c	HNS 1 Pass				
21:01	p45	c	HNS 2 Passes				
21:03	p45	c	HNS 2 Passes				
21:08	p45	c	HNS 2 Passes				
21:10	p45	c	HNS 2 Passes				





