# Protected Species Survey at Tetley Cottage, Wharf Road, Crowle, North Lincolnshire

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# Protected Species Survey at Tetley Cottage, Wharf Road, Crowle, North Lincolnshire

## 1 INTRODUCTION

Ecology & Forestry Ltd was commissioned by RSW Architecture to undertake a protected species survey at Tetley Cottage, Wharf Road, Crowle, North Lincolnshire, DN17 4HY. The survey is required in connection with a planning application to North Lincolnshire Council.

This report details the methods used, describes the habitats and species found on the site, discusses the results and makes recommendations for further work. Annotated photographs are given in the text.

### 1.1 Accurate lifespan of ecological data

The majority of ecological data remains valid for only short periods of time due to the inherently transient nature of the subject. Where the species/group being surveyed for is present within the site, the data is considered to be accurate for two years. However, an update may be needed in order to obtain a European Protected Species licence, if such a licence is required. Where absent, although the data is considered accurate for two years, an update may be required if the habitats surrounding the site are of a quality that are likely to encourage the species to move into the site in the interim.

## 2 SITE DESCRIPTION

### 2.1 Site communities and habitats

Tetley Cottage and associated outbuilding are located at NGR: SE 77676 11720 and SE 77671 11750 respectively, within the hamlet of Tetley on the southern fringes of the small town of Crowle. The site comprises a footprint of predominantly 'lawned' garden and former amenity grass, which is now rough mown. Flower beds adjacent and to the south of the cottage contains a variety of non native horticultural species. A botanical species list of native species present can be found in appendix `1. Areas of hard standing are also present. The survey site contains a single detached dwelling in apparently good condition and a single detached outbuilding or barn in a very poor state of repair.

**Photograph 1: Representative views of Tetley Cottage (left) and the associated outbuilding (right).**

## 2.2 Tetley Cottage

Tetley is a two storey detached property constructed of solid bricks, supporting an equal pitched, gable ended timber framed roof covered with pantiles. Internal ceilings are present throughout and there is a single small roof void which contains under felt. The roof structure is generally in a very good condition with no missing or slipped tiles. The building has no cladding, soffits, hanging tiles, barge boards, fascias or eaves. All mortar joints appear intact. Missing mortar was recorded only on the very ridge point of the southern gable end. No damaged brickwork or absent bricks were noted. No settlement cracks were recorded. All doors and windows were present and contained no gaps or other obvious defects.

Attached at the southern gable end is a single story pent roofed brick and pantile extension.

The building is no longer in domestic occupation and is currently being utilised for domestic storage purposes.

A single stem, mature ash *Fraxinus* excelsior tree is present off the south east corner of the property. The tree contains numerous features associated with age and locality to include splits, tears, delaminating bark and rot holes. At least three holes believed to have been bored by great spotted woodpecker *Dendrocopos major* were noted on the tree.

A small timber garden shed is also present which is being utilised for the storage of building equipment and materials.

**Photograph 2: Representative images showing the exterior of Tetley Cottage**

**Photograph 3: Further representative images showing the exterior of Tetley Cottage**

### 2.3 Outbuilding/Barn

Associated with Tetley Cottage and located a short distance to the north is a former single storey, south facing agricultural building constructed of solid bricks. The building comprises some four former stables and an open fronted wagon bay separated by internal solid brick dividing walls. The building is in an extremely poor state of repair. The timber framed pent roof which was formerly covered with pantiles is largely collapsed. Some brickwork is also beginning to collapse. A dense ivy *Hedera helix* covering of almost the entire roof and large areas of brickwork help retain any remaining integrity. There is no roof void and numerous broken joists are present. The building has the remnants of elevated timber cladding, but no soffits, hanging tiles, barge boards, fascias or eaves are present. Many mortar joints appear eroded. Damaged brickwork, settlement cracks and absent bricks were noted throughout. Any doors and windows were largely absent and contained many gaps and other defects including gaps around lintels.

Detritus levels were high throughout. Ambient lights and draught levels were considered very high.

**Photograph 4: Representative images showing the external views of the outbuilding**

**Photograph 5: Further representative images showing the external views of the outbuilding**

## 2.4 Surrounding habitats

Immediately west/south west of the survey area is a range of buildings undergoing refurbishment. West/north west is rough mown and unmanaged pasture. A section of historically trimmed, 6' box shaped hedgerow comprised of sycamore *Acer pseudoplatanus,* privet *Ligustrum sp, hawthorn Crataegus monogyna and elderberry Sambucus nigra*. Further west is Tetley Hall and mature, wooded grounds and an extensive range of substantial associated buildings in various states of repair.

Further to the south are the flooded former Crowle 'Brick Pits'.

To the east the site is immediately bordered by an historically trimmed, box shaped hedgerow dominated by butterfly-bush *Buddleja davidii*, cherry laurel *Prunus laurocerasus* and Leyland cypress x *Cupressocyparis leylandii.* Beyond lies rough mown amenity grassland associated with the extensive '7 Lakes Country Park' static caravan site complex.

To the north the site is immediately bordered by a dry ditch which is part of a wider ditch system extending north and west. No water was recorded in the ditch adjacent to site or within 25 metres north of site. Surrounding the ditch system is an area of essentially semi mature woodland/scrub dominated by apparently self set examples of sycamore *Acer pseudoplatanus, willows Salix sp, hawthorn Crataegus monogyna and elderberry Sambucus nigra*. A high density of ivy *Hedera helix* is also present.

**Photograph 6: Representative images showing the land to the west/north west of site (left) and dry ditch system to west (right)**

**Photograph 7: Representative views of the developments immediately south west / south of site (left) and neighbouring buildings associated with the grounds of Tetley Hall (right).**

### 2.5 Associated buildings

There are no other directly associated buildings.

### 2.6 Proposed work

The proposed work entails the demolition of both buildings surveyed and the erection of a single replacement dwelling.

## 3 METHODS

The site was surveyed on 05 May 2016 by Rod Strawson (Natural England bat licence number 2015-11496-CLS-CLS and great crested newt licence number 2015-8360-CLS-CLS) and a field assistant.

During the initial appraisal of the site and wider area utilising satellite imagery, OS maps a physical site appraisal including 25 metres outside any site boundary the protected species considered most likely to occur on site were identified. These were:

- Bats
- Common species of birds

The methods used to survey for these species are detailed below.

### 3.1 Data search

The NBN (National Biodiversity Network) Gateway website was consulted in order to check for records of protected species from the area.

### 3.2 Bats

Aided where necessary by the use of a powerful torch, ladders, endoscope and close focusing binoculars, a visual search was made internally and externally of all cracks and fissures in the walls and the undersides of the roofs (where still present) of all structures on site for bats. Where accessible, all undisturbed surfaces were inspected for evidence of past and present occupation by bats in the form of: droppings, urine or fur staining, feeding remains, scratch marks and the bodily remains of bats.

**Bat tree survey**

Trees on the proposed development site were assessed for potential suitability for bat roosts by means of a walkover survey. All trees were inspected to assess their potential to hold bat roosts; the following signs were looked for:

- Holes, frost cracks, splits in branches/trunk
- Fissures, hollow sections of trunk, branches and roots
- Broken Limbs and loose bark
- Dense ivy
- Urine staining, droppings, fur rubbing and scratch marks
- Audible squeaking, strong smell of ammonia and flies around potential access points

The trees were inspected with the aid of close focusing binoculars. Bat surveys of trees can be undertaken throughout the year.

A scoring system was applied to the trees using the following criteria.

**Low probability of bat interest.**

Trees with low bat interest are usually young trees without any deadwood or holes.

**Medium probability of bat interest.**

Trees in this category will have holes, cracks and crevices and loose bark suitable for roosting bats but no obvious roost signs such as staining and droppings at entrances.

**High probability of bat interest.**

Trees within this category will contain all the obvious roost features such as holes, cracks and crevices and loose bark and will also contain staining and droppings at the roost entrance or have been identified as a roost via a visual sighting of an exiting bat. (A licence is normally required for removal/development.)

**Bat Activity survey**

An evening activity survey was undertaken on the evening of 05 May 2016.

The aim of the survey was:

- To establish whether any enclosed places or niches within the buildings which could not be fully inspected during the daylight inspection were used by bats for roosting or as a place of shelter.
- To assess the value of the site for use by bats for foraging and feeding.

The survey was carried out in accordance with the Bat Surveys – Good Practice Guidelines, 3rd edition (BCT, 2016) with the evening survey commencing approximately 15 minutes before sunset and lasting for 2-3 hours.

The surveyor positions were chosen to get a clear view of both the building eves and the ridge tile against a clear skyline.

The surveyor was equipped with ultrasonic bat detectors to electronically detect and identify bats and a sample of the bat calls were recorded onto a digital recorder. These calls were later analysed using specialised computer software.

Levels of bat activity are strongly correlated with climatic conditions due to the influence these factors have on the abundance of insect prey. The climatic conditions throughout the survey were also recorded.

### 3.3 Common species of birds

All habitats were assessed for their potential to support nesting birds. All bird species seen or heard were noted. All disused and active nests were recorded.

### 3.4 Schedule 1 species of birds (Barn Owls)

An inspection was made of the buildings for the presence of barn owls and the signs indicative of their past or present use. These signs include:

- Regurgitated pellets
- Faecal deposits

- Feathers
- Discarded prey items

The places that could potentially be used as breeding locations, including roof voids and horizontal surfaces at first floor level, were also checked for any signs of current or former nesting attempts. These signs included brooding adult birds, concentrations of accumulated flattened pellet nest debris, faecal encrustation, eggs or eggshell remains, surplus prey items, bodily remains of chicks or infant down feathers.

### 3.5 Other statutorily protected species

As part of the extended walkover of the site and its environs, a search for signs of use by other statutorily protected species was also undertaken. Particular attention was focused on the habitats and plants and the presence of any ponds.

### 3.6 Survey Constraints

It should be noted that the absence of protected or rare species within the survey does not rule out them being present on site. There is always a risk of protected or rare species being over-looked, either owing to the timing of the survey or the scarcity of the species at the site.

The survey undertaken was a Protected Species Survey therefore species lists recorded would not be complete for the site; although sufficient information was gathered to determine the character of the habitat types present and species lists were compiled for each of the habitat types present.

The structurally poor physical condition of the outbuilding/barn gave rise to health and safety concerns during the physical diurnal inspection. As such, some small areas of the building may not have been physically examined to the extent that would have otherwise been possible.

## 4 RESULTS

### 4.1 Data search

The National Biodiversity Network (NBN) www.nbn.org.uk was searched for records of protected species within the 10km OS grid square SE 71. Due to a change in Terms & Conditions it is not possible to publish these results for commercial planning applications. The Crowle area is known to support a number of bat species (Lincolnshire Bat Group, *pers. comm.*)

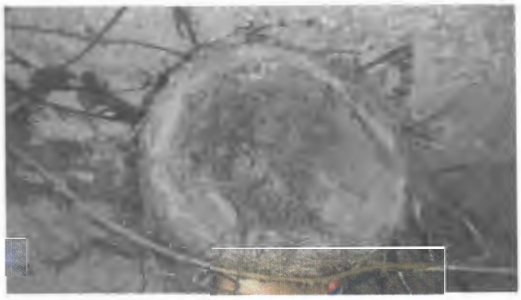
### 4.2 Habitats and plant species

The habitat types and plant species recorded on the site are common and widespread in North Lincolnshire. There are no habitats or plants of local importance or significance. None

of the plant species recorded on site appear on Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). No nationally rare or scarce plants as defined by Wiggington (1999) and Stewart *et al* (1994) respectively were found.

### 4.3 Bats

No bat droppings were found in either of the buildings..

**Photograph 8: Ivy and settlement cracks (left) and disused thrush nest (right)**

A large number of niches suitable for use by a small number of bats were identified on both the external and internal fabric of the outbuilding, in particular niches created by failed mortar joint between bricks, between wooden lintel and the brickwork, niches where the roof timbers tied into the brickwork and settlement cracks.

Some features were considered to offer potential for use by bats and these included gaps created by failed mortar joint between bricks. These features were considered particularly favourable for roosting by pipistrelle bats.

All niches on the northern elevation were inspected and found to be covered with cobwebs. A number of niches were found to be cobweb free and these were carefully inspected with an endoscope. One niche was found to contain old (degraded) bat droppings. The level of activity recorded does not suggest that the building is used as an established place of shelter for significant numbers of bats and there are no current indications that bats are breeding on site.

Little in the way of potential niches were recorded within the structure of Tetley Cottage.

**Bat tree survey**

There is a single mature ash tree close to Tetley Cottage which was inspected for it's potential to support bats. The following table gives a description, grid reference and bat suitability for the tree inspected during the survey on 05 May 2016.

| Tree No. | Species, OS NGR, Field notes and description | Located within site | Suitability to bats | Score |
|---|---|---|---|---|
| T1 | Ash *Fraxinus excelsior* (NGR SE 77683 11704)<br><br>Mature tree. Tall. Single stemmed. Woodpecker holes, splits, rot, tears, delaminating bark – all present | Yes | High roost potential | High |

**Bat activity survey**

During the emergence survey no bats were seen to emerge from any of the structures on site.

**Emergence Survey** 21:30 – 23:15hrs - 25th June 2012

| TIME | OBSERVATION |
|---|---|
| 21.09hrs – 22.31hrs intermitently | Continual feeding activity by 2 -3 common pipistrelle Pipistrellus pipistrellus bats along eastern site boundary hedgerow. |
| 21.14hrs | Social calls noted |
| 21.39hrs | Daubentons *Myotis daubentonii* bat recorded due east of site. |
| 22.17hrs | Myotis sp. Due west of site towards Tetley Hall. |

| **Climatic Conditions**: | |
|---|---|
| **Start of Emergence Survey** 20:30hrs<br>Air Temperature: 16 ºC<br>13 KM/H SE | **End of Emergence Survey** 23:15hrs<br>Air Temperature: 14ºC |

During the activity survey very little bat activity was recorded around the buildings. The first bat recorded near the buildings was recorded 26 minutes after sunset. Sunset being 20.43 hrs.

**4.4 Birds**

A typical assemblage of common British birds was recorded on the site and in the immediate environs of the site. A total of 15 species were noted; these are listed below:

| English Name | Latin Name |
|---|---|
| Woodpigeon | *Columba palumbus* |
| Blue Tit | *Parus caeruleus* |
| Winter Wren | *Troglodytes troglodytes* |
| Blackbird | *Turdus merula* |
| Song Thrush | *Turdus philomelos* |
| Robin | *Erithacus rubecula* |
| House Sparrow | *Passer domesticus* |
| Chaffinch | *Fringilla coelebs* |
| Starling | *Sturnidae* |
| Yellow hammer | *Emberiza citrinella* |

Disused blackbird, thrush and wren and house sparrow *nests* were recorded in the outbuilding.

During the survey a starling was repeatedly observed carrying food, presumably to feed juvenile birds in an active nest within a large tear/crevice in the canopy of ash tree T1.

Mature trees, woodland, hedgerows and rough grassland are found within and adjacent to the site, providing suitable nesting and foraging habitat for breeding birds.

An active swallow nest and one nest from last season were recorded in both outbuildings, with an estimated breeding population of at least 2 pairs. An active nest of robin was found in outbuilding number one.

### 4.5 Schedule 1 species of birds (Barn Owls)

No evidence of current or historic occupation by barn owls was recorded.

### 4.6 Other statutorily protected species

No ponds were found in the immediate environs of the survey site. A number of water bodies are located within 500 metres of the development. These water bodies fall under a number of differing ownerships. It was determined that the site footprint currently provides suboptimal terrestrial habitat for amphibians. There is much better quality terrestrial habitat in the immediate vicinity of some the ponds – this includes areas of woodland/scrub habitat surrounding the ponds.

It was determined that the site footprint currently provides suboptimal terrestrial habitat for reptiles. A lack of suitable basking areas and limited piles of stone or other debris items occurred on the survey site that would serve as places of refuge.

No other suitable habitat or field signs were recorded.

The dry ditch *system to the north and west of site was considered suboptimal for occupation by water voles Arvicola amphibious.*

No evidence of occupation by badgers *Meles meles* was recorded.

Given all of these findings, overall the potential for other statutorily protected species likely to be affected by the development is considered to be very low and no further work is recommended.

## 5 DISCUSSION AND RECOMMENDATIONS

### 5.1 Bats

**Legal protection**

In England, Scotland and Wales, all bats are strictly protected under the Wildlife and Countryside Act 1981 (and as amended); in England and Wales this legislation has been amended and strengthened by the Countryside and Rights of Way (CRoW) Act 2000.

Bats are also protected by European legislation; the EC Habitats Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2010 – often referred to as 'The Habitat Regs'. Taken together, all this legislation makes it an offence to:

- Deliberately capture (or take), injure or kill a bat
- Intentionally or recklessly disturb a group of bats where the disturbance is likely to significantly affect the ability of the animals to survive, breed, or nurture their young or likely to significantly affect the local distribution or abundance of the species whether in a roost or not
- Damage or destroy the breeding or resting place of a bat
- Possess a bat (alive or dead) or any part of a bat
- Intentionally or recklessly obstruct access to a bat roost
- Sell (or offer for sale) or exchange bats (alive or dead) or parts of bats

A roost is defined as being 'any structure or place that is used for shelter or protection', and since bats regularly move roost site throughout the year, a roost retains such designation whether or not bats are present at the time.

**Recommendations**

Given the presence of foraging bats within the survey site, it is anticipated that the Local Planning Authority concerned will require some mitigation as part of any future development.

No bat evidence was found inside the buildings and no bats were recorded associated with the buildings on site and no maternity roost was recorded during the survey on 05 May 2016. There were some features which were considered to offer some small potential for use by small numbers/individual bats e.g. cracks in the external brickwork (some of which recess into the deeper fabric of the building). However, due to health and safety constraints to the survey in relation to the outbuilding/barn it is recommended that:

Any demolition of the existing outbuilding/barn is undertaken **manually** and under the supervision of a suitably licensed and experienced ecologist

Or

A dawn pre entry bat survey should be undertaken immediately prior to demolition.

In addition, the following best working practice should be followed;

- All contractors working on the buildings will be briefed on the legal protection afforded to bats and their places of shelter and on how to proceed if a bat is discovered during the course of the work. A procedure to follow in the event of discovering bats on site is provided as Appendix 2. A copy of this will be available on site during the development.

The following conservation measure is suggested for the new building design,

- A single bat roosting unit (Schwegler type 1FE with back plate) to be incorporated within the design of the new building. Example images of these can be found in Appendix 3.

Any proposed tree works affecting tree T1 should not be undertaken without a bat survey of the tree sanctioning such activities prior to any works being undertaken.

**Recommendations - lighting**

The ecological effect of artificial lighting in the countryside is a topic of increasing concern. Recent estimates have shown a 24% increase in light pollution in the UK between 1993 and 2000. Lighting schemes can damage bat foraging habitat directly through loss of land and fragmentation, or indirectly by severing commuting routes from roosts.

It is recommended that any proposed security lighting on site is placed as far from the boundary hedgerow as possible, that light spillage on hedgerows is avoided by using shields to direct light to target areas only. The impact on bats can be minimised by the use of low pressure sodium lamps or high pressure sodium instead of mercury or metal halide lamps. The height of lighting columns in general should be as short as is possible as light at a low level reduces the ecological impact. The possibility of using a sensor should also be considered, to provide some dark periods on site.

## 5.2 Birds

### Legal protection

All common wild birds are protected under The Wildlife and Countryside Act 1981 (and as amended). Under this legislation it is an offence to:

- Kill, injure or take any wild bird
- Take, damage or destroy the nest of any wild bird while it is in use or being built
- Take or destroy the egg of any wild bird

Certain rare breeding birds are listed on Schedule 1 of The Wildlife and Countryside Act 1981 (and as amended). Under this legislation they are afforded the same protection as common wild birds and are also protected against disturbance whilst building a nest or on or near a nest containing eggs/unfledged young.

### Recommendations

Since the buildings are clearly used for nesting by species of common birds, any future redevelopment building work should ideally avoid the active nesting season. If work commences during the bird breeding season, a search for nests should be carried out before they begin, and active nests should be protected until the young fledge.

To minimise any potential impact or disturbance to protected breeding birds, any tree clearance should be undertaken outside the bird breeding season, i.e. from late-August and be completed by late February.

The local area is known to support breeding barn owls although none were found on site during the May 2016 survey. The outbuilding/barn has features that could potentially be used by barn owls in the future. There needs to be some safeguard in place such that if any barn owls attempt breeding inside the now empty outbuilding in the future, there will be no risk of breaching the legislation as the result of any future development. Therefore if no work starts before mid-March 2017, then a further check by a suitably licensed ecologist would be required.

## 6 REFERENCES

Bat Conservation Trust 2012 'Good Practice Guidelines'

Bat Conservation Trust 2012 - The Bat Roost Replacement and Enhancement Resource - http://roost.bats.org.uk/

English Nature. 2002. *Badgers and development*. English Nature. Peterborough.
English Nature. 2001. Great Crested Newt Mitigation Guidelines. English Nature, Peterborough.

English Nature (1999) Water voles: guidance for planners and developers

Joint Nature Conservation Committee. 1998. Herpetofauna Workers' Manual. JNCC, Peterborough.

Natural England. 2004. Bat Mitigation Guidelines. English Nature, Peterborough

RSPB. 1996. Birds of Conservation Concern. Royal Society for the Protection of Birds, Sandy

Stewart A, Pearman D A and Preston C D. 1994. Scarce Plants in Britain. JNCC, Peterborough.

Strachan, R (1998) Water Vole Conservation Handbook. Wildlife Conservation Research Unit, Oxford.

Wigginton M J. 1999. British Red Data Books. 1 Vascular Plants. 3rd edition. JNCC, Peterborough.

**APPENDIX 1**

**SPECIES LIST**

| | |
|---|---|
| bluebell | *Hyacinthoides non-scripta* |
| bramble | *Rubus fruticosus* |
| cleavers | *Galium aparine* |
| cock's-foot | *Dactylis glomerata* |
| colt's-foot | *Tussilago farfara* |
| common dog-violet | *Viola riviniana* |
| common mallow | *Malva sylvestris* |
| common nettle | *Urtica dioica* |
| common poppy | *Papaver rhoeas* |
| common ragwort | *Senecio jacobaea* |
| creeping bent | *Agrostis stolonifera* |
| creeping buttercup | *Ranunculus* |
| daisy | *Bellis perennis* |
| dandelion | *Taraxacum* sp |
| dock | *Rumex* sp |
| ground-ivy | *Glechoma hederacea* |
| harebell | *Campanula rotundifolia* |
| hedge mustard | *Sisymbrium officinale* |
| hogweed | *Heracleum sphondylium* |
| honeysuckle | *Lonicera sp.* |
| perennial rye-grass | *Lolium perenne* |
| perennial sow-thistle | *Sonchus arvensis* |
| primrose | *Primula vulgaris* |
| red dead-nettle | *Lamium purpureum* |
| red fescue | *Festuca rubra* |
| spear thistle | *Cirsium vulgare* |
| timothy | *Phleum pratense* |
| white dead-nettle | *Lamium album* |
| willowherb | *Epilobium* sp |
| wood avens | *Geum urbanum* |

## APPENDIX 2

### Procedure to follow if bats are discovered during works

- If at any point during the works, bats are discovered then contractors must immediately stop work in the relevant area concerned and telephone Rod Strawson 07881 666215.

- An appropriately licensed bat worker will liaise directly with Natural England. Actions will then be taken following advice given. This may include removal of bats, but only where direct written or verbal permission is gained from Natural England.

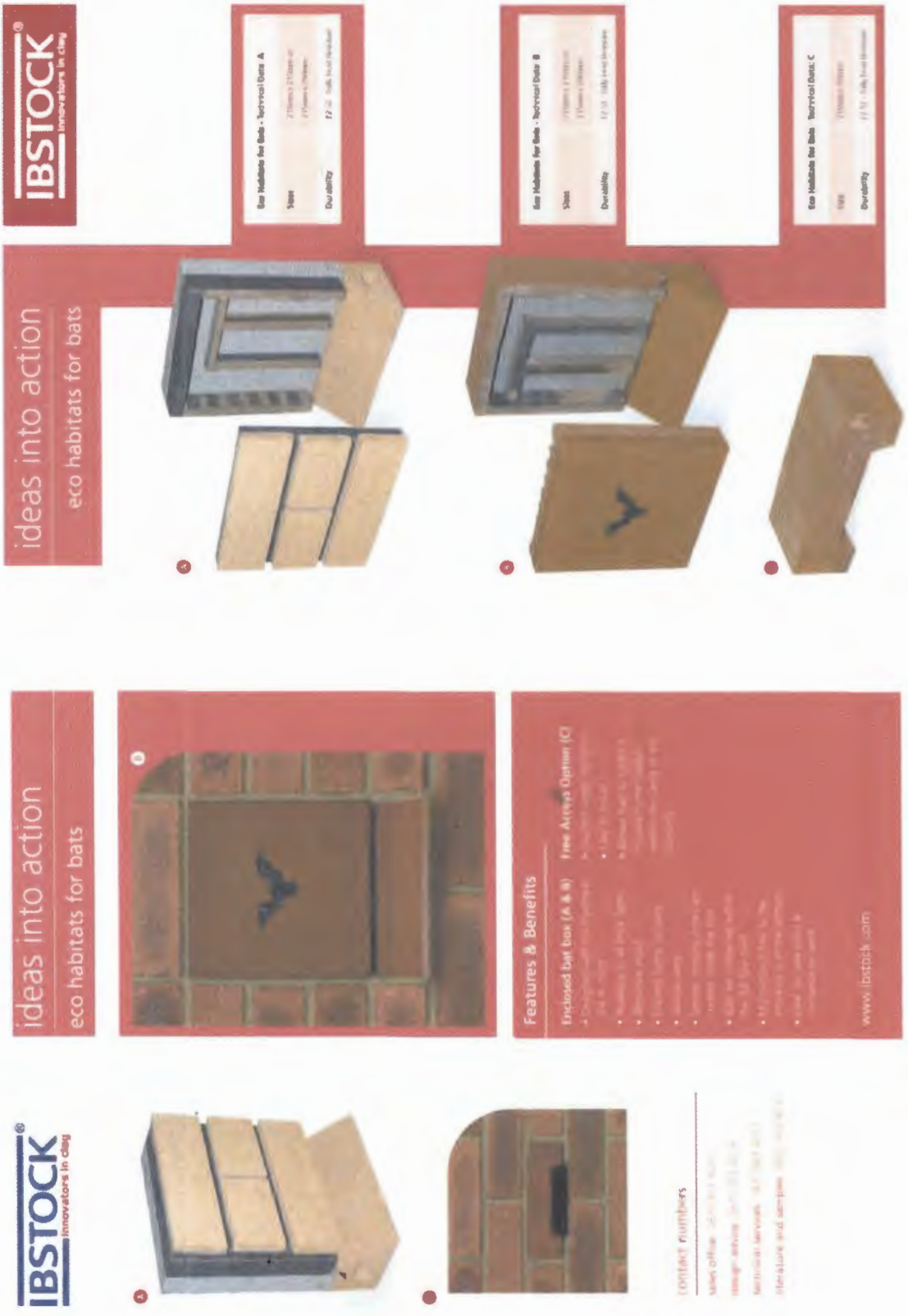
- Only when Natural England is satisfied that there is no further risk to bats will works recommence.

- Should it transpire that the operation being carried out is of more risk to bats than was originally thought, then works will be stopped until they can be supervised by an appropriately licensed bat worker.

- If a bat is found under a tile or in any other aperture, works will stop immediately (as above). If the bat does not voluntarily fly out, then the aperture will be carefully covered over to protect the bat(s) from the elements, leaving a small gap for the bat to escape voluntarily. Any covering should be free from grease or other contaminants, and should not be a fibreglass-based material.

- Any injured bats should be gently placed in a secure ventilated box in a cool, quiet dark place (e.g. cardboard box with a sealed lid) by the contractor while wearing gloves for the bat's protection whilst awaiting the arrival of the licensed person.

**APPENDIX 3**
**Examples of bat roost units and bat access bricks**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