



Norwich Western Link

Environmental Statement

Chapter 11: Bats

Appendix 3b: Structure Roosting Bats

Author: WSP

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1 Introduction

1.1 Structure Roosting Bats

Table B-1 Results of the 2021 dusk emergence and dawn re-entry surveys for structures

1.1.1 Table B-1 shows the results of the 2021 dusk emergence and dawn re-entry surveys for structures. From left to right, the first column details the structure reference (6A1-6A4, 7B1, 7B2 and 8A1), the second column is for bat roosting suitability assigned from preliminary bat roosting assessment (PBRA), then survey 1 details, survey 2 details, survey 3 details and then the final bat roosting suitability. Under which the rows are filled in for each structure corresponding with the column headings.

Table B-2 Results of the 2021 hibernation surveys of structures

1.1.2 Table B-2 shows the results of the 2021 hibernation surveys of structures. From left to right, the first column details the structure reference (9B1-9B7, 10A1-10A3, 11A1-11A3, Rutterford 1-4, All Saints Church, Morton Farm 1-7, 45A1-45A9, and Keeper's Cottage 1-4). The second column is for structure description, then hibernation survey visit 1 results, hibernation survey visit 2 results, hibernation roost status and a final column for structure photographs. Under which the rows are filled in for each structure corresponding with the column headings.

1.1.3 The photographs within each table row are as follows;

- 9B1 – An image showing tunnel with a curved ceiling of an above ground concrete structure approximately 1.5m high and 2m long. Significant light exposure, and draughty.
- 9B2 – An image of an underground bunker entrance, with steps covered in leaves down into a space approximately 2.5m high by 2m wide, and 10m long. Entrance is covered in moss.



- 9B3 - An image of an underground bunker entrance, with steps covered in leaves down into a space approximately 2.5m high by 2m wide, and 10m long. Entrance is surrounded by Ivy.
- 9B4 - An image showing a tunnel of an underground concrete bunker, with blocked doorway and an arched ceiling. Leaves on tunnel floor.
- 9B5 – Image showing a narrow skylight entrance which leads vertically down into the bunker.
- 9B6 - An image of an underground bunker entrance, with steps covered in leaves down into a space approximately 2.5m high by 2m wide, and 10m long. Entrance is surrounded by Ivy.
- 9B7 - An image of an underground bunker entrance, with steps covered in leaves down into a space approximately 2.5m high by 2m wide, and 10m long. Entrance is surrounded by moss.
- 10A1 – Image of inside an above ground structure, showing an arched roof and internally comprised of concrete panels which are sealed at all the joints. Floor is covered in debris such as twigs and a rung of barbed wire.
- 10A2 – Image of an above ground structure surrounded by bracken and a tree, but with earth piled on top so that it appears underground.
- 10A3 – Image of above ground structure entrance, leading right into the bunker.
- 11A1 - An image of an underground bunker entrance, into a space approximately 2.5m high by 2m wide, and 10m long. Leaves cover the floor.
- 11A2 - An image showing tunnel with a curved ceiling of an above ground concrete structure approximately 1.5m high and 2m long. Significant light exposure, and draughty.



- 11A3 - Image showing a narrow skylight entrance which leads vertically down into the bunker.
- Rutterford 1 – Image showing the entrance to a large agricultural shed with concrete foundations. Upper half of walls are constructed of corrugated metal panels. Tractor in entrance.
- Rutterford 2 – Image showing a semi-circular hangar structure, constructed of breeze blocks with a corrugated sheet metal roof.
- Rutterford 3 – Image showing the inside of a large agricultural shed with concrete foundations. Upper half of walls are constructed of corrugated metal panels. The interior structure is supported by steel beams. Farm machinery in building.
- All Saints Church – Image showing a local church of stone and concrete construction, with a pitched tiled roof (and a smaller pitched roof over the entrance way).
- Morton Farm 2 – Image showing a brick turret/guard post is present in the SW corner of a wall structure. Trees surround the outside of the wall/turret corner.
- 45A6 – Image showing part of a small chapel constructed from stone with Norfolk pantile style roof. There is an arched doorway with the door closed, and a window with no panes on the outside adjoining wall. Ivy is growing over the roof.
- Keeper's Cottage 1 – Image showing the inside of a former agricultural building, with exposed beams and breeze block low walls inside, and with low height internal walls. Currently used for storing vehicles/farm machinery.
- Keeper's Cottage 2 – Image showing inside of former agricultural building with exposed beams and roof A-frames. Old, disused cars are shown as being stored inside.



- Keeper's Cottage 3 – Image showing a former livestock building with corrugated asbestos roof with skylights, supported by concrete pillars and beams. An old car is parked outside the closed front entrance.
- Keeper's Cottage 4 - Image showing a former agricultural building with external walls and roof constructed of corrugated asbestos with concrete pillars and beams. There are two large doors, one half-open, and another entrance next to this wide-enough for cars/vehicles.

Figure B1

1.1.4 Figure B1 shows a map of the dusk emergence and dawn re-entry survey results of structures surveyed in 2021. The Site Boundary is displayed alongside the 25m Site buffer and 100m route alignment. All structures in proximity to the Site Boundary are displayed and categorised in relation to emergence. The categories are absent, confirmed and also includes structures scoped out from further assessment. 24 structures are displayed in total across the Site Boundary with structures with confirmed emergence located in the north-east area of the Site Boundary including The River Wensum and Grassland and also in The Hedgerows South of Weston Road.

Figure B2

1.1.5 Figure B2 shows a map of the hibernation survey results of structures surveyed in 2021. The Site Boundary is displayed, with an additional 500m buffer. Within the 500m buffer, structures are categorised in relation to firstly, if structures where hibernating bats are considered likely absent, or structures considered to be unsuitable for hibernating bats or unlikely to support an important hibernation roost. The remaining categories are in relation to brown long-eared bats (BLE) and are either where there is a BLE hibernation roost, a BLE and Daubenton's bat hibernation roost, a BLE, *Myotis* species and an unidentified bat species hibernation roost, or a historic bat roost of unknown species. On total, 5 hibernation roosts are displayed in total and are all located towards the south of the Site Boundary in proximity to The Broadway and Foxburrow Plantation. One is confirmed as a BLE bat hibernation roost,



one is confirmed as a BLE bat and Daubenton's bat hibernation roost and one is confirmed as a BLE bat, *Myotis* species and an unidentified bat species hibernation roost. The remaining two roosts are historic bat roosts of unknown species. This is also in the same area as a number of bunkers also displayed and categorised, with seven bunkers where hibernating bats are considered likely absent and one bunker considered to be unsuitable for hibernating bats or unlikely to support an important hibernating roost.

- 1.1.6 There are 24 structures displayed in total. These structures displayed include the location labelled Keeper's Cottage to the north of the Site Boundary and within the 500m buffer, where four structures are considered to be unsuitable for hibernating bats or unlikely to support an important hibernating roost. The location labelled Morton includes a total of 16 structures, eight of which are considered to be unsuitable for hibernating bats or unlikely to support an important hibernating roost. The remaining eight structures are where hibernating bats are considered likely absent. The remaining structures displayed include the location labelled Rutterford to the west of the Site Boundary and within the 500m buffer, where there are four structures where hibernating bats are considered likely absent.

Figure B2.1

- 1.1.7 Figure B2.1 shows a map of the location labelled Keeper's Cottage to the north of the Site Boundary and within the 500m buffer, where four structures are considered to be unsuitable for hibernating bats or unlikely to support an important hibernating roost.

Figure B2.2

- 1.1.8 Figure B2.2 shows a map of the 2021 Hibernation survey results of structures of the location labelled Morton, where there are 16 structures. Eight of these structures are considered to be unsuitable for hibernating bats or unlikely to support an important hibernating roost. The remaining eight structures are where hibernating bats are considered likely absent.



Figure B2.3

- 1.1.9 Figure B2.3 shows a map of the 2021 hibernation survey results of structures of the location labelled Rutterford to the west of the Site Boundary and within the 500m buffer, where there are four structures where hibernating bats are considered likely absent.

Figure B2.4

- 1.1.10 Figure B2.4 shows a map of the 2021 hibernation survey results of structures of the location labelled Bunkers. These are a number of bunkers displayed and categorised, with seven bunkers where hibernating bats are considered likely absent and one bunker considered to be unsuitable for hibernating bats or unlikely to support an important hibernating roost. The map also displays the confirmed roosts, including the 5 hibernation roosts that are displayed in total. These are all located towards the south of the Site Boundary in proximity to The Broadway and Foxburrow Plantation. One is confirmed as a BLE bat hibernation roost, one is confirmed as a BLE bat and Daubenton's bat hibernation roost and one is confirmed as a BLE bat, *Myotis* species and an unidentified bat species hibernation roost. The remaining two roosts are historic bat roosts of unknown species.
- 1.1.11 We have included a summary of key information shown in this document in an accessible format. However, some users may not be able to access all technical details. If you require this document in a more accessible format, please contact norwichwesternlink@norfolk.gov.uk.

Appendix B

Structure Roosting Bats

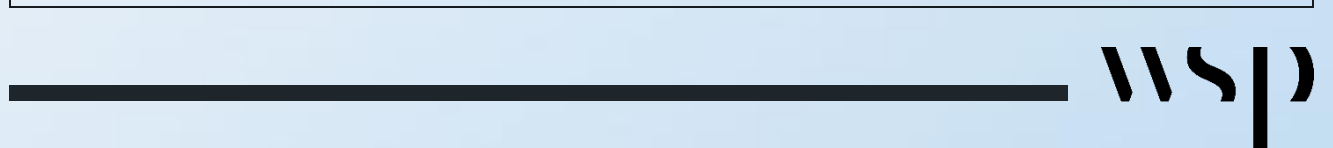




Table B1 – Results of the 2021 dusk emergence and dawn re-entry surveys for structures

Table B2 – Results of the 2021 hibernation surveys for structures

Figure B1 - Dusk emergence and dawn re-entry results of structures

Figure B2 – Hibernation survey results of structures


Table B-1 – Results of the 2021 dusk emergence and dawn re-entry surveys for structures



Structure ref	Bat roosting suitability assigned from PBRA	Survey 1 Details	Survey 2 Details	Survey 3 Details	Final bat roosting suitability
6A1	High	<p>Dawn re-entry survey</p> <p>Date: 19/05/2021 Start time: 02:55 Sunrise/sunset time: 04:53 End time: 05:10</p> <p>Common pipistrelle re-entry at 04:23 at apex of gable end. Soprano pipistrelle re-entry at approximately 04:38 at gable end of roof, entered at the middle of the right eave.</p>	<p>Dusk emergence survey</p> <p>Date: 09/06/2021 Start time: 21:00 Sunrise/sunset time: 21:16 End time: 22:45</p> <p>Common pipistrelle emergence at approximately 21:46 from apex of roof of main structure. Soprano pipistrelle emergence at approximately 22:12 from eaves of roof of main structure above conservatory.</p>	<p>Dusk emergence survey</p> <p>Date: 23/06/2021 Start time: 21:05 Sunrise/sunset time: 21:23 End time: 22:45</p> <p>Soprano pipistrelle emergence at approximately 22:13 from apex of roof of main structure (south east facing). Emergence of an unknown bat at 22:00 from the gable end apex. Bat cannot be identified as it did not echolocate upon emergence.</p>	Confirmed summer day roost for low numbers of common and soprano pipistrelle.
6A2	High	<p>Dawn re-entry survey</p> <p>Date: 25/05/2021 Start time: 02:45 Sunrise/sunset time: 04:45 End time: 05:00</p> <p>No bats observed re-entering the structure.</p>	<p>Dusk emergence survey</p> <p>Date: 17/06/2021 Start time: 21:06 Sunrise/sunset time: 21:21 End time: 22:51</p> <p>No bats observed emerging from the structure.</p>	<p>Dusk emergence survey</p> <p>Date: 30/06/2021 Start time: 21:06 Sunrise/sunset time: 21:22 End time: 22:51</p> <p>Soprano pipistrelle emergence at 21:24 from top of upper barn door on gable end. Common pipistrelle emerged at 21:58 from top or side of upper barn door on gable end.</p> <p>Common pipistrelle emergence from middle section of north east facing eave of roof at 21:48.</p>	Confirmed summer day roost for low numbers of common and soprano pipistrelle.
6A3	Moderate	<p>Dawn re-entry survey</p> <p>Date: 18/05/2021 Start time: 02:57 Sunrise/sunset time: 04:57 End time: 05:12</p> <p>No bats observed re-entering structure.</p>	<p>Dusk emergence survey</p> <p>Date: 02/06/2021 Start time: 20:54 Sunrise/sunset time: 21:10 End time: 22:40</p> <p>No bats recorded emerging from the structure.</p>	N/A	Moderate (roosting bats likely absent).



Structure ref	Bat roosting suitability assigned from PBRA	Survey 1 Details	Survey 2 Details	Survey 3 Details	Final bat roosting suitability
6A4	High	<p>Dusk emergence survey</p> <p>Date: 11/05/2021 Start time: 20:23 Sunrise/sunset time: 20:38 End time: 22:08</p> <p>Common pipistrelle emergence at approximately 21:00 from apex of porch. Several additional emergences recorded by a surveyor with a faulty detector (i.e. no sound recordings available). Emergences noted as <i>Pipistrellus</i> sp. at approximately 21:04 from eave of roof, <i>Pipistrellus</i> sp. emergence at approximately 21:06 from gable end of structure, and soprano pipistrelle emergence at approximately 21:08 from gable end of structure.</p>	<p>Dusk emergence survey</p> <p>Date: 01/06/2021 Start time: 20:54 Sunrise/sunset time: 21:09 End time: 22:39</p> <p>Common pipistrelle emergence at approximately 21:48 from apex of porch of property. Soprano pipistrelle emergence at approximately 21:33 from eave of gable end of structure.</p>	<p>Dawn re-entry survey</p> <p>Date: 15/06/2021 Start time: 02:38 Sunrise/sunset time: 04:31 End time: 04:32</p> <p>Common pipistrelle re-entry at approximately 04:11, entered under tiles on eave of roof of porch.</p>	Confirmed summer day roost for low numbers of common and soprano pipistrelle.
7B1	Confirmed roost (single bat dropping present, not subject to DNA analysis)	<p>Dusk emergence survey</p> <p>Date: 20/05/2021 Start time: 20:37 Sunrise/sunset time: 20:52 End time: 22:22</p> <p>Common pipistrelle emergence at approximately 20:59 and 21:14 from eave of roof of main structure facing courtyard.</p>	<p>Dawn re-entry survey</p> <p>Date: 08/06/2021 Start time: 02:33 Sunrise/sunset time: 04:33 End time: 04:36</p> <p>Common pipistrelle re-entry at approximately 04:03, entered below eaves through gap in cladding in courtyard.</p>	<p>Dusk emergence survey</p> <p>Date: 06/07/2021 Start time: 21:05 Sunrise/sunset time: 21:20 End time: 22:50</p> <p>Common pipistrelle emergence at approximately 21:50 from gap in cladding below eave.</p>	Confirmed summer day roost for low numbers of common pipistrelle
7B2	Confirmed roost (droppings present but DNA analysis inconclusive)	<p>Dusk emergence survey</p> <p>Date: 13/05/2021 Start time: 20:25 Sunrise/sunset time: 20:38 End time: 22:10</p> <p>No bats emerged from structure.</p>	<p>Dawn re-entry survey</p> <p>Date: 28/05/2021 Start time: 02:40 Sunrise/sunset time: 04:42 End time: 04:42</p> <p>No bats re-entered from structure.</p>	<p>Dusk emergence survey</p> <p>Date: 10/06/2021 Start time: 21:03 Sunrise/sunset time: 21:18 End time: 22:48</p> <p>Common pipistrelle emergence at approximately 21:50 from eave next to extension of structure.</p>	Confirmed summer day roost for common pipistrelle.



Structure ref	Bat roosting suitability assigned from PBRA	Survey 1 Details	Survey 2 Details	Survey 3 Details	Final bat roosting suitability
8A1	Confirmed roost (droppings of brown long-eared bat recorded)	<p>Dawn re-entry survey</p> <p>Date: 04/06/2021 Start time: 02:31 Sunrise/sunset time: 04:31 End time: 04:31</p> <p>Common pipistrelle re-entered structure at 04:03 under ridge tiles.</p>	<p>Dusk emergence survey</p> <p>Date: 05/07/2021 Start time: 21:05 Sunrise/sunset time: 21:20 End time: 22:50</p> <p>Common pipistrelle emergence at approximately 22:18 from tiles near apex of roof.</p>	<p>Dusk emergence survey</p> <p>Date: 20/07/2021 Start time: 20:50 Sunrise/sunset time: 21:06 End time: 22:35</p> <p>Common pipistrelle emergence at approximately 21:36 from roof of main structure.</p>	<p>Confirmed summer day roost for common pipistrelle</p> <p>Confirmed roost for brown long-eared bat, although exact roost type unconfirmed (droppings only).</p>



Table B-2 – Results of the 2021 hibernation surveys of structures



Structure ref	Structure Description	Hibernation Survey Visit 1 Results	Hibernation Survey Visit 2 Results	Hibernation Roost Status	Structure Photograph
9B1	An above ground concrete structure approximately 1.5m high and 2m long. Significant light exposure, and draughty.	<p>25 February 2021</p> <p>No hibernating bats or evidence of hibernating bats recorded.</p>	<p>26 March 2021</p> <p>No hibernating bats or evidence of hibernating bats recorded.</p>	Hibernating bats considered to be likely absent.	



Structure ref	Structure Description	Hibernation Survey Visit 1 Results	Hibernation Survey Visit 2 Results	Hibernation Roost Status	Structure Photograph
9B2	Underground bunker with steps leading into a space approximately 2.5m high by 2m wide, and 10m long. Walls and ceiling comprised of concrete panels which were tightly sealed with no gaps between them.	<p>25 February 2021</p> <p>Small pile of insect wings located in the centre of the bunker.</p> <p>No hibernating bats or conclusive evidence of hibernating bats recorded.</p>	<p>26 March 2021</p> <p>No hibernating bats or evidence of hibernating bats recorded.</p>	Hibernating bats considered to be likely absent.	
9B3	Underground bunker with steps leading into a space approximately 2.5m high by 2m wide, and 10m long. Walls and ceiling comprised of concrete panels which were tightly sealed with no gaps between them.	<p>25 February 2021</p> <p>No hibernating bats or evidence of hibernating bats recorded.</p>	<p>26 March 2021</p> <p>No hibernating bats or evidence of hibernating bats recorded.</p>	Hibernating bats considered to be likely absent.	

Structure ref	Structure Description	Hibernation Survey Visit 1 Results	Hibernation Survey Visit 2 Results	Hibernation Roost Status	Structure Photograph
9B4	Underground concrete bunker, with blocked doorway. An open 'skylight' access/egress point is clear and accessible.	25 February 2021 Not possible to inspect – filled with earth and bricks at entrance.	26 March 2021 Inspected – tar spilled on floor. One dead bat recorded in tar, and two additional dead bats found on walls. Old droppings at the far end of the tunnel.	Historic confirmed hibernation roost	
9B5	Underground bunker with steps leading into a concrete tunnel, which could not be accessed due to debris blocking the entrance. A narrow skylight entrance is also present which leads vertically down into the bunker.	25 February 2021 Not inspected, structure entrance filled in with soil and debris.	26 March 2021 Not inspected, structure entrance filled in with soil and debris.	Hibernating bats considered to be likely absent.	



Structure ref	Structure Description	Hibernation Survey Visit 1 Results	Hibernation Survey Visit 2 Results	Hibernation Roost Status	Structure Photograph
9B6	Underground bunker with steps leading into a space approximately 2.5m high by 2m wide, and 10m long. Walls and ceiling comprised of concrete panels with gaps between these where the mortar has degraded.	<p>25 February 2021</p> <p>Multiple crevices recorded between the concrete panels where bats could roost.</p> <p>Three hibernating bats identified between gaps in roof:</p> <ul style="list-style-type: none"> • Single brown long-eared bat; • Single <i>Myotis</i> sp.; and • Single unidentified bat. 	<p>26 March 2021</p> <p>Single <i>Myotis</i> sp. bat identified, considered to likely be Daubenton's bat <i>Myotis daubentonii</i>.</p>	Confirmed hibernation roost.	
9B7	Underground bunker with steps leading into a space approximately 2.5m high by 2m wide, and 10m long. Walls and ceiling comprised of concrete panels which were tightly sealed with no gaps between them.	<p>25 February 2021</p> <p>No hibernating bats or evidence of hibernating bats recorded.</p>	<p>26 March 2021</p> <p>Structure partially flooded. No hibernating bats or evidence of hibernating bats recorded.</p>	Hibernating bats considered to be likely absent.	

Structure ref	Structure Description	Hibernation Survey Visit 1 Results	Hibernation Survey Visit 2 Results	Hibernation Roost Status	Structure Photograph
10A1	Above ground structure. Internally comprised of concrete panels which are sealed at all the joints.	25 February 2021 No hibernating bats or evidence of hibernating bats recorded.	26 March 2021 No hibernating bats or evidence of hibernating bats recorded.	Hibernating bats considered to be likely absent.	
10A2	Above ground structure but with earth piled on top so that it appears underground. Internally comprised of concrete panels with gaps in the joints and behind the concrete doorframe.	25 February 2021 No hibernating bats or evidence of hibernating bats recorded.	26 March 2021 No hibernating bats or evidence of hibernating bats recorded.	Hibernating bats considered to be likely absent.	

Structure ref	Structure Description	Hibernation Survey Visit 1 Results	Hibernation Survey Visit 2 Results	Hibernation Roost Status	Structure Photograph
10A3	Above ground structure but with earth piled on top so that it appears underground. Internally comprised of concrete panels with gaps in the joints and behind the concrete doorframe.	25 February 2021 Single brown long-eared bat observed within the structure of the doorframe.	26 March 2021 Single brown long-eared bat observed within the door frame structure. Droppings with size and shape indicative of brown long-eared bat round under ridge at the far end of bunker.	Confirmed hibernation roost.	
11A1	Underground bunker with steps leading into a space approximately 2.5m high by 2m wide, and 10m long. Walls and ceiling comprised of concrete panels with gaps between these where the mortar has degraded.	25 February 2021 No hibernating bats or evidence of hibernating bats recorded.	26 March 2021 Droppings present under mortar gaps. Size and appearance indicative of brown long-eared bat.	Confirmed hibernation roost.	


Structure ref	Structure Description	Hibernation Survey Visit 1 Results	Hibernation Survey Visit 2 Results	Hibernation Roost Status	Structure Photograph
11A2	Underground bunker with steps leading into a space approximately 2.5m high by 2m wide, and 10m long. Walls and ceiling comprised of concrete panels with gaps between these where the mortar has degraded.	25 February 2021 No hibernating bats or evidence of hibernating bats recorded	26 March 2021 Droppings present under mortar gaps. Size and appearance indicative of brown long-eared bat.	Confirmed hibernation roost	
11A3	Underground bunker with steps leading into a space approximately 2.5m high by 2m wide, and 10m long. Walls and ceiling comprised of concrete panels with gaps between these where the mortar has degraded.	25 February 2021 Two hibernating bats recorded within concrete blocks in the roof: <ul style="list-style-type: none"> • Single brown long-eared bat; and • Single Daubenton's bat 	26 March 2021 Structure partially flooded with 2-3 inches of ground water. Three brown long-eared bats recorded in mortar gaps.	Confirmed hibernation roost.	

Structure ref	Structure Description	Hibernation Survey Visit 1 Results	Hibernation Survey Visit 2 Results	Hibernation Roost Status	Structure Photograph
Rutterford 1	Large agricultural shed with concrete foundations. Upper half of walls are constructed of corrugated metal panels. The interior structure is supported by steel beams.	28 January 2021 No hibernating bats or evidence of hibernating bats recorded. Agricultural shed still under construction.	24 February 2021 No access on second visit	Hibernating bats considered to be likely absent.	
Rutterford 2	Semi-circular hangar structure, constructed of breeze blocks with a corrugated sheet metal roof.	28 January 2021 No hibernating bats or evidence of hibernating bats recorded.	24 February 2021 No hibernating bats or evidence of hibernating bats recorded.	Hibernating bats considered to be likely absent.	
Rutterford 3	Large agricultural shed with concrete foundations. Upper half of walls are constructed of corrugated metal panels. The interior structure is supported by steel beams.	28 January 2021 No hibernating bats or evidence of hibernating bats recorded.	24 February 2021 No hibernating bats or evidence of hibernating bats recorded.	Hibernating bats considered to be likely absent.	
Rutterford 4	Agricultural barn with corrugated metal roof and walls, and a steel beam structure internally.	28 January 2021 No hibernating bats or evidence of hibernating bats recorded.	24 February 2021 No hibernating bats or evidence of hibernating bats recorded.	Hibernating bats considered to be likely absent.	N/A

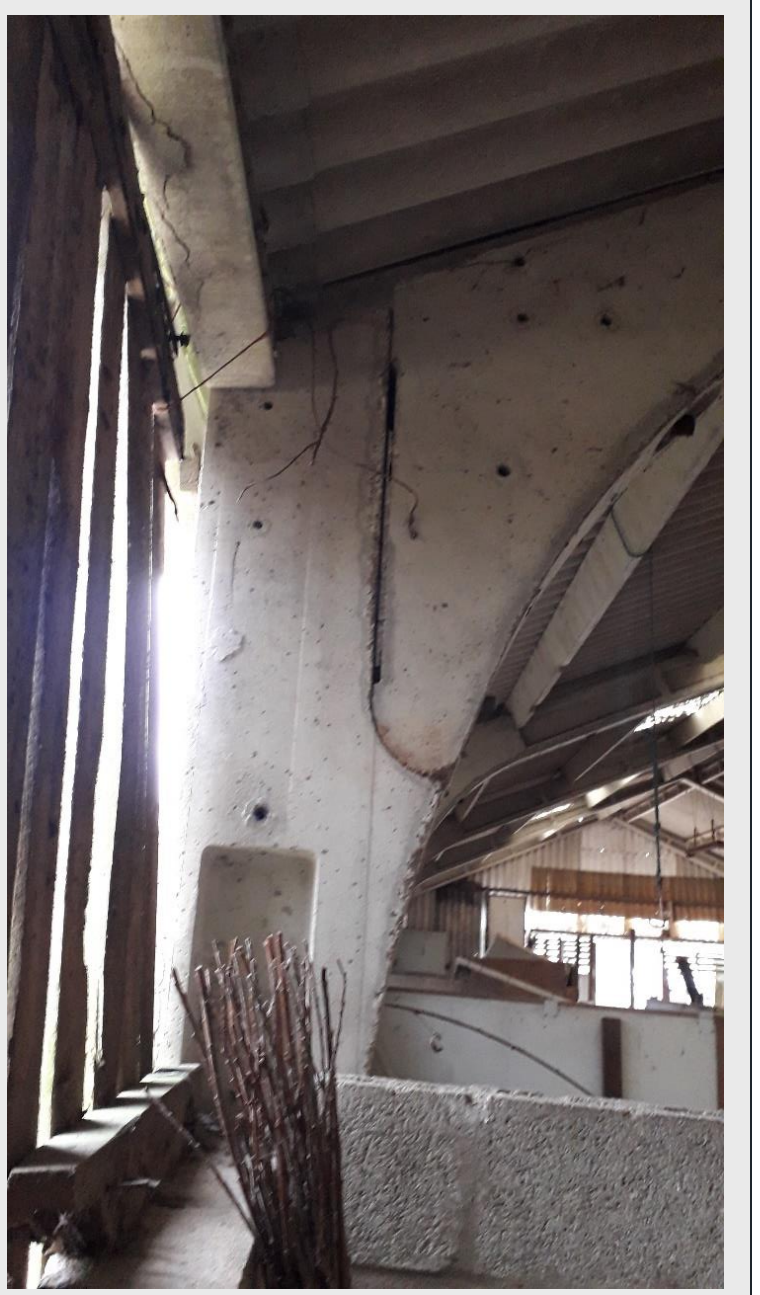

Structure ref	Structure Description	Hibernation Survey Visit 1 Results	Hibernation Survey Visit 2 Results	Hibernation Roost Status	Structure Photograph
All Saints Church, Lenwade	Local church of stone and concrete construction, with a pitched tiled roof (and a smaller pitched roof over the entrance way). Internally, the structure features a wooden-panelled ceiling.	13 January 2021 External and internal inspection completed, but no access to loft or roof cavity. No hibernating bats or evidence of hibernating bats recorded.	24 February 2021 External and internal inspection completed, but no access to loft or roof cavity. Single <i>Pipistrellus</i> sp. hibernating behind door lock in the east of the building. Cluster of droppings recorded around a window on the western aspect, with droppings sporadically scattered throughout the main space. Urine staining observed on pews and stone burial caps.	Confirmed hibernation roost.	
Morton Farm 1	Modern agricultural barn structure, which did not meet the scope for further surveys.	21 January 2021 External inspection only. No hibernating bats or evidence of hibernating bats recorded. Building considered unsuitable to support an important hibernation roost.	N/A	Unconfirmed, but unlikely to support important hibernation roost due to nature of structure.	N/A
Morton Farm 2	Large agricultural barn with wooden roof structure and corrugated asbestos roof. No external walls on the N, E or S sides. W side is bounded by a tall (6-8m) brick wall. Some missing mortar at the top of the wall provides potential roost features but too high to inspect. A brick turret/guard post is present in the SW corner of the wall structure. No access inside the barn on first survey visit due to farm machinery movements during survey within the barn.	21 January 2021 External inspection only. No hibernating bats or evidence of hibernating bats recorded.	24 February 2021 External and internal inspection. No hibernating bats or evidence of hibernating bats recorded.	Hibernating bats considered to be likely absent.	

Structure ref	Structure Description	Hibernation Survey Visit 1 Results	Hibernation Survey Visit 2 Results	Hibernation Roost Status	Structure Photograph
Morton Farm 3	Modern agricultural barn structure (with active plant machinery operating in the vicinity), which did not meet the scope for further surveys.	21 January 2021 External inspection only. No hibernating bats or evidence of hibernating bats recorded.	N/A	Unconfirmed, but unlikely to support important hibernation roost due to nature of structure.	N/A
Morton Farm 4	Modern agricultural barn structure, which did not meet the scope for further surveys.	21 January 2021 External inspection only. No hibernating bats or evidence of hibernating bats recorded.	N/A	Unconfirmed, but unlikely to support important hibernation roost due to nature of structure.	N/A
Morton Farm 5	Surveyed externally on first survey visit as no asbestos survey had been carried out. Building is a former stable block being used for storage. External and internal walls are built from stone/flint with multiple gaps in internal walls forming crevices. The roof structure had recently been replaced and offered limited access internally, however the split barn doors were open or had gaps around the frames allowing internal access. Internal roosting features were very dry with some light exposure.	21 January 2021 External inspection only. No hibernating bats or evidence of hibernating bats recorded.	24 February 2021 External and internal inspection. No hibernating bats or evidence of hibernating bats recorded.	Unconfirmed, but unlikely to support important hibernation roost due to nature of structure.	N/A
Morton Farm 6	Burned out small cottage building. Only walls remain and no roof. Crevice features are present in the walls and around doorways and windows. All features were inspected with torches and endoscopes and no bats or evidence of bats present.	21 January 2021 No hibernating bats or evidence of hibernating bats recorded.	24 February 2021 No hibernating bats or evidence of hibernating bats recorded.	Hibernating bats considered to be likely absent.	N/A
Morton Farm 7	Small toilet building with corrugated metal roof and brick walls. Building inspected with torches and no evidence of bats observed.	21 January 2021 No hibernating bats or evidence of hibernating bats recorded.	24 February 2021 No hibernating bats or evidence of hibernating bats recorded.	Hibernating bats considered to be likely absent.	N/A
45A1	Large brick-built former agricultural building with Norfolk pantile roof. The building was in use at the time	21 January 2021 No hibernating bats or evidence of hibernating bats recorded.	24 February 2021 No hibernating bats or evidence of hibernating bats recorded.	Hibernating bats considered to be likely absent.	N/A

Structure ref	Structure Description	Hibernation Survey Visit 1 Results	Hibernation Survey Visit 2 Results	Hibernation Roost Status	Structure Photograph
	of survey for commercial use and no internal access was permitted. The building was noted to be very noisy with extractor fans during the survey. Externally there were multiple potential roosting features in the roof structure.				
45A2	<p>Large brick built former agricultural building with Norfolk pantile roof. The building has multiple points of entry around the roof structure and has openings on the NW aspect.</p> <p>An internal inspection was carried out of the ground level of the structure, but it is used as workshop and for storage which limited access. The upper floor of the building is used for storage and was dark with plenty of suitable features for bats to roost. The upper floor was not accessed due to rotten wood flooring. Anecdotal evidence from owner of audible squeaks from bats roosting around the frame and wooden lintel on the SE aspect of the building. No evidence of bats was observed, although access was restricted.</p>	<p>21 January 2021</p> <p>Internal and external inspection. No hibernating bats or evidence of hibernating bats recorded.</p>	<p>24 February 2021</p> <p>External inspection only. No hibernating bats or evidence of hibernating bats recorded.</p>	Hibernating bats presumed to be present using the precautionary principle.	N/A
45A3	Residential bungalow. No internal access and excluded from further hibernation surveys as it does not meet the criteria for an important hibernation roost. The occupier mentioned that they had bats in the building that they frequently observed in the summer.	<p>21 January 2021</p> <p>External inspection only. No hibernating bats or evidence of hibernating bats recorded.</p>	N/A	Unconfirmed, but unlikely to support important hibernation roost due to residential nature.	N/A
45A4	Small garden shed structure, considered unsuitable to support an important hibernation roost. Not subject to hibernation surveys.	<p>21 January 2021</p> <p>External inspection only. No hibernating bats or evidence of hibernating bats recorded.</p>	N/A	Unconfirmed, but unlikely to support important hibernation roost due to nature of structure.	N/A

Structure ref	Structure Description	Hibernation Survey Visit 1 Results	Hibernation Survey Visit 2 Results	Hibernation Roost Status	Structure Photograph
45A5	Stone constructed green house with more modern glass, possibly Victorian or older. Lower structure contains gaps and crevices where old pipework would have been to heat the green house. Limited suitability for roosting or hibernation. Structure did not meet the scope for further surveys.	21 January 2021 External inspection only. No hibernating bats or evidence of hibernating bats recorded.	N/A	Unconfirmed, but unlikely to support important hibernation roost due to nature of structure.	N/A
45A6	<p>Small chapel constructed from stone with Norfolk pantile style roof. The eastern end of the chapel has been refurbished and has a glass wall separating it from the western end which has not be refurbished. The pantile roof provides multiple entry points for bats into the roof structure and there are multiple gaps where the soffit boards meet the stonework. The western end of the building has no roof and the round tower also has no roof. Missing mortar provides some potential for hibernating bats but features not accessible from the ground or ladders. Exterior features were attempted to endoscope but most were too tight for the endoscope head or opened into voids too large to inspected with an endoscope. A brick water well is present to the south which is open at the top but access is partly obscured by ivy. The well was filled with water at the time of the visit and the structure has limited suitability for hibernation.</p> <p>Building interior has been refurbished and walls and ceilings are finished with white render. There is a void between the pantile roof and internal ceiling that cannot be accessed for survey. A thorough inspection of was carried out using torches by three</p>	21 January 2021 Internal and external inspection. No hibernating bats or evidence of hibernating bats recorded.	24 February 2021 Internal and external inspection. No hibernating bats or evidence of hibernating bats recorded.	Hibernating bats considered to be likely absent.	

Structure ref	Structure Description	Hibernation Survey Visit 1 Results	Hibernation Survey Visit 2 Results	Hibernation Roost Status	Structure Photograph
	surveyors and no evidence of bats within the building were observed. A small hatch into the ceiling void is present within the chapel, however it is too small and high up to access for survey.				
45A7	Brick built structure that appears to be a converted farm building and used for commercial use. No internal access was possible at the time of survey. To the south are a number of underground buildings that are built into the hill, towards structure 45A6. The buildings are used for storage and were accessed during the survey.	21 January 2021 External inspection only. No hibernating bats or evidence of hibernating bats recorded.	24 February 2021 External inspection only. No hibernating bats or evidence of hibernating bats recorded.	Hibernating bats considered to be likely absent.	N/A
45A8	Not surveyed. The structure is a large manor house building with residential use. The roof structure appears to have been recently refurbished, with new mortar and lead work. No internal access available due to COVID-19 restrictions at the time of survey.	Not surveyed – any potential hibernation features within residential structure (e.g. cavity walls) would not be accessible for surveyors.	Not surveyed – any potential hibernation features within residential structure (e.g. cavity walls) would not be accessible for surveyors.	Unconfirmed, but unlikely to support important hibernation roost due to residential nature.	N/A
45A9	Residential structure not subject to further surveys after first visit, as it is considered unlikely to support an important hibernation roost.	External inspection only. No hibernating bats or evidence of hibernating bats recorded.	External inspection only. No hibernating bats or evidence of hibernating bats recorded.	Unconfirmed, but unlikely to support important hibernation roost due to nature of structure.	N/A

Structure ref	Structure Description	Hibernation Survey Visit 1 Results	Hibernation Survey Visit 2 Results	Hibernation Roost Status	Structure Photograph
Keepers Cottage 1	Former agricultural building with corrugated asbestos roof support by steel and wooden A-frame on top of concrete pillars. Building has no external breeze block walls but has low height internal walls and is currently used for storing vehicles/farm machinery. Building very open to wind and light and has negligible suitability for roosting bats	05 March 2021 Building assessed as unsuitable to support hibernating bats, no second visit undertaken.	N/A	Unsuitable for hibernating bats.	
Keepers Cottage 2	Former agricultural building with corrugated asbestos roof support by steel and wooden A-frame on top of concrete pillars. Building has no external breeze block walls but has low height internal walls and is currently used for storing vehicles/farm machinery. Building very open to wind and light and has negligible suitability for roosting bats	05 March 2021 Building assessed as unsuitable to support hibernating bats, no second visit undertaken	N/A	Unsuitable for hibernating bats.	



Structure ref	Structure Description	Hibernation Survey Visit 1 Results	Hibernation Survey Visit 2 Results	Hibernation Roost Status	Structure Photograph
Keepers Cottage 3	Former livestock building with corrugated asbestos roof with skylights, supported by concrete pillars and beams. Internal walls constructed of breeze block and external walls half height breeze block with wooden slats creating the top half. Building very well-lit through wooden wall slats and skylights with only crevices available where there are joins and cracks in the concrete pillars. Due to the high lighting levels, the building has negligible suitability for hibernating bats.	05 March 2021 Building not accessed due to absence of information regarding asbestos.	26 March 2021 Building accessed following asbestos survey. Assessed as unsuitable to support hibernating bats.	Unsuitable for hibernating bats.	
Keepers Cottage 4	Former agricultural building split into three parts. External walls and roof are constructed of corrugated asbestos with concrete pillars and beams. The east and west sides of the building are open fronted with skylights in the roof. East side used for storage/workshop and west side used for vehicle storage with a vehicle inspection pit. Central part of the building has plywood doors and is used as a vehicle paint/spray booth. No evidence of bats found during the surveys and buildings have limited suitability for hibernating bats due to light ingress and lack of crevice spaces.	05 March 2021 Building assessed as unsuitable to support hibernating bats, no second visit undertaken	N/A	Unsuitable for hibernating bats.	

Figure B1 - 2021 Dusk emergence dawn re-entry survey results of structures



THIS DRAWING MAY BE USED ONLY FOR THE PURPOSE INTENDED AND ONLY WRITTEN DIMENSIONS SHALL BE USED

Legend

- Scheme boundary
- 25m Scheme buffer
- 100m Route alignment

Emergence structures

- Absent
- Confirmed
- Structures scoped out from further assessment

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Revision	By	Date	Scale

Drawing Status: **FINAL**

Job Title:
 Norfolk County Council
 Norwich Western Link

Drawing Title:
 Figure B1 - 2021 Dusk emergence dawn re-entry survey results of structures

Scale at A1: **1:10,000**

Drawn: UKRXE005

Stage 1 Check	Stage 2 Check	Original	Date
SM	HS	RE	09/12/2021

0 100 200 300 400 500 m

Drawing Number:
 NCCT41793-03-C-18

Figure B2 - 2021 Hibernation survey results of structures



THIS DRAWING MAY BE USED ONLY FOR THE PURPOSE INTENDED AND ONLY WRITTEN DIMENSIONS SHALL BE USED

Legend

- Scheme boundary
- 500m buffer from Scheme boundary

Structures

- Structures where hibernating bats are considered likely absent
- Structures considered to be unsuitable for hibernating bats or unlikely to support an important hibernation roost
- Brown long-eared bat hibernation roost
- Brown long-eared bat and Daubenton's bat hibernation roost
- Brown long-eared bat, Myotis and an unidentified bat species hibernation roost
- Historic bat roost of unknown species

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Revision Details			
No.	By	Date	Status

Drawing Status

FINAL

Job Title

Norfolk County Council
Norwich Western Link

Drawing Title

Figure B2 – 2021 Hibernation survey results of structures

Scale at A1

1:10,000

Drawn

UKR0E005

Stage 1 Check	Stage 2 Check	Originated	Date
SM	IE	RE	09/12/2021

Scale bar

0 100 200 300 400 500 m

Drawing Number

NCCT41793-03-C-18

Figure B2.1 - 2021 Hibernation survey results of structures Keeper's Cottage



Figure B2.2 – 2021 Hibernation survey results of structures Morton



Figure B2.3 – 2021 Hibernation survey results of structures Rutterford



Figure B2.4 – 2021 Hibernation survey results of structures Bunkers

