



Shadow Habitats Regulations Assessment

Higher Halsey Cross Farm, Nether Stowey

Client: Mr K Barrow

Date: September 2023

Richard Green Ecology Ltd

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1 The Proposal

1.1 *Type of permission/activity*

Full planning permission is needed to build a new dwelling on land at Higher Halsey Cross Farm (refer to Figures 4-7).

1.2 *Application reference number*

45/20/00019.

1.3 *Site address*

Higher Halsey Cross Farm, Nether Stowey, Bridgewater, Somerset, TA5 1JA, NGR ST 2038 3862.

1.4 *Brief description of proposal*

It is proposed to build a new dwelling on land at Higher Halsey Cross Farm. The development would result in the loss of approximately 0.08 ha of heavily poached modified improved grassland, 10 m of species-poor hedgerow (to provide access), and the temporary loss of approximately 70.5 m of species-poor hedgerow to form a visibility splay, considered to result in no more than a minor adverse impact on a local scale.

2 The European Site potentially affected

2.1 European site name(s) and Qualifying Features

2.1.1 Exmoor and Quantocks Oakwoods Special Area of Conservation (SAC)

The qualifying features of the SAC are:

- (a) Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles;
- (b) Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*);
- (c) Barbastelle bat *Barbastella barbastellus*;
- (d) Bechstein's bat *Myotis bechsteinii*; and
- (e) Otter *Lutra lutra*.

2.2 Ecological characteristics associated with the features (including those associated with the site, and information on issues or sensitivities associated with the features if available)

2.2.1 Exmoor and Quantocks Oakwoods SAC

- (a) Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles

The site supports large expanses of this habitat, including some of the largest oakwoods in southern England. They are rich in bryophytes, ferns and epiphytic lichens. The most widespread communities occurring are W17 sessile oak - downy birch - *Dicranum majus* woodland (Rodwell, 1991) on poorer, more lithomorphous soils on steeper slopes and W11 sessile oak - downy birch - wood sorrel woodland on deeper soils developed on more moderate slopes towards the upper edge of the woods. W16b *Quercus ssp* - *Betula spp* - *Deschampsia flexuosa* woodland (*Vaccinium myrtillus* - *Dryopteris dilatata* sub-community) also occurs, particularly to the east. The SAC has two major lichen associations (*Lobarion* and *Lecanactidetum premneae*) which are communities of ancient woodland. The Quantock woodlands are less surveyed (than Exmoor) but are probably important on a national scale for a range of old woodland and parkland species (Natural England, 2019).

- (b) Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)

This habitat comprises woods dominated by alder *Alnus glutinosa* and willow *Salix spp.* along many streams in narrow flood plains in a range of situations from islands in river channels to low-lying wetlands alongside the channels. The habitat typically occurs on moderately base-rich, eutrophic soils subject to periodic inundation and many woods are therefore dynamic and part of a successional series of habitats. Their structure and function are best maintained within a larger unit that includes the open communities, mainly fen and swamp, of earlier successional stages. The main NVC equivalent is W7 *Alnus glutinosa* – *Fraxinus excelsior* – *Lysimachia nemorum* woodland. On the drier or more neutral margins of these areas other tree species, notably ash *Fraxinus excelsior* and elm *Ulmus spp.*, may become abundant in the canopy with the main NVC equivalent being W8 *Fraxinus excelsior* *Acer campestre* *Mercurialis perennis* woodland. These transitions from wet to drier woodland and from open to more closed communities provide an important facet of ecological variation (Natural England, 2019).

(c) Barbastelle bat

Barbastelle bats are protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended), making them a European Protected Species. In recent years they have been found to be more widespread across southern England and south Wales than previously thought, but they are still considered to be one of the rarest mammals in the UK. Barbastelle bats forage in mixed habitats and are known to roost in woodland trees, but also timbers in buildings, with hibernation often in caves and underground structures. Barbastelle bats are very sensitive to disturbance and the Exmoor and Quantock Oakwoods SAC is one of the few sites designated as an SAC for them. A maternity roost of barbastelle bats is known in the Quantocks component of the SAC at Alfoxton woods, Hodders combe and Holford combe (Natural England, 2019).

The summer foraging range of barbastelle bats was recorded as being up to 9 km in the Horner Wood area on Exmoor (English Nature, Conservation Objectives for North Exmoor SSSI). Other studies have shown that barbastelle bats can fly up to 20 km from roost sites although the average was about 8 km (Burrows, 2019a).

Barbastelle bats leave their roosts in groups before dispersing to their individual hunting grounds along darkened connecting habitat features, which they are reliant upon (Burrows, 2019a). Darkened connecting features between roosts and foraging grounds are typically along vegetated rivers and streams, lines of trees, large hedgerows or paths and are generally within 200 m of water features (Burrows, 2019a). Commutes are typically rapid and direct and barbastelle bats will move freely across large open areas, flying at low level when they cross open ground (Burrows, 2019a).

The numbers of barbastelle bats roosting in the Quantocks component of the SAC are not recorded or monitored (Burrows, 2019b).

(d) Bechstein's bat

Bechstein's bats are one of the UK's rarest mammals, known only from a small number of sites in southern England and Wales. Like the barbastelle bats, Bechstein's bats are protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended), making them a European Protected Species. They are closely associated with mature broadleaved woodland and two breeding female Bechstein's bats have been caught in Holford Combe and Alfoxton Woods, which were then traced back to roosts in Alfoxton Park (adjoining the SAC boundary) but very few maternity roosts are currently known (Natural England, 2019).

(e) Otter

Otters are protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended), making them a European Protected Species. They are semi aquatic, solitary animals living

mainly along rivers. They are usually active at dusk and during the night, travelling widely over large distances, eating up to 15% of their body weight in fish daily. Otters are very territorial and use spraints to mark their territory and keep in social contact with neighbouring otters. Otters are widespread in Somerset and are known to use all the rivers within the SAC (Natural England, 2019).

2.3 Exmoor and Quantocks Oakwoods SAC Conservation Objectives

The Exmoor and Quantocks Oakwoods SAC Conservation Objectives are as follows:

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

- The extent and distribution of qualifying natural habitats and habitats of qualifying species
- The structure and function (including typical species) of qualifying natural habitats
- The structure and function of the habitats of qualifying species
- The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- The populations of qualifying species, and,
- The distribution of qualifying species within the site.

2.4 Ecological baseline of the application site

An extended phase I habitat survey of the site was undertaken on 04 November 2020 by Richard Green Ecology Ltd. An updated UK Habitats survey of the site was undertaken on 22 September 2022 (refer to Figure 1) supported by a local records centre data search. Refer to Preliminary Ecological Appraisal report (Richard Green Ecology, October 2022; Appendix B) for more details.

In 2020, the site consisted of a field of heavily poached modified (improved) grassland surrounded by species-poor (less than 5 woody species per 30 m) heavily managed, i.e., flailed, elm *Ulmus procera* dominated hedges on the east boundary and north-west boundary. There was a pond surrounded by semi-mature trees approximately 50 m south-west of the site redline boundary, within the same field.

The wider landscape consisted of agricultural fields and hedgerow boundaries, lines of mature trees, ponds, areas of woodland (including ancient semi-natural woodland), the Cannington Brook approximately 400 m south of the site and a tributary of the South Moor Main Brook/Wild Moor Middle Rhyne approximately 600 m north-west of the site.

In 2022, the site remained in a similar condition with more extensive poaching and a limited amount of grassland present. The hedges remained heavily managed/flailed.

Records of bat species within 1 km of the site include common pipistrelle bat *Pipistrellus pipistrellus* and brown long-eared bat *Plecotus auritus*.

The improved grassland in the location of the proposed dwelling was heavily poached and largely consisted of mud and slurry. This is considered of negligible value to foraging and commuting bats.

There are no trees on the site with any potential roost features (PRFs) for bats.

The hedges surrounding the site and pond to the south-west are likely to be used by foraging and commuting bats, including occasional barbastelle bats. As these would not be significantly affected and indirect effects from lighting can be avoided by sensitive lighting design, no bat activity surveys were considered necessary.¹

¹ Note for Emily Kennet

This is not introducing mitigation design; it is explaining why no bat activity surveys were considered necessary. ODPM Circular 06/2005 states, *“bearing in mind the delay and cost that may be involved, developers should not be required to undertake surveys for protected species unless there is a reasonable likelihood of the species being present and affected by the development”*. As any impacts on bats can be avoided by design, there was no need to undertake bat activity surveys. This statement simply states the position with regard to baseline information on bat activity, i.e., that there is none because it is not needed.

Please also remember that it is Somerset Council’s responsibility to undertake the Appropriate Assessment, although it is reasonable for them to request the applicant to provide the information required for them to make the assessment. Therefore, if that information is provided coherently, it should not be required to provide it in a set format. You may choose to write your Appropriate Assessment report/conclusion in a certain way, but this report does not necessarily have to follow that format, as long as the information required for you to make your assessment is provided.

3 Assessment of risks without avoidance or mitigation measures (Stage 1 – Screening)

3.1 *Is this application necessary to the management of the site for nature conservation?*

The proposal is not connected with or necessary for the management of Exmoor and Quantocks Oakwoods SAC.

3.2 *The identified ways in which the Qualifying Features of the European site could be affected by the proposal*

3.2.1 *Qualifying features scoped out of the assessment*

The Site lies c. 2.8 km to the east of the SAC and there are no pathways by which the qualifying habitats, **Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles** and **Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*)** could be affected by the proposal.

There are no suitable habitats for **otter** on the Site or that would be affected by the proposal.

Bechstein's bats are present in the Quantocks component part of the SAC at Alfoxton Wood, where activity is likely to be confined to the local woodland (Burrows, 2019). Alfoxton Wood is c. 5.5 km from the Site and owing to the limited home range of Bechstein's bats, they are not considered to be affected.

Therefore, these qualifying features are not considered further in this assessment.

3.2.2 *Barbastelle bat*

The site is within Band A of the SAC Barbastelle Bat Consultation Zone (Figure 2). The proposal would result in the loss of approximately 0.08 ha of heavily poached modified improved grassland, 10 m of species-poor managed hedgerow (to provide access), and temporary loss of approximately 70.5 m of species-poor managed hedgerow to form a visibility splay.

Zeale (2009) found the most significant barbastelle habitat preferences were (in order) riparian vegetation, broad-leaved woodland, and unimproved grassland. Billington (2012) stated for the Horner Wood maternity colony that, 'The most important single habitat was rough/ unimproved grassland 94.5% of the habitat in the colonies range was used for foraging. The next most important (>57% use) habitats were scattered (gorse) scrub and broadleaved woodland and other important (>25% use) habitats were bracken, running water and dense (gorse) scrub.' No known studies have identified modified grassland as an important or favoured barbastelle bat habitat.

Zeale (2009) concludes that improved grassland typically is species poor and likely to be of little importance, and that moths (barbastelle's main prey item) are likely to be negatively affected by moderate and high levels of cattle grazing.

Greenway (2004) found that high wide hedgerows are preferred by commuting barbastelle bats, especially where they occur either side of a track or pathway and where trees develop to form a tunnel. Hedgerows need to be at least 1.5m high. Trimmed hedges provide very poor cover to commuting bats.

The heavily poached modified grassland is therefore considered of negligible value for foraging or commuting barbastelle bats; and the species-poor managed hedges are of low value for foraging and commuting barbastelle bats. Given the available network of hedges surrounding the site (see aerial photograph below), the hedges surrounding the site do not provide a critical path for commuting barbastelles, as other routes are available that would not result in a significantly increased energy expenditure. Barbastelle bats are also known to readily fly over open habitats and the permanent loss of 10 m and temporary loss of 70 m of hedge on the east boundary for access is not considered to be an impediment to commuting barbastelles, particularly because there is a parallel hedge on the other side of the road, approximately 4 m from that affected, that would be retained and available for bats to fly along. These losses are also considered insignificant given the availability of foraging habitat within Zone A of the SAC consultation zone.



Aerial photograph showing the site and surrounding landscape



East boundary hedge in 2022 – view north



North-west boundary in 2020 – view south-west

Therefore, it is considered that no significant impact on the integrity of the SAC would result from habitat loss, as there would be no significant loss of barbastelle bat foraging habitats and barbastelle bats would still be able to commute around the site and in the wider area.

Lighting from the proposed dwelling could illuminate hedges surrounding the site, potentially having an adverse effect on foraging and commuting barbastelle bats.

3.3 *Conclusion of assessment of risks without avoidance or mitigation measures*

It is concluded that illumination from the proposed dwelling could have a long-term adverse effect on barbastelle bats foraging and commuting along hedgerows around the site. Therefore, without mitigation measures, the proposal is likely to have a significant effect 'alone' or 'in combination' on the Exmoor and Quantocks Oakwoods Special Area of Conservation, and an Appropriate Assessment is required.

4 Mitigation and assessment of residual effects (Stage 2 – Appropriate Assessment)

4.1 *Lighting design and assessment*

Services Design Solutions Ltd have undertaken a Lighting Impact Assessment (June 2023; Appendix A), which provides an assessment of the impact of the internal and external lighting from the proposals in terms of ecology, by considering light spill onto the dark zones of the site.

This Lighting Impact Assessment is based on the adoption of the internal and external lighting strategy and mitigation measures outlined in this report. The site has been modelled and calculations provided, using industry standard software. The impact of light spill from internal lighting has been calculated using DIALux Evo Lighting Software.

The lighting of the site has been designed in accordance with ‘Bats and artificial lighting in the UK’ (ILP 2018) to avoid potential illumination of the dark zones of the site. Following LPA ecologist comments, the external lighting has been reduced with only essential security and wayfinding lighting remaining.

The results show that light spill from the internal and external lighting (Calculated horizontally at ground level) from the proposed site is predicted to be less than 0.5 lux on all property boundaries. Furthermore, the vertical calculation plan for this section remains below 0.5 lux and as such is deemed to be acceptable.

All hedgerows surrounding the site have been kept below the recommended threshold of 0.5 lux from the LPA ecologist.

It should be noted that the calculation model represents the worst-case scenario, with all lights switched on simultaneously, no blinds or curtains included, and the screening effect of any vegetation and planting not being included. Levels of illuminance will be further reduced when these factors are considered.

The results from the lighting calculation indicate that the proposed lighting scheme will not increase lighting on boundary hedges to a level likely to affect barbastelle bats.

This can be assured by applying a suitably worded planning condition to ensure that the proposed lighting design is followed.

4.2 *Avoiding lighting impacts during construction*

There will be no lighting of the site during construction. This can be assured by applying a suitably worded planning condition to ensure that there is no lighting of the site during construction.

4.3 Protection of retained hedges

Hedges not removed for access would be protected by appropriate fencing to avoid damage during construction. This can be assured by applying a suitably worded planning condition.

4.4 Conclusion of assessment (Is the proposal likely to have a significant effect 'alone' or 'in combination' on a European site?)

4.4.1 Exmoor and Quantocks Oakwoods SAC – barbastelle bats

Alone

It is considered extremely unlikely that the proposal would significantly affect the SAC population of barbastelle bats.

In combination

A review of the Local Plan and applications within 1 km of the Site revealed no other applications likely to have impacts on barbastelle bat foraging or commuting habitats. Given the extent of the SAC consultation zone and the de minimus impacts of the proposal, further review was not considered necessary.

It is concluded that there would be no significant effect on the Conservation Objectives or the integrity of Exmoor and Quantocks Oakwoods SAC.

5 References

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6 Figures

Figure 1. UK Habitat Classification Survey map



Figure 2. Site location and the Barbastelle Bat Consultation Zone Bands

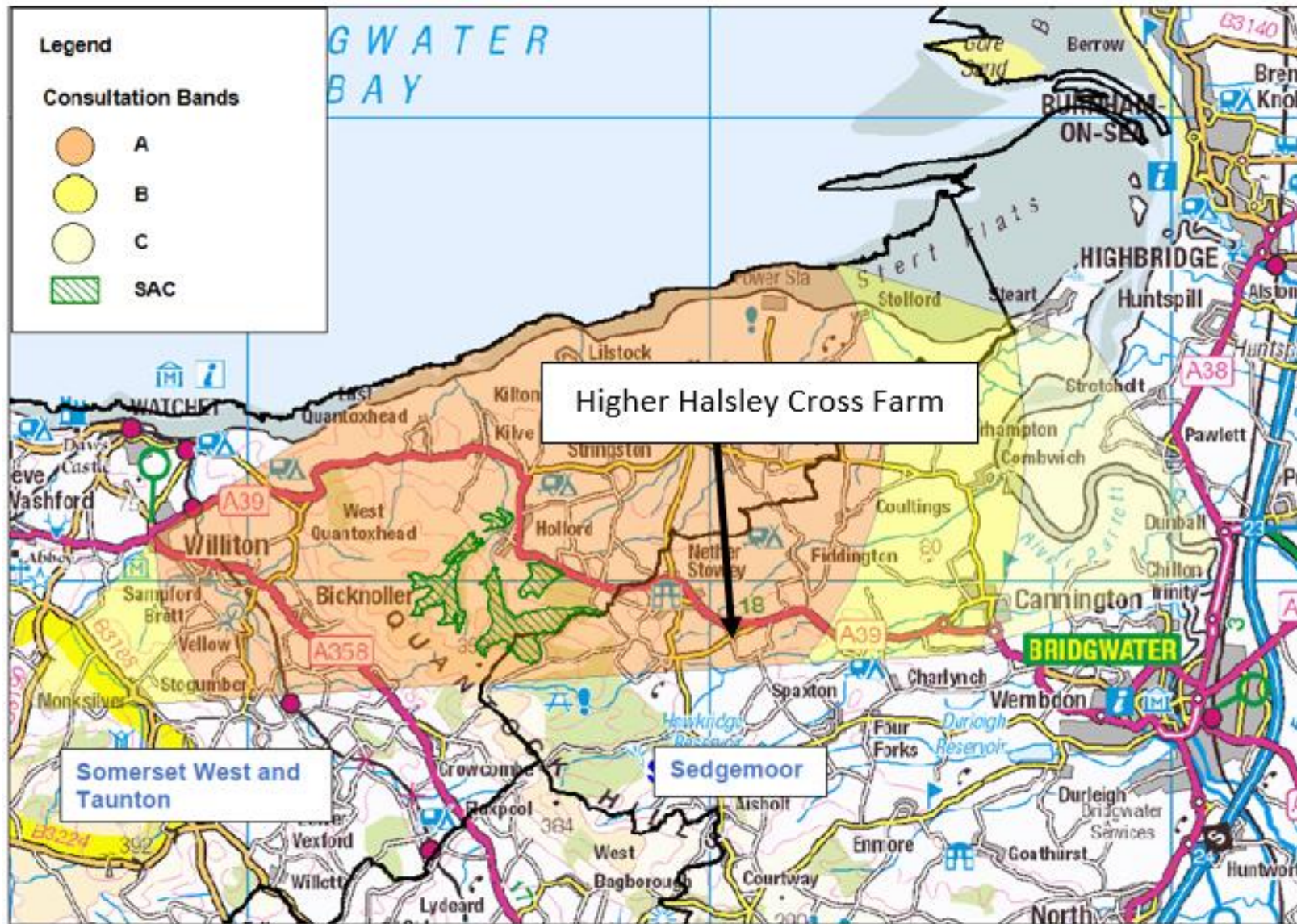


Figure 3. Location of the Site in relation to the SAC boundary and 200 m buffers around tree-lined streams to the north and south of the site offering landscape permeability

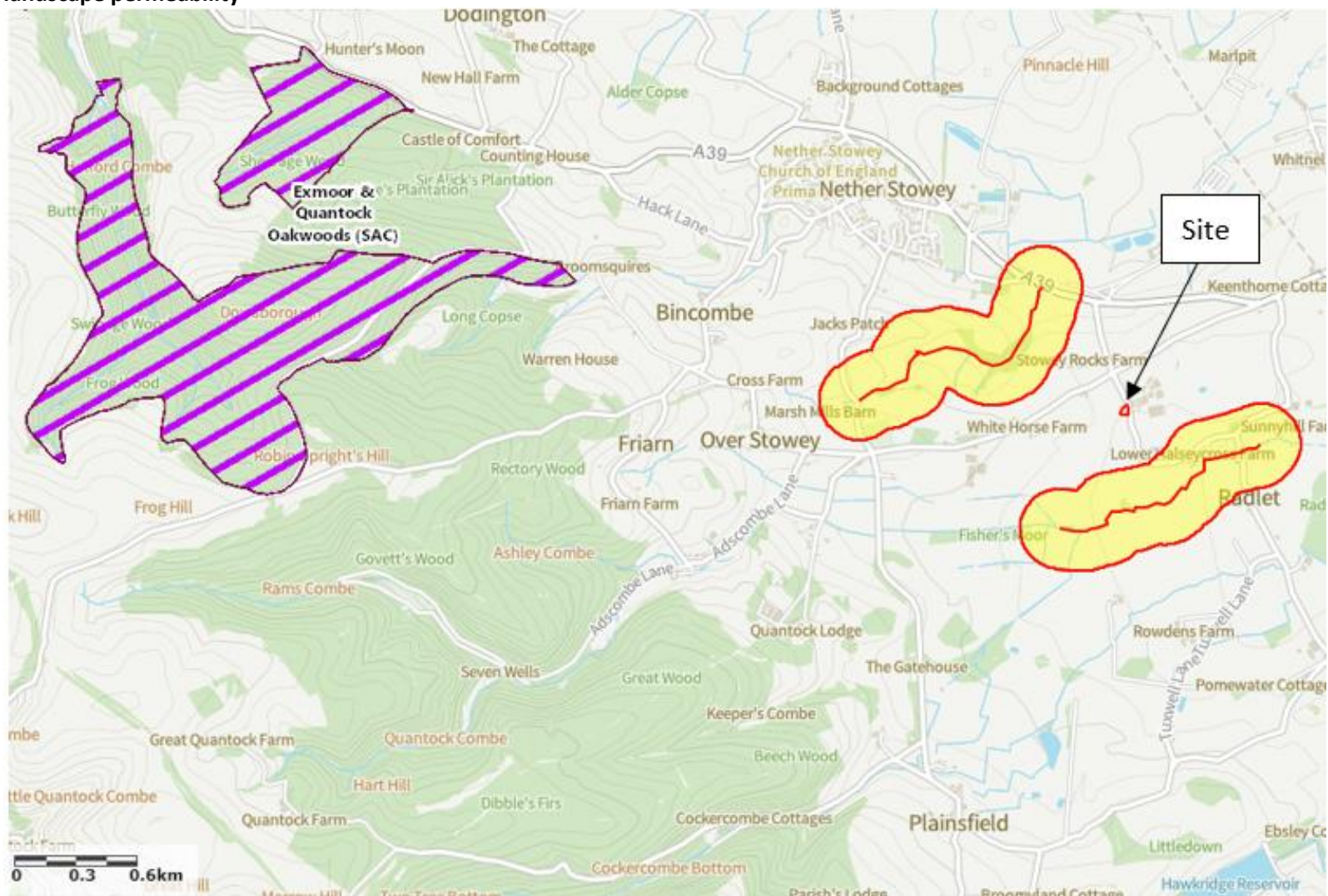
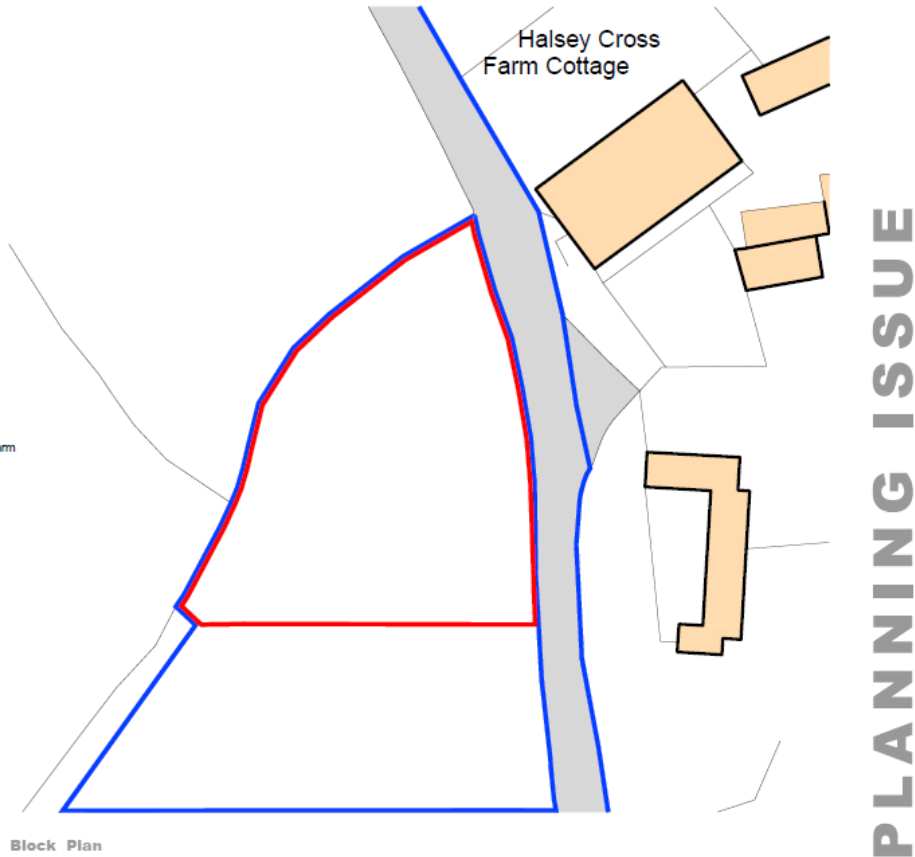
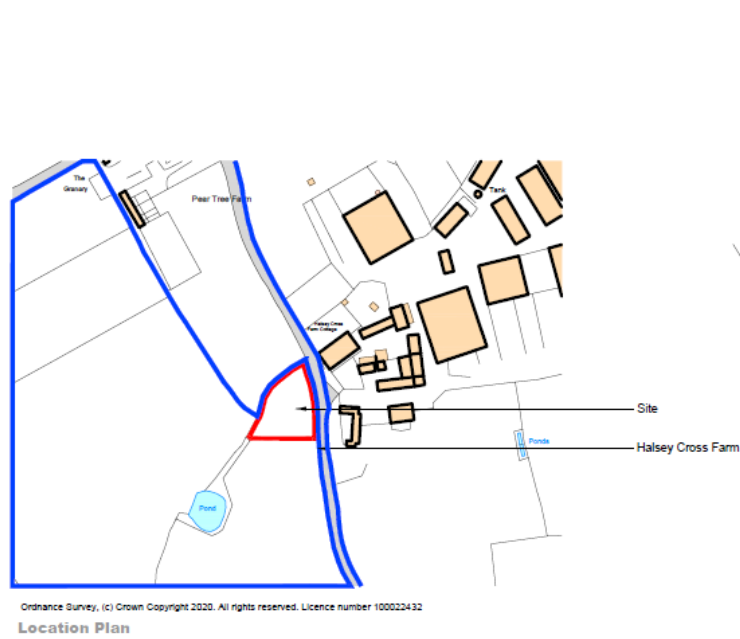
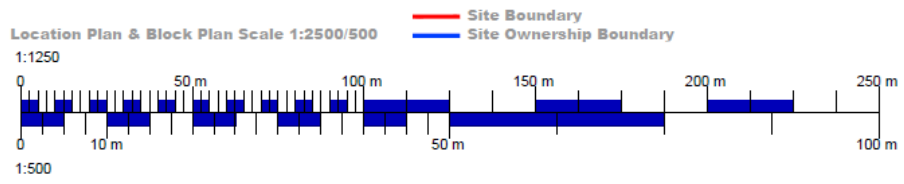


Figure 4. Location Plan & Block Plan

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 Bridgwater, Somerset TA5 1JA - New Dwelling

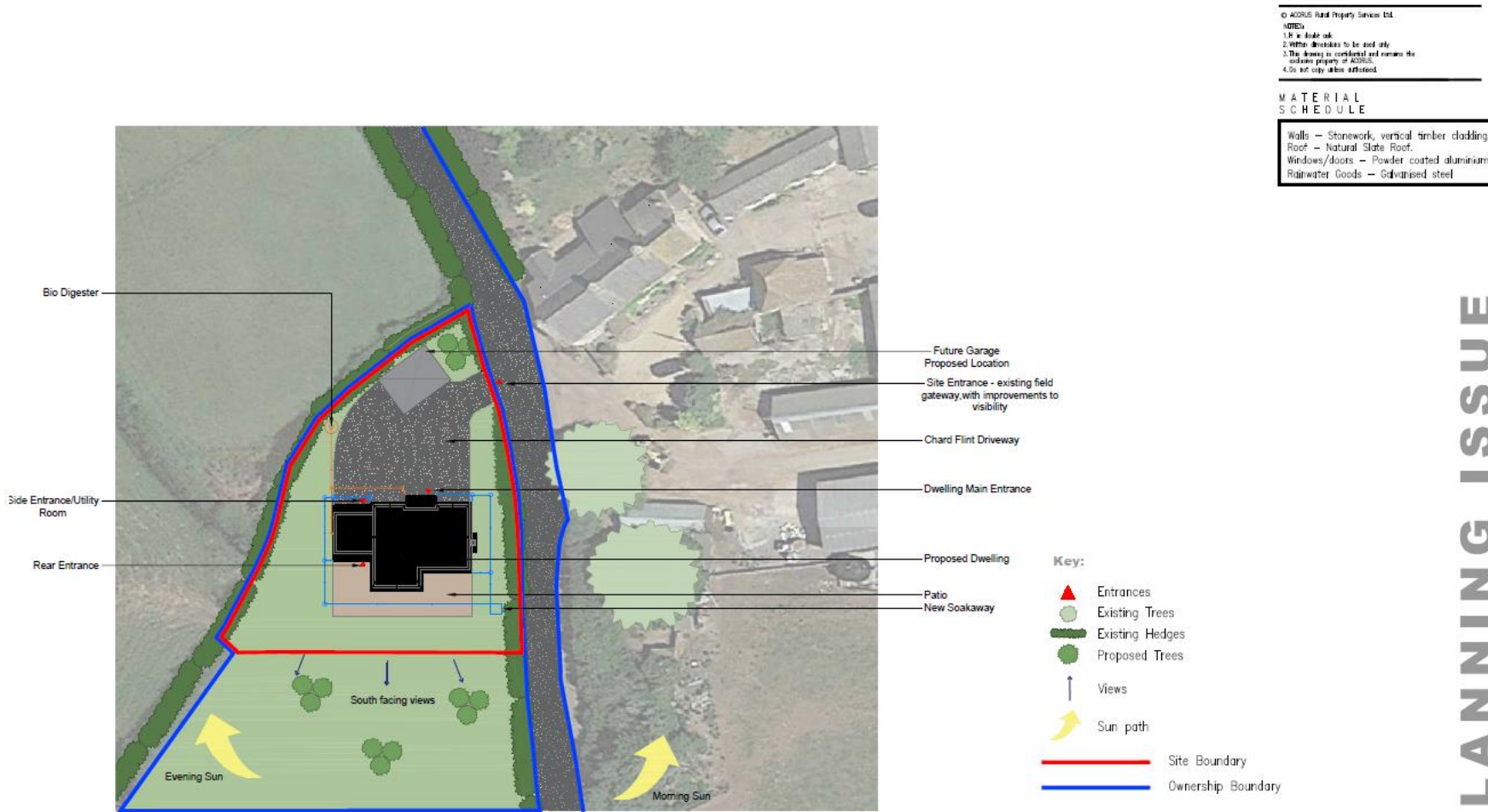
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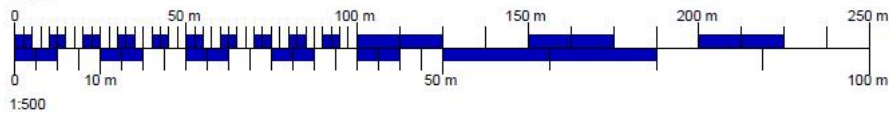
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Figure 5. Proposed Site Plan



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Proposed Site Plan
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Figure 6. Proposed Elevations A



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Figure 7. Proposed Elevations B



7 Appendices

A Higher Halsey Farm Lighting Impact Assessment

B Preliminary Ecological Appraisal Report