A Preliminary Ecological Assessment & Mitigation Strategy for The Old Stable Barn at Greenway Farm.

Aim: To establish the presence or absence of bats & birds in the building & importance of any adjacent habitats.

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Reference: 1PS\Bat & bird's survey.doc
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Contents

1.Introduction

As part of the planning application, for the conversion of the old stable barn at Greenway Farm into a holiday let, it is necessary to survey the building and areas to be directly affected by the development, to establish whether there are any protected species currently using the building proposed for conversion.

2.Methodology of Surveys

The initial survey of the barn was carried out on the 31st July 2020; by Ros Willder MCIEEM & CEnv, Bat Licence numbers CLS03109 & RC121 & Natasha James Dormouse license number 2019-43685-CLS of Willder Ecology, the weather was sunny. The daytime survey began at 10:30 am.

A detailed daytime survey was carried out of the building and any areas which would potentially be affected by the proposal. This was done by a thorough visual inspection of building using a strong hand-held torch.

A frequency division bat detector and endoscope were used, where appropriate, to enable further detail examination of the walls & roof timbers. The area around the building was also surveyed and the adjacent habitats to be affected assessed.

In addition to the initial daytime survey, two evening bat emergence surveys were carried out the first on 11th August 2020. This was led by Mr Dave Smith (Licence no: CLS137061) and assisted by Ms Yasmina Ashcroft and an additional assistant bat surveyor Katie Warren. Sunset was at 20:39 and the start temperature was 28◦C, Cloud cover: 10%, The survey began at 20:10 and ended at 22:10 as per the as per the Bat Conservation Trust good practice guidelines (Collins, 2016).

The second evening survey on 10/09/20 was led by Ros Willder (Licence no: CLS 03109 & RC121) & assisted Mr Dave Smith (Licence no: CLS137061) & Natasha James the Sunset was at 19:36(BST), the temperature was 17.1◦C at the start and 13.5°C by the survey end.

The wind speed was 0m/s and a cloud cover of 70%. The evening survey began at 19:20 and ended at 21:05 as per the Bat Conservation Trust good practice guidelines (Collins, 2016).

The equipment used included two heterodyne bat detectors, two magenta bat detectors & two Echo Meter three recorders & one static Song meter mini bat. For survey results see section 3.2.

A pond search was carried out to identify ponds within 250m & 500m of the site, the results of which are discussed in Section 4 and shown on the Pond Search map is shown in Appendix Three.

A designated site search was also carried out using the MAGIC map service from Natural England and the results are discussed in section 4 and shown in Appendix four.

3. Results of Surveys

3.1 Examination of the old stable barn at Greenway Farm

The building proposed for conversion has been in daily use for storage of farm machinery & other farm equipment. The main construction for the walls is traditional stone, the mortar is generally in good condition meaning there are limited cracks or crevices between the stones. The Eastern elevation has a large single skinned timber door with a large metal garage type door (as shown below in figure 1).

Figure 1: Photo to Show the eastern elevation of the stable building

The northern elevation of the stable barn has roof timbers leading to the apex of the roof, these timbers have been unusually worn away leaving large gaps (seen in figure 2). The timber has been worn down by wasps which have created a large nest within the interior of the stable and they have created a 3-inch gaps which would allow for direct flight access into the barn at the edge of the roof.

The roof of the stable barn is covered in close fitting slate tiles. The southern gable end elevation (figure 3) has a timber door on the lower storey and a traditional hay loft door leading to the second storey of the stable barn. At the edge of the roof by the apex timbers there are gaps which also provide some direct flight access.

Figure 2 & 3: The Northern and Southern elevation of the stable building

The western elevation of the stable barn is adjacent to the roadside. There is a painted hay loft timber door which has some gaps above it as seen in figure 4. The rest of the western elevation is well sealed.

Figure 4: The western elevation showing the timber hay loft doo

Figure 5 – internal view of the hay loft showing southern elevation

The barn is two storey, with the upper storey originally being used as a traditional hay loft which has stone walls with timber flooring and timber framed roof structure with the underneath of the slate roofing tiles being unlined.

The hay loft door on the southern gable wall elevation has gaps that are around the door and apex timbers (as shown in figure 5). These gaps around the door & the apex roof timbers not only provide direct flight access but they also allow a lot of naturally light throughout the barn.

Although there were no bat droppings in the rest of the barn, upstairs in the hay loft evidence of use by bats was found. As shown in figure 6 there were scattered bat droppings and urine stains found within the upper storey. The timber floor covers the whole of the second storey except for a strip around a foot wide where the floor does not meet the western elevation wall which allows additional light upstairs into the barn as shown in figure 7.

The northern gable end has small clear flight access gaps but also has a very large wasp's nest, as shown over the page in figure 8.

Figure 6: bat droppings and urine stains

Figures 7: showing the gap along the western elevation floor

Figure 8: Northern gable end with direct access gaps and wasp's nest

The ground floor of the stable barn is split into two sections. The first section has been used as a garage storage for the farm machinery and has a large metal garage door. The second section is larger and has rendered walls. There is the single skinned timber door on the southern gable end wall as seen in figure 9. Four historic swallow nests were found within this downstairs section of the stable barn.

Figure 9: The southern elevation internal wall

There was no evidence of recent use by birds within this building, only historic nests were found. The building is used by bats as there were around 35+ droppings found and urine stains along the ridge line of the upper storey. There are many gaps around the timber apex sections of the roof in the stable barn allowing for direct flight access.

The area adjacent to the building to be affected by this proposal is comprised of a hard-standing access drive on the northern elevation of the barn (as shown in figure two), close mown amenity grassland on the eastern side, the bungalow & garden on the southern elevation & the road verge & road on the western elevation as shown on the photo on the front cover of the report.

Further away from the barn there is an overgrown stone ruin & the farmhouse as shown on the location plan in appendix two.

3.2 Evening survey results

1st Evening survey – Greenway Farm Barn carried out on 11/08/2020

Surveyors: Yasmina Ashcroft (YA), Dave Smith (DS), Katie Warren (KW)

Sunset 20:39

20:43	Common Pipistrelle (CP) Heard not Seen (HnS).
20:51 & 52	CP commuting past barn.
20:53	Soprano Pipistrelle (SP) commuting North to South past barn.
20:56	SP x3 flying past North to West past barn.
20:58	CP x2 flying past East to West past barn.
21:00	SP flying along road North to South.
21:02	SP x2 commuting along Western Elevation of barn.
21:03	SP x3 commuting along Western Elevation of barn.
21:03	CP **Emerged (E)** from southern side of the barn at roof edge
21.04	CP **E** from East Elevation of barn under roof overhang above garage door.
21:07	Noctule flying high over site.
21:09	CP x3 flying past site South to Northwest.
21:12	CP x3 foraging around barn &house garden.
21:14	SP &CP foraging around barn &house garden.
21:16	Greater Horseshoe Bat (GHB) flew from farmhouse garden direction & past the amenity grass area by the barn
21:18	GHB flew from house garden direction &past.
21:26	CP x3 &1 SP foraging around barn and garden almost continuously until 21:40.
21:30	Brown Long Eared bat (BLE) HnS.
21:30	Barn checked but no bat flying inside.
21:35	BLE heard flying past site (HnS).
21:47	BLE heard flying past site (HnS).
21:49	Serotine bat flew South to North over barn.
22:01	BLE HnS.
22:01 - 22:10	CP x2 &SP x2 foraging around barn and garden.
22:10	End of Survey.

Notes – *Total Bat Emergences from barn - CP x2 CP emerged both form the edge of the roof*

The high number of bats flying past the barn is due to the CP Maternity Roost in main Farmhouse where the roost entrance is under left barge board on South gable end of the house.

2nd Evening survey – Greenway Farm 10/09/2020

Surveyors: Natasha James (NJ), Ros Willder (RW), Dave Smith (DS)

Sunset 19:36

19:33	Soprano Pipistrelle (SP) flew from house direction & past barn and down the lane.
19:34	Common Pipistrelle (CP) flew from house direction & past barn and down the lane.
19:38	CP flew from house direction & past barn and down the lane.
19:40	CP Emerged (**E**) from west side of roof of barn.
19:41	SP x2 **E** from west side of roof of barn.
19:42	CP x1 **E** from west side of roof of barn.
19:44	SP **E** from west side of roof of barn.
19:46	CP **E** from west side of roof of barn.
19:47	Noctule flying high over barn.
19:51	CP **E** from west side of roof of barn.
19:52	CP foraging by barn.
19:53	CP **E** from the eastern elevation gable end of the barn.
19:55	CP flew from road into yard over barn.
19:56	CP x2 foraging by the barn.
19:59	SP flying past the barn along the road.
20:00 - 09	CP x2 foraging by barn continuously.
20:02	SP foraging along the lane by barn.
20:04	SP flying between garden & yard foraging.
20:09	SP foraging in garden of house & by barn.
20:11	Greater Horseshoe Bat (GHB) Heard not Seen (HnS).
20:12	CP & SP flew past barn.
20:14	Myotis flying past barn & down lane.
20:18 & 19	GHB flying past barn by ruin.
20:20	SP foraging along the lane by barn.
20:24	Lesser Horseshoe Bat (LHB) HnS.
20:24	SP foraging along the lane past the barn.
20:25	CP foraging along the lane past the barn.
20:30	CP foraging along the lane past the barn.
20:32	Brown Long Eared (BLE) foraging by barn near ruin.
20:34	SP foraging by barn & down lane.
20:35	BLE foraging by barn & down lane.
20:38	BLE foraging by barn & down lane.
20:38	CP foraging by barn.
20:42	GHB very faint on edge of site.
20:43	CP social calling around barn.
20:44	SP & CP foraging by barn.
20:47	GHB flying past ruins on site.
20:51	GHB flying past ruins on site.
20:52 - 55	SP & CP flying past site.

20:58	Myotis flying past the site.
20:59	BLE HnS.
20:59	CP flying past barn.
21:01	CP foraging overhead.
21:05	Survey Ends.

Notes –Total Bat emergence :-

5 CP Emerged

3 SP Emerged

4. Pond & Data search results & Ecological Assessment

4.1 POND SEARCH

A pond search was carried out, using the MAGIC map service from Natural England, to within a radius of 500m of the old stable barn at Greenway Farm. The results of the map-based pond search show there are no ponds within 500m radius of the barn as the adjacent habitat is an access drive & close mown grassland the likelihood of the presence of Great crested newts (GCN) or the proposal having any adverse effects on individual (GCN) is considered as being negligible.

4.2 THE DATA SEARCH (designated sites & species records)

The data search was carried out using the MAGIC Map service from Natural England. The search results identified that the barn is situated within the Wye Valley Area of Outstanding Natural Beauty. The nearest designated sites are the Great Doward Site of Special Scientific Interest (SSSI) which is 1.6km away and the Upper Wye SSSI 1.3km away and River Wye SSSI which is 1.7km away. The River Wye & Wye Valley Woodlands Special Area of Conservation (SAC) are both 1.7km away as shown on the map in appendix four. The barn & the surrounding land is divided from all the designated sites by both distance & the main A40 & no watercourses on the surrounding land lead into any of the River Wye tributaries, however due to the importance of the SAC's see 4.3.

Within the 2km search radius, results showed several Priority Habitats within the wider area including Good Quality semi improved grassland, Lowland acid grassland, Lowland Meadows, traditional orchards, and Deciduous Woodland.

Of the Deciduous Woodland recorded within the search radius, several sites were noted as Ancient Semi-natural Woodland, Cicels Wood, Ellshone Wood, Morgan Grove, Gilbert Coppice, St Wolstans Wood, Trewarne Wood and Woodside Wood. It should be noted that no Priority Habitats were observed or recorded within the proposed development Boundary.

The closest species record was Yellow Wagtail & the Wye Valley IPA was noted as an important plant area within the 2km search radius.

4.3 Ecological Assessment

The habitats within the barn itself and the adjacent areas of hard standing & close mown grassland have negligible suitability for use by reptiles or amphibians.

The daytime surveys found evidence of birds (historic nests) & bats using the barn. The evening bat activity surveys confirmed the presence of bats & found the barn to be in use by low numbers of both Common Pipistrelle (CP) & Soprano Pipistrelle (SP) bats. As such it is confirmed that the barn is a Day Roost for up to 5 CP & 3 SP bats.

The fluctuating numbers of bats in the barn is due to the proximity of the farmhouse which is known to contain a Common Pipistrelle Maternity roost.

In order to reduce impacts & any potential harm to the identified bat day roosts it is recommended timing the works outside of the times at which the Bats are using the roof (May to September), it is recommended that all construction workers be subject to a 'Toolbox Talk' on Bats and an experienced, qualified and licensed ecologist be present to supervise any roof works.

All of the existing key access features at the edge of the roof used by bats to enter the barn will be altered by the conversion works but the direct access in between the tiles will only be temporarily disturbed during roof replacement works. Once works have been completed bats will be able to re-utilise the areas between the tiles & timbers if the correct bat friendly roof lining (bitumastic) is used.

However, to reduce the impact of the proposed works new bat access tiles will be positioned where the existing access points are bats will then continue to have access to the bat roosts in between the tiles on the replaced roof.

To mitigate for the loss of key features and to make enhancements for any bats potentially using the barn post-development, the following key actions are recommended.

- Roof repair materials must include untreated timbers and **Bitumastic-type roofing felt** where bats will have access to the roof area.

- Breathable Roofing Membrane (or BRM) must not be used in the roof areas.

- Bat tiles should be used to incorporated into the design of the replacement roof to help retain the bat roosts identified in the roof of the barn.

Due to the importance of the designated sites including the River Wye & Wye Valley woods SAC all potential adverse effects must be considered however minimal to make sure that no harm can possibly occur to the River Wye & the Wye Valley Woods SAC.

As a result of the separation from the proposed works from the SSSI and SAC by a main road and distance and the relatively small-scale nature of the proposed works, i.e. the conversion of the existing barn into a holiday let within an area of hard standing & close mown grass there should be no direct adverse impacts upon any of the SSSI or the SAC.

However, there is the potential for secondary impacts such as light spill & how that could adversely affect any associated Horseshoe bats as such this has been considered.

In order to avoid any light spill into the wider habitats off site there will be no additional external lights on the converted barn once the works have been completed and there will be limited light spill from the glazed windows once the new dwelling is built as there will be blinds used at night. The use of blinds on the roof lights & glazed windows will limit any light spill beyond the barn itself ideally these should be automatically timed during the summer evening months to avoid any potential impact.

There are no boundary trees and hedgerows to be affected by this proposal as there are no trees within the red development line.

5. Conclusions, Enhancements and Mitigation

The proposed works will be restricted to the removal of the roofing tiles repair of the wooden roof timbers & lining of the roof to make it waterproof, as well as fitting of three new roof lights & all the internal works necessary for the conversion of the barn. The proposed works will not extend beyond the existing barn & no footings will need to be dug so disturbance will be minimal.

As discussed in section 4.3 there are no direct potential impacts that could affect the River Wye or Wye Valley wood SAC or SSSI's but the potential for secondary impacts must also be addressed as such there will need to be control of where materials are mixed & no external lighting on the barn that could cause light spill into the foraging areas of any Horseshoe bats. As such any mixing of materials will be done on an area of hard standing with no potential for run off from site & no external lighting is proposed on the barn once converted.

The evidence obtained during the evening surveys confirm that the barn at Greenaway Farm proposed for conversion into a Holiday let accommodation is a Day Roost for a maximum of five Common Pipistrelle Bats, and three Soprano Pipistrelle bats. It is unlikely due to the unsuitability of the barn (high light levels, disturbance & lack of complete wooden timbers at the apex) that it is used for either hibernation or as a Maternity roost. It is likely that the bats are using this barn in association with the farmhouse which is why they are in low numbers.

Roosts of this size and type, of more common Bat species are considered to be of low conservation significance; however, they are still protected under European and UK legislation (Appendix 1).

Roosts classed as low conservation significance can be legally disturbed/destroyed under a new licensing system adopted by Natural England in 2015, known as a Bat Low Impact Class Licence (BLICL) and recently updated into the Bat Mitigation Class Licensing (BMCL) in October 2018.

For works to go ahead the site will need evening surveys, including a minimum of two bat activity surveys in the main season May - August/September which have already been carried out & to be registered with (and approved) by Natural England by a registered

consultant at least three weeks (fifteen working days) before commencement of any work, and a bat mitigation strategy must be adhered to see section 6.1.

6.1 Bat Mitigation Strategy

Given the presence of roosts of this type, a European Protected Species (bat) Mitigation Licence will be required in order to affect the roost; a Bat Mitigation Licence would be appropriate for licensing for the works.

With a suitable mitigation strategy in place, there is no reason to believe that Natural England would not issue a Bat Mitigation Licence. This is due to the fact that the favourable conservation status of the species can be maintained, killing and injury can be avoided, and suitable features can be incorporated into the proposed conversion of the barn to maintain the continued ecological functionality of the building as a roost site.

Supervision of Roost Disturbance

The disturbance of the Soprano & Common Pipistrelle Day Roosts implemented under the BMCL. All roof works proposed i.e. removal of slate tiles will be supervised by a BMCL registered consultant (Ros Willder RC121). If bats are encountered during works, they will be carefully rescued by the supervising ecologist and transferred to an appropriate place (wooden bat box on a tree or taken in to care if underweight) to be retained undisturbed on site.

Careful Work Practices

Any disturbance to the roof will proceed in a careful and controlled manner, outside of when bats may be using the barn and roof apex (April/May to September). Contractors will be given a 'tool-box talk' and briefed with regard to the fact that individual bats can often exploit very small crevices as roost sites (such as gaps between tiles) and that bats can move between roost sites on a regular basis.

Restoration of Roosting Opportunities

As part of the proposal crevices will be created within the barge board areas at the edge of the roof & within the areas between the timbers &

the roofing tiles. Access into the roof will be by Habitats slate bat access tiles will be included in the roof of the barn and the roof will be lined with bitumastic roofing felt to encourage future use of the roof area under the tiles by bats as shown in Appendix five.

In addition, bat soffit boxes will be incorporated behind the soffit & barge boards to provide further enhancements.

Lighting

No external lighting is planned on the walls of the building that could cause light spill into the surrounding area & the Velux windows will have timed blinds, but if any external lighting is planned a detailing lighting strategy will need to be submitted to the LPA for approval before works can begin to show how this will be achieved without causing any light spill.

ENHANCEMENTS

Due to historic birds' nest being found a stone open fronted bird box will be incorporated into the barn wall on the side elevation as shown in appendix five.

If all the recommendations are followed no harm will occur to either the River Wye or the Wye Valley woods SAC or bats or birds and enhanced provision will be made for future use by both bats and birds as an overall enhancement for biodiversity to the site.

APPENDIX ONE LEGAL STATUS OF BATS & BIRDS

LEGAL PROTECTION OF BATS

The Wildlife and Countryside Act 1981 (WCA) transposes into UK law the Convention on the Conservation of European Wildlife and Natural Habitats (commonly referred to as the 'Bern Convention'. The 1981 Act has been amended several times, most recently by the Countryside and Rights of Way [Crow] Act 2000, which added 'or recklessly' to S 9 (4)(a) and (b).
All species of bats are listed on Schedule 5 of the 1981 Act, and are therefore subject to the provisions of section 9, which make it an offence to:

Intentionally kill, injure or take a bat
Possess or control any live or dead specimen or anything derived from a bat Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a bat
Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for that purpose

The Conservation of Habitats and Species Regulations 2017 which consolidate the Conservation of Habitats and Species Regulations 2010 with subsequent amendments. The Regulations transpose Council Directive 92/43/EEC, on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive), into national law and came into force on 30th November 2017.

All bats listed on Annex IV of the Directive and some are also listed on the Annex II. The latter Annex relates to the designation of Special Areas of Conservation (SACs) and covers **Greater** and **Lesser Horseshoe bats**, **barbastelle** and **Bechstein's** bat.

Inclusion on Annex IV ('European protected species) means that member states are required to put in place a system of strict protection as outlined in Article 12; this is done through inclusion on Schedule 2 of the Regulations. Regulation 53 makes it an offence to;

Deliberately capture or kill a bat Deliberately disturb a bat
Damage or destroy a breeding site or resting place of a bat
Keep, transport, sell or exchange, or offer for sale or exchange alive or dead bat or any part of a bat

LEGAL PROTECTION OF BIRDS

The Wildlife and Countryside Act 1981 is the main instrument for the protection of wild birds in the law of England, Wales and Scotland.

It protects all wild birdsof whatever species (certain exceptions apply within the act).
Barn Owls are listed on Schedule 1 which gives them special protection.

The act makes it an offence "if any person intentionally-

Kills, injures or takes (handle)any wild bird;

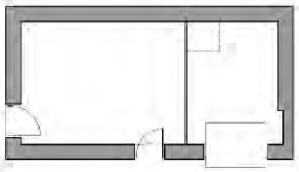
Takes, damages or destroys the nest of any bird while that nest is in use or being built; (barn owls do not 'build' a nest but may make a nest scrape) or

Takes or destroys an egg of any wild bird"

It is also an offence "if any persons have in his possession or control-

any live or dead wild bird or any part of, or anything derived from, such a bird; or An egg of a wild bird or any part of such an egg" (s 1 (2)).

APPENDIX TWO EXISTING BLOCK & ELEVATION PLANS



GROUND FLOOR

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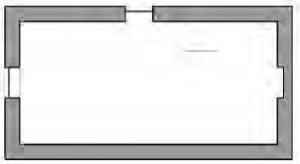

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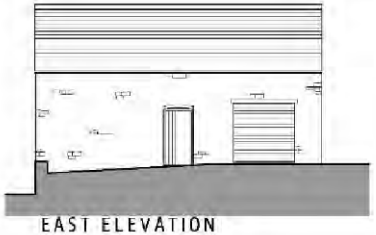

EAST ELEVATION

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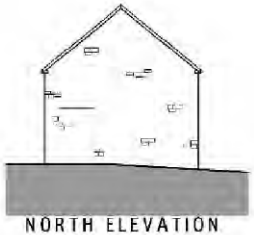

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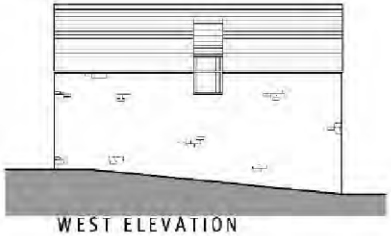

WEST ELEVATION

SOUTH ELEVATION

HDP
HEREFORDSHIRE DESIGN PARTNERSHIP

all dimensions must be checked on site and not scaled from this drawing
for use in precise named location only
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revisions notes

client
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GREENWAY FARM
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EXISTING

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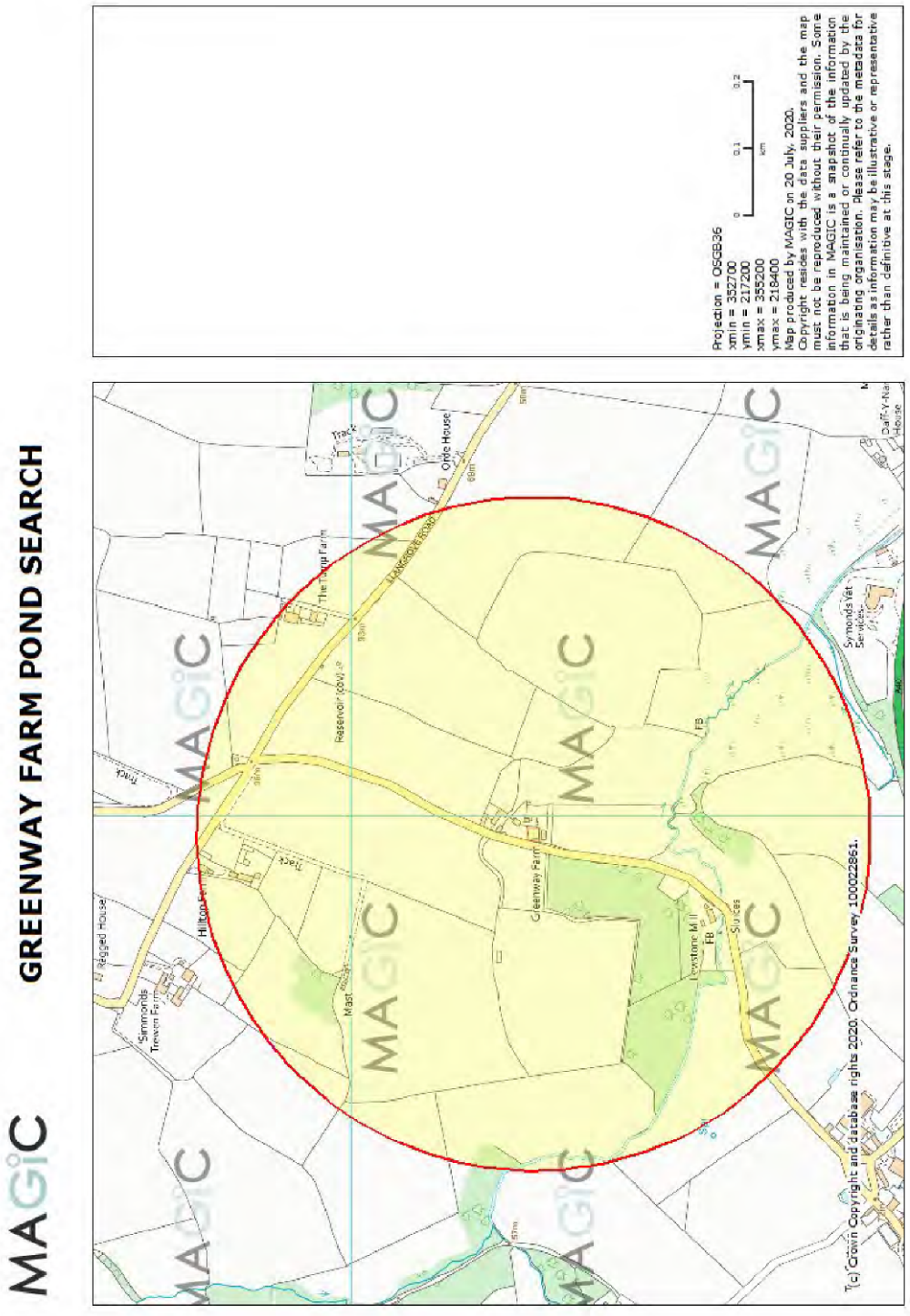
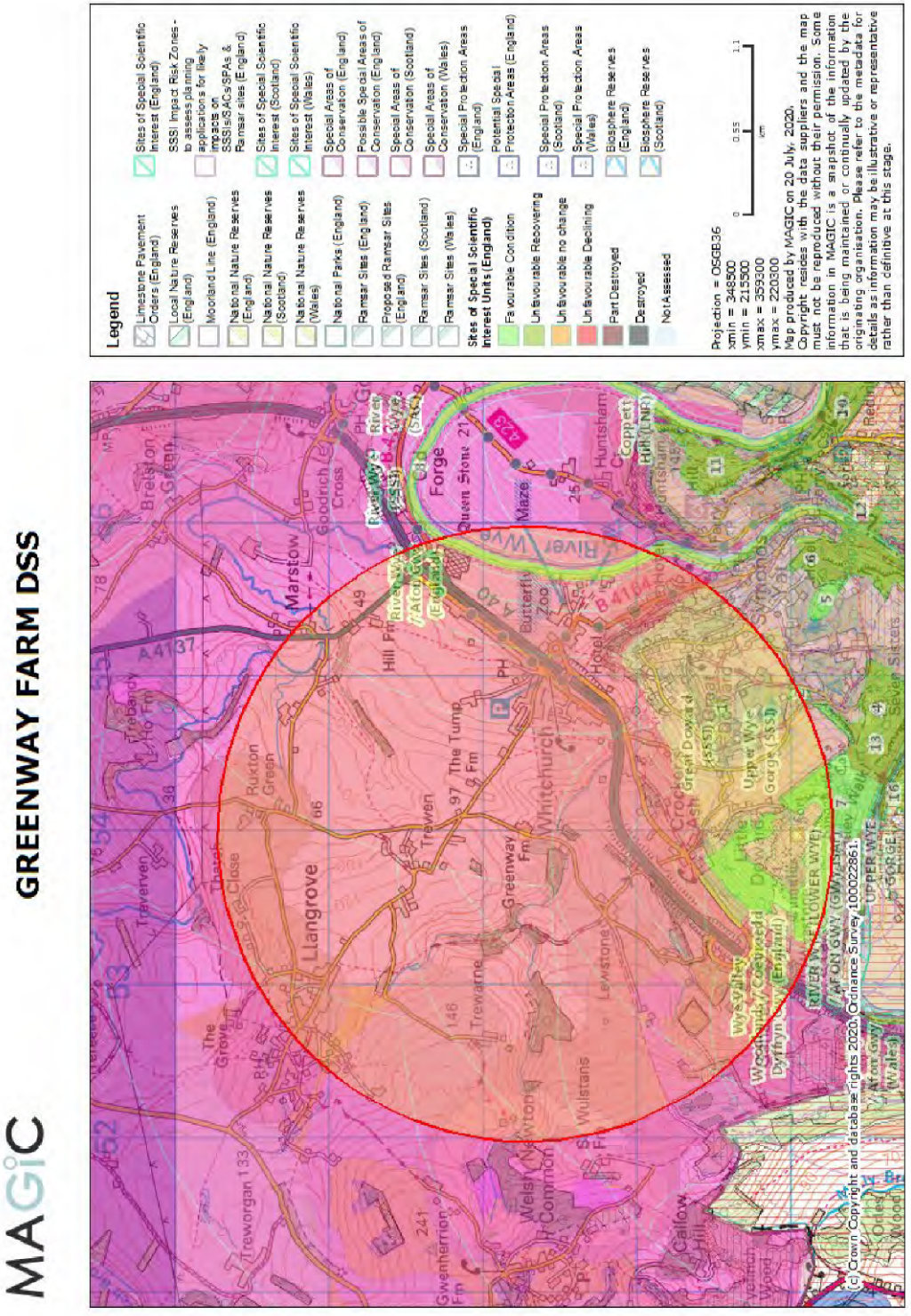
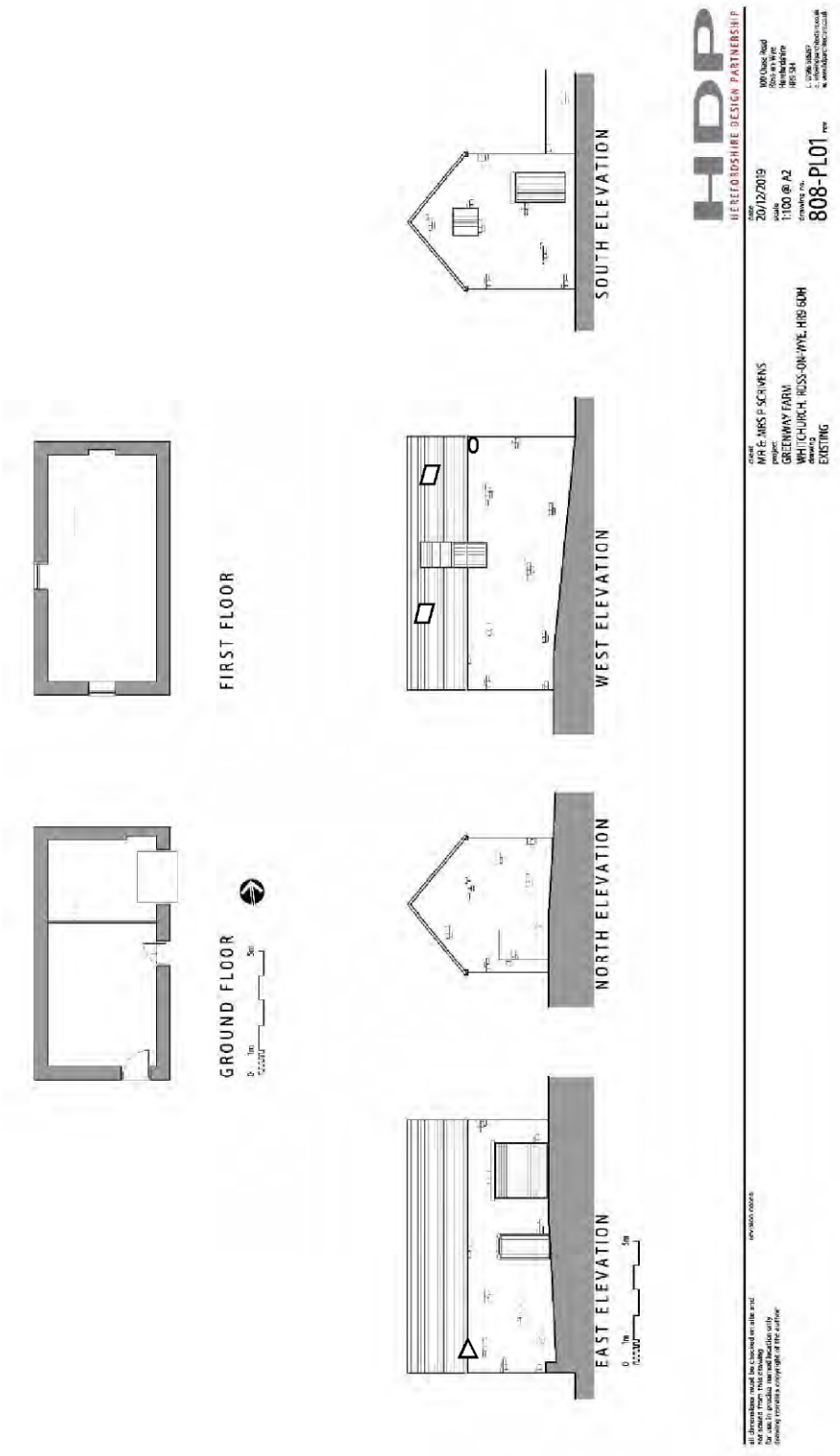
APPENDIX THREE POND SEARCH MAP



APPENDIX FOUR DESIGNATED SITE SEARCH MAP



APPENDIX FIVE PROPOSED ENHANCEMENTS



See Bat Access x2 and bird box details below

WoodStone Build-in Open Nest Box

WoodStone Build-in Open Nest Box is designed for use in new build or renovations. The nest box is intended to be built into walls to provide nesting cavities. This provides much needed nesting cavities for species such as Robins, Wagtails and Black Redstarts. Constructed from FSC certified WoodStone this nest box will not deteriorate like a traditional wooden nest box. NHBS Price: £17.95 including VAT.

Habibat Bat Access Slate - Standard

Dimensions: 418Hx375Wx80Dmm, entrance hole dimensions: 20Hx100Wmm, weight: 1.3kg. The Habibat Bat Access Standard Slate is designed to provide access to roof space for our protected bat species. The Bat Access Slate consists of a standard sized slate, with a capped vent which allows access to roof felt (for roosting Pipistrelles) or roof space.

Soffit box to be incorporated behind the barge boards