PURE ECOLOGY

Stables for Shire Horses, Barge Inn

Seend Cleeve, SN12 6QB

Ecological Assessment Report



December 2023

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1 Introduction

1.1 Site Description

1.1.1 The client is submitting a planning application for proposed stables for shire horses on land at Barge Inn, Seend Cleeve, Wiltshire, SN12 6QB. The application site is located to the north of Seend Cleeve in a field next to the pub that is immediately south of the Kennet & Avon Canal. The 1160m^2 application site is centred on National Grid Reference (NGR) ST 93145 61352.

1.1.2 The application site encompasses an area of mown grassland that is within the field located immediately west of the Barge Inn. The grassland field is bounded by hedgerow/ditch and the canal as shown on **Figure 1** with the position of the application site in the southwest corner of the field is shown on **Figure 2**.

1.2 Proposed Scheme

1.2.1 The proposal is for the stables at the Barge Inn to house the Brewery's shire horses. The application site will form a stone surfaced yard with a building for the stables and sign shop as shown on drawings 4033-21B and 4033-22B in **Figures 3** and **4**. The proposed scheme uses an existing vehicle access into the field and includes landscape planting for ecological enhancement, as shown on **Figure 2**.

1.3 Pre-App (Planning Background)

1.3.1 Two potential options on proposals for the construction of a stable block to house the Wadworth shire horses were submitted to Wiltshire Council for pre-app advice (Application no. ENQ/2023/01099). The submission was accompanied by an Ecological Appraisal by Pure Ecology (dated May 2023) with preliminary information gathered through desk study and field survey.

1.3.2 Wiltshire Council's planning consultation response from Naomi Harvey of the Ecology Team dated 16/10/2023 provided guidance on the preferred option for the proposed stables that recommended they should be located within the southern portion of the site due to the increased distance from the stables to the adjacent Kennet and Avon Canal Local Wildlife Site (compared to the alternative scheme layout option). This recommendation has been taken forward with the planning application with the design and layout for the stables shown on the proposed block plans in **Figures 2** and **3** (drawings 4033 - 20B and 4033 - 21B).

1.3.3 The application site is not located within any designated wildlife sites, but Wiltshire Council's Ecology Team advised that since the publication of their "*Bat Special Areas of Conservation (SAC) Planning Guidance for Wiltshire*" new evidence has come to light of a core roost of lesser horseshoe bats located within 2km of the Barge Inn that is likely to be functionally linked to the Bath and Bradford on Avon Bat SAC. Therefore, potential impacts on this SAC bat species must be considered for the planning application. Wiltshire's planning consultation response provided the following advice for bats and other protected species:

- *As the [application] site is located within 2km of a lesser horseshoe bat core roost, any future application would be required to provide information in line with the Bat SAC Planning Guidance about how the proposal will impact on bats associated with the SAC through habitat and lighting changes. Bat survey work may be required, and will be advised by the consultant ecologist, depending on the final design and whether there is the potential for impacts on bats. The proposal will need to demonstrate how impacts on the Bath and Bradford on Avon Bat SAC will be avoided.*

- *There are two ponds within 500m of the proposed [application] site, therefore HSI of the ponds should be undertaken and this may indicate further surveys are required to establish actual presence and the size of the population that will be affected. eDNA sampling may be appropriate alongside HSI surveys, however this must be within the timeframe of the optimum survey window. The applicant may wish to consider District Level Licensing (DLL).*

- *The survey work should address:*

    - *Potential impacts on the Kennet and Avon Canal CWS and any protected species using it (e.g.otters and water voles)*

    - *Potential impacts on hedges and trees and any protected or notable species using them (e.g. bats and birds).*

    - *Potential impacts from changes in usage of the site such as lighting and noise disturbance.*

- *The council has a policy requiring applications to demonstrate no net loss for biodiversity.*

1.4 Scope of the Study

1.4.1 The client is seeking planning permission from Wiltshire Council for proposed stables for shire horses associated with Wadworth & Co Ltd brewery as described in Section 1.2.

1.4.2 As part of the planning process an ecological appraisal, including an extended Phase 1 ecological survey of the application site for the proposed development has been undertaken. This report contains an ecological baseline with information gathered through desk study and field survey and an assessment of predicted impacts on ecological receptors associated with designated wildlife sites and protected species populations and protected/notable habitats.

1.4.3 The ecological work was undertaken by Mr. Anton Kattan and Dr Stephen Dangerfield, who have a combined 50 years' experience, are both full members of the Chartered Institute of Ecology and Environmental Management (CIEEM) and Society of the Environment (SocEnv), and hold relevant Natural England European Protected Species survey licences including bats, dormouse and great crested newt.

1.4.4 Potential adverse impacts are addressed, with proposals for mitigation or compensation, while opportunities for ecological enhancement have also been identified in accordance with Wiltshire Council's policy requirements for planning applications to demonstrate no net loss for biodiversity.

1.4.5 Pure Ecology was commissioned to undertake the ecological survey and preliminary appraisal of the application site and proposed development, and to provide a report to fulfil the requirements of nature conservation legislation and planning guidance.

1.4.6 Section 40 of the Natural Environment and Rural Communities Act 2006 (NERC Act) requires all public bodies to have regard to biodiversity conservation when carrying out their functions. Under the NERC Act the local planning authority should not determine a planning application if there are any surveys outstanding for European protected species. The National Planning Policy Framework (NPPF), July 2021, requires the planning system should conserve and enhance the natural environment (Section 15) by, inter alia, 'protecting and enhancing sites of biodiversity value' and 'minimising impacts and providing net gains for biodiversity' (para 174) and 'protection and recovery of priority species' (para 179). This is reflected in Wiltshire Council Core Policy 50.

2 Planning Context

2.1 National

2.1.1 The National Planning Policy Framework (NPPF), July 2021, requires that the planning system should conserve and enhance the natural environment (Section 15) by, *inter alia*, 'protecting and enhancing sites of biodiversity value' and 'minimising impacts and providing net gains for biodiversity' (para 174).

2.1.2 Scheme plans should 'promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species' and 'identify and pursue opportunities for securing measurable net gains for biodiversity' (para 179).

2.1.3 Local planning authorities should aim to protect and enhance biodiversity by applying the following principles (para 180):

a) If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) Development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any border impacts on the national network of Sites of Special Scientific Interest;

c) Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland or ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d) Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

2.2 Wiltshire

2.2.1 The Wiltshire Core Strategy (Adopted January 2015) sets out the relevant policies relevant to biodiversity, as follows:

Core Policy 50: Biodiversity and geodiversity

Protection

2.2.2 Development proposals must demonstrate how they protect features of nature conservation and geological value as part of the design rationale. There is an expectation that such features shall be retained, buffered, and managed favourably in order to maintain their ecological value, connectivity and functionality in the long-term. Where it has been demonstrated that such features cannot be retained, removal or damage shall only be acceptable in circumstances where the anticipated ecological impacts have been mitigated as far as possible and appropriate compensatory measures can be secured to ensure no net loss of the local biodiversity resource, and secure the integrity of local ecological networks and provision of ecosystem services.

2.2.3 All development proposals shall incorporate appropriate measures to avoid and reduce disturbance of sensitive wildlife species and habitats throughout the lifetime of the development.

2.2.4 Any development potentially affecting a Natura 2000 site must provide avoidance measures in accordance with the strategic plans or guidance set out above where possible, otherwise bespoke measures must be provided to demonstrate that the proposals would have no adverse effect upon the Natura 2000 network. Any development that would have an adverse effect on the integrity of a European nature conservation site will not be in accordance with the Core Strategy.

Biodiversity enhancement

2.2.5 All development should seek opportunities to enhance biodiversity. Major development in particular must include measures to deliver biodiversity gains through opportunities to restore, enhance and create valuable habitats, ecological networks and ecosystem services. Such enhancement measures will contribute to the objectives and targets of the Biodiversity Action Plan (BAP) or River Basin/Catchment Management Plan, particularly through landscape scale projects, and be relevant to the local landscape character.

Local sites

2.2.6 Sustainable development will avoid direct and indirect impacts upon local sites through sensitive site location and layout, and by maintaining sufficient buffers and ecological connectivity with the wider environment. Damage or

disturbance to local sites will generally be unacceptable, other than in exceptional circumstances where it has been demonstrated that such impacts:

- Cannot reasonably be avoided
- Are reduced as far as possible
- Are outweighed by other planning considerations in the public interest and
- Where appropriate compensation measures can be secured through planning obligations or agreements.

2.2.7 Development proposals affecting local sites must make a reasonable contribution to their favourable management in the long-term.

3 Methodology

3.1 Desk Study

3.1.1 Records of designated wildlife sites and protected/notable species (1km radius, last 25 years) from the Wiltshire and Swindon Biological Records Centre (WSBRC) were obtained on 28th April 2023. An extended data search for records of bats held by WSBRC within 4km was obtained on the 11th December 2023, following the consultation response from Wiltshire Council (discussed in Section 1.3). This zone allows notable and relevant wildlife sites, habitats and species to be highlighted and taken into consideration through the ecological appraisal process.

3.1.2 A review of OS maps and satellite imagery was undertaken to establish the local context within which the study area sits and to identify whether any natural features of interest, particularly ponds, were located within 500m of the site.

3.1.3 A review of the following website or documentation was completed:

- Magic website (www.magic.defra.gov.uk) for statutory designations between 1-10km away.
- "*Bat Special Areas of Conservation (SAC) Planning Guidance for Wiltshire*" (version 3.0 dated 10th September 2015)

3.1.4 Results of the desk-based study are integrated into the relevant baseline sections in Chapter 3.

3.2 Phase 1 Habitat Survey

3.2.1 An extended Phase 1 ecological survey was undertaken on 26th April 2023 based upon the Phase 1 habitat survey methodology (JNCC, 2010) with industry standard habitat-type nomenclature used. A walkover survey was also conducted on the 26th October 2023 to review the current status of the site.

3.2.2 The survey determined habitat type, extent and condition. Indicative botanical lists of each habitat type were recorded, with notifiable invasive plants being recorded and target noted if found.

3.2.3 A survey to determine the presence of, or the potential for the study area to support, protected and rare/scarce animals, was undertaken, which included looking for the following:

- Potential/actual badger (*Meles meles*) setts, as well as latrines, tracks and other signs (foraging holes, hairs, etc);
- Potential reptile habitat and terrestrial habitat for amphibians, particularly great crested newt (*Triturus cristatus*);
- Waterbodies and streams that had the potential to support great crested newt, water vole (*Arvicola amphibius*) or otter (*Lutra lutra)*;
- Potential habitat to support or signs of dormouse (*Muscardinus avellanarius*); and
- Potential for nesting birds to breed at the site.
- Appraisal of mature trees within the site for the potential to support roosting bats. The survey would be undertaken by a licensed bat surveyor in accordance with Bat Conservation Trust guidelines (Collins, J (ed.), 2016).

3.2.4 The aim of an extended Phase 1 ecological survey is to identify the habitat types present and their relevance to nature conservation, based on species assemblage and structural diversity. It is also to identify the actual or likelihood of protected species inhabiting or frequenting the study area based on field signs or habitat quality/structure etc. The identification of protected, sensitive, threatened or scarce habitat or species within the application site and potentially suffering significant effects from the proposed development could trigger the need for, and subsequent recommendation, for further Phase 2 surveys at an appropriate time of year.

3.3 Biodiversity Net Gain (BNG)

3.3.1 Site habitat losses/gains have been calculated based on habitat information taken from the Phase 1 Habitat 2023 baseline survey (BNG baseline) and the proposed development block plan (BNG proposed).

3.3.2 Habitats have been quantified in terms of area (sqm/hectare) or length (metres/kilometre), before being used to populate the Defra Biodiversity Small Sites Metric V4.0.

3.3.3 Habitat conditions have been set based on field data collected during the Phase 1 survey or on assumptions of the future site management.

3.3.4 As acknowledged in the User Guide (NE, 2022), the Biodiversity Metric includes several inherent limitations. These are summarised in the User Guide from paragraph 2.19 onwards, which is summarised as follows:

- The metric and its outputs should be interpreted, alongside ecological expertise and common sense, as an element of the evidence that informs plans and decisions.

- The metric is not a total solution to biodiversity decisions. While it is underpinned by ecological evidence the units generated by the metric are only a proxy for biodiversity and, to be of practical use, it has been kept deliberately simple. The numerical values generated by the metric represent relative, not absolute, values [Principle 3]

- The metric focuses on typical habitats and widespread species; important or protected habitats and features should be given broader consideration. Protected and locally important species needs are not considered through the metric, they should be addressed through existing policy and legislation. [Principle 4]

- The metric is designed to inform decisions, not to override expert opinion. Management interventions should be guided by appropriate expert ecological advice and not just the biodiversity unit outputs of the metric. [Principle 6]

3.4 Ecological Assessment

Appraisal process

3.4.1 The ecological appraisal of the proposed development is undertaken in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine, which are in full accordance with the mandatory requirements of the UK EIA Regulations. The ecological assessment will seek to obtain the best possible biodiversity outcomes by integrating the following key principles:

- **Avoidance**: seek options that avoid harm to ecological features (for example, by locating on an alternative site).
- **Mitigation**: Adverse effects should be avoided or minimised through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed (for example, through a condition or planning obligation).
- **Compensation**: Where there are significant residual adverse ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures.
- **Enhancements**: Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.

Defining important ecological receptors and value

3.4.2 The CIEEM EcIA guidelines state that one of the key challenges in EcIA is to decide which ecological features (habitats, species, ecosystems and their functions/processes) are important and should be subject to detailed assessment. Such ecological features will be those that are considered to be important and potentially affected by the project. It is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable.

3.4.3 However, effort should be made to safeguard biodiversity in its entirety, as emphasised by the Convention on Biological Diversity and developed in the EU Biodiversity Strategy 2020. The EU Strategy and national policy documents emphasise the need to achieve no net loss of biodiversity and enhancement of biodiversity.

3.4.4 The importance of an ecological feature will be considered within a defined geographical context. The following frame of reference will be used:

- International and European
- National
- Regional
- Metropolitan, County, vice-county or other local authority-wide area

- River Basin District
- Estuarine system / Costal cell
- Local

3.4.5 Various approaches can be adopted for defining local importance, including assessment within a district, borough or parish context or within another locally defined area.

Characterising ecological effects

3.4.6 When describing ecological impacts and effects, reference should be made to the following characteristics as required:

- Positive or negative
- Extent
- Magnitude
- Duration
- Frequency and timing
- Reversibility

3.4.7 The assessment only needs to describe those characteristics relevant to understanding the ecological effect of the impacts and determining its significance.

Defining significance of ecological effects

3.4.8 The CIEEM guidelines define an 'ecologically significant effect' as an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. Significant effects should be qualified with reference to an appropriate geographic scale. However, the scale of significance of an effect may not be the same as the geographic context in which the feature is considered important.

3.4.9 Significant effects encompass impacts on structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution). A significant effect is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project.

4 Results

4.1 Designated Sites

Statutory Designated Sites

4.1.1 There are no statutory designations covering the application site.

4.1.2 There are no European designated nature conservation sites within 10km of the application site and no national nature conservation designations within 4km of the application site.

- The application site is not within a relevant SSSI Impact Risk Zone (as defined by Natural England).

4.1.3 The closest Sites of Special Scientific Interest (SSSI) are Seend Cleeve Quarry SSSI and Seend Ironstone Quarry and Road Cutting SSSI, which are both designated for geological reasons, and are located 330m and 660m south/southeast of the application site (as shown on the WSBRC designated sites plan in **Appendix 1)**. These sites will not be affected and are not relevant to this ecology study.

4.1.4 Statutory designated sites are not defined as an ecological receptor for the ecological impact assessment for this study.

4.1.5 The application site is not located within any of the bat SAC consultation zones defined in Wiltshire Council's *Bat Special Areas of Conservation (SAC) Planning Guidance for Wiltshire" (dated 10th September 2015)* as Core Areas around component sites of the Bath and Bradford-on-Avon Bats SAC, Chilmark Quarries SAC or Mottisfont Bats SAC. There is however a record of a significant lesser horseshoe bat maternity roost (peak roost count 150+ adults and juveniles) within the 1 sq km NGR area ST 9259 (exact location withheld), placing the Barge Inn within 1.5km of this roost. The roost meets the criteria of a "Core Roost"[1] for lesser horseshoe bats, Annex II species present as a qualifying feature, but not a primary reason for site selection at Bath and Bradford-on-Avon Bats SAC. Further details of the lesser horseshoe bat roost records are provided in Section 4.3.

Non-statutory Designated Sites

4.1.6 There are no non-statutory designations covering the study area.

4.1.7 **Table 1** summarises the details relating to non-statutory Local Wildlife Sites (LWS) located within 1km of the study area. The WSBRC designated sites plan is provided in **Appendix 1**.

[1] Criteria for Core Roost include breeding roosts for lesser horseshoe bats that support 100+ bats

Table 1: Non-statutory sites within 1km of the application site at Barge Inn

Site Name	Map Ref. (App 1)	Status	Description	Proximity (approx.)
Kennet & Avon Canal	SU06.049	LWS	Restored canal much used for recreation	80m North (boundary of the grassland field
Seend A361 Road Cutting Verge	ST96.039.1	Protected Road Verge	Ancient semi-natural broadleaved woodland	835m southeast

4.2 Habitats and Botany

Desk Study

4.2.1 Three nationally notable plants, including stinking chamomile (*Anthemis cotula*) and Welsh poppy (*Meconopsis cambrica*), have been recorded within 1km of the application site.

4.2.2 Eight county notable plants, including corn parsley (*Petroselinum segetum*), spotted medick (Medicago *arabica*), smooth brome (*Bromus racemosus*), rat's-tail fescue (*Vulpia myuros*), narrow-leaved pepperwort (*Lepidium ruderale*), pink water speedwell (*Veronica catenata*), Cyperus sedge (*Carex pseudocyperus*) and yellow-juiced poppy (*Papaver dubium* subsp. *lecoqii*) have been recorded within 1km of the development site.

Field Survey

4.2.3 The habitat descriptions should be read with reference to the Phase 1 habitat plan on **Figure 1** and photographs of the habitats are shown in **Appendix 2**.

Field

4.2.4 The field within which the development footprint sits is triangular in shape and comprises poor semi-improved (somewhat nutrient enriched) permanent grassland that is regularly cut, and which supports common grasses and forb species. There is an area of compacted bare ground at the field entrance that appears to result from regular vehicle access.

4.2.5 Grasses are dominated by meadow foxtail (*Alepocuris pratensis*) with rough meadow-grass (*Poa trivialis*), cock's-foot (*Dactylus glomerata*) and red fescue (*Festuca rubra*).

4.2.6 Forbs include creeping and meadow buttercup (*Ranunculus repens, R. acris*), clover (*Trifolium* sp), dandelion (*Taraxacum officinale* agg), ribwort and broad-leaved plantain (Plantago *lanceolata, R. major*), creeping and spear thistle (*Cirsium arvense, C. vulgare*), broad-leaved dock (*Rumex obtusifolius*), sorrel (*Rumex acetosa*), mouse ear (*Cerastium holosteoides*), dissected-leaved crane's-bill (*Geranium dissectum*), creeping cinquefoil (*Potentilla reptans*), lesser celandine (*Ranunculus ficaria*), nettle (*Urtica dioica*), ground elder (*Aegopodium podagraria*), hogweed (*Heracleum sphondylium*), cow parsley (*Anthriscus sylvestris*), hemlock (*Conium maculatum*), yarrow (*Achillea millefolium*), silverweed (*Potentilla*

anserine), mugwort (*Artemisia vulgaris*), cuckooflower (*Cardamine pratensis*), bristly ox-tongue (*Picris echioides*) and ground ivy (*Glechoma hederacea*).

Boundary habitats (retained)

4.2.1 The application site field is bounded to the southeast and southwest by hedgerows (H1 and H2), with the application site situated within the southwest corner of the field. The proposed vehicle access will use an existing vehicle gateway in Hedge H1.

4.2.2 Hedge H1 supports a total of 7 native woody species including hawthorn (*Crataegus monogyna*), English elm (*Ulmus procera*), blackthorn (*Prunus spinosa*), field maple (*Acer campestre*), ash (*Fraxinus excelsior*), goat willow (*Salix caprea*) and holly (*Ilex aquifolium*), with bramble (*Rubus fruticosus* agg) growing through. Ground flora includes common ruderal and shade-tolerant plants such as thistles (*Cirsium* sp), nettle (*Urtica dioica*), cleavers (*Galium aperine*), cuckoo pint (*Arum maculatum*) and ivy (*Hedera helix*). The southern half of the hedge is associated with an ephemeral drainage ditch that supports hairy willowherb (*Epilobium hirsutum*).

4.2.3 Hedge H2 supports a total of 4 native woody species including hawthorn, blackthorn, goat willow and elder (*Sambucus nigra*), but bramble dominates. The hedge is associated with an ephemeral field drain.

4.2.4 To the north of the application site, the northern field boundary is formed by the canal, with the canal bankside comprising a combination of bare earth, bramble (cut to ground level) and forbs including hairy willowherb (*Epilobium hirsutum*), nettle (*Urtica dioica*), thistles (*Cirsium* sp), cleavers (*Galium aperine*), broad-leaved dock (*Rumex obtusifolius*) and hard rush (*Juncus inflexus*). Trees and shrubs include hawthorn, goat willow, alder (*Alnus* sp) and ash (*Fraxinus excelsior*). Alongside the lock is mown amenity grass and ornamental shrub planting.

4.2.5 Along the northern field boundary and set back from the canal edge is a mature ash tree (T1), with 15m canopy spread, with hawthorn and elder growing underneath.

Notable habitats or plants

4.2.6 The habitat directly affected by the proposed development is classed as being of low ecological value. All plants recorded on-site are common/widespread species (no national or county notable species recorded), and no notifiable invasive plant species were recorded.

4.3 Bats

Desk study

4.3.1 The 1 km data search confirmed there are records of eight species/groups of bat including common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), Nathusius's pipistrelle (*P. nathusii*), Natterer's (*Myotis nattereri*), Daubenton's (M. daunbentonii), *Myotis* bats, serotine (*Eptisicus serotinus*) and greater horseshoe (*Rhinolophus ferrumequinum*). Daubenton's, and serotine have confirmed roosts within the local landscape. Most of these were small roosts with a count of one bat, but the dataset included the following important roost:

- **Serotine bat** – a maternity roost within the 1 sq km NGR area ST 9259 (exact location withheld). Peak count of 63 bats (23/06/2020) and records dating back to 2007.

4.3.2 The records of greater horseshoe and lesser horseshoe bats within the 4 km data search area are listed in Table 2. The locations are withheld, but proximity to the application site is provided where sufficient information on the location is given by WSBRC.

Table 2: Records of lesser and greater horseshoe bat roosts within 4km

Roost Ref	Proximity or grid reference	Bat Species	Description
1	1.5km	Lesser horseshoe	Maternity roost records from 2020 and 2021 with a peak count of 150+ bats (29/07/2021). Hibernation records from 2020 and 2021 with a peak count of 13 bats (27/11/2020).
		Greater horseshoe	Hibernation roost count of 1 bat (09/12/2020)
2	ST 9260	Greater horseshoe	Roost count of 14 bats (14/05/2011)
3	ST8962	Greater horseshoe	Roost count of 1 bat recorded between June and Sept 2014
4	ST9063	Lesser horseshoe	Roost count of 4 bats (20/10/2021)
5	1.63km	Lesser horseshoe	Roost count of 20 bats (03/06/2020)
6	ST9360	Greater horseshoe	Hibernation site with roost count of 1 bat (03/01/2017)

Potential Bat Roosts

4.3.3 There are no mature trees or structures within the application site itself. The boundary hedges (H1 and H2) do not support trees with any potential roosting features and the mature ash (T1) has no/negligible bat roost potential. Roosting bats are not a constraint for the proposed development.

Foraging and commuting bats

4.3.4 The habitat directly affected by the proposals (footprint of stables) comprises poor semi-improved and mown grassland, which is of low value for bats and not considered critical for maintaining local bat populations. There are limited foraging opportunities for lesser or greater horseshoe bats within the application site, and wider grassland field. The mown grassland does not meet the requirements for high quality foraging for species, such as lesser and greater horseshoe bats (Duvergé and Jones, 1994; Bontadina at al., 2002). Both species show a preference for grazed permanent pasture that will support a high biomass of dung insect prey. This is recognized by local planning authorities that use bat habitat appraisals to assess impacts on important bat populations associated with SACs, such as the 'Habitat Evaluation Procedures' (HEP) adopted by North Somerset Council in their Supplementary Planning Document (for The North Somerset and Mendips Bat Sites SAC, which is designated for lesser and greater horseshoe bat populations). The HEP provides a basis for understanding how rare horseshoe bats use the landscape and where there is likely to be greater risk or opportunity for development. The HEP assigns a Bat Habitat Suitability Index (HSI) to semi-improved grassland for lesser horseshoe bats of 3 out of 6 and greater horseshoe bats 4 out of 6, and management code multiplier of 0.25 and 0 respectively for regularly mown grassland (i.e. regular mowing reduces the HSI by one-quarter for lesser horseshoe bats and is nil for greater horseshoe bats).

4.3.5 Both lesser and greater horseshoe bat populations mostly have a single focus colony roost when breeding, and SAC consultation zones (and Core Areas) are based on the requirement for good quality habitats to be within the 'core sustenance zone' of important roosts. Bat activity decreases in density in the landscape the further removed feeding areas are from the (roost) centre (as shown by studies such as Rainho & Palmeirim, 2011; Rosenberg & McKelvey, 1999). At a distance of 1.5 km from the lesser horseshoe maternity roost at roost location ref. 1 (listed in Table 2), the application site is beyond the foraging range for juvenile bats and adult bats are predicted to be present at a low density. As a guide, radio-tracking studies of lesser horseshoe bats in Monmouthshire determined the density of lesser horseshoe bat foraging in woodland decreased from 5.8 bats per hectare within 200 metres of the maternity roost to one bat per hectare at 390 metres and 0.01 bats per hectare at 1200 metres (1.2 km).

4.3.6 Notwithstanding this, bats use established 'corridors' to commute between their summer roosts (including maternity sites), winter and transitory roosts, and to and from foraging areas. The canal corridor and boundary hedgerows all provide suitable habitat to support foraging bats, where prey items are likely to be present, and the commuting bats will use the sheltered vegetation

as a navigational route through the local landscape. These features within the application site field will be retained and protected.

4.4 Other mammals

4.4.1 There are records of badger (*Meles meles*) within the local landscape. No badger setts were recorded within the site or on the immediate boundary. No evidence confirming the presence of badger was found during the survey (e.g. latrines/dung pits, well-worn paths etc.) and badger is not considered to be a constraint for the proposed development.

4.4.2 There are no records of hazel dormouse (*Muscardinus avellanarius*) and the habitat directly affected by the proposed scheme is not suitable for supporting dormouse. Boundary hedgerows will be retained and the proposed development will not introduce any detrimental effects (e.g. predators such as cats).

4.4.3 There are records of water vole and otter associated with the Kennet & Avon Canal. However, the canal and bankside habitat is retained and remains unaffected by the proposed development. These species are not a constraint for the proposed development.

4.4.4 There are records of hedgehog (*Erinaceus europaeus*) and brown hare (*Lepus europaeus*). The boundary hedgerow provides opportunities for foraging hedgehog, while brown hare could forage/traverse the application site.

4.5 Birds

4.5.1 There are records of some notable birds within 1km of the application site, including farmland and hedge/scrub/garden species such as starling (*Sturnus vulgaris*), linnet (*Linaria cannabina*), house sparrow (*Passer domesticus*) and spotted flycatcher (*Muscicapa striata*). Winter visitors include fieldfare (*Turdus pilaris*) and summer visitors include swift (*Apus apus*). Birds of prey include red kite (*Milvus milvus*) and hobby (*Falco subbuteo*). Kingfisher (*Alcedo atthis*) has been recorded along the canal.

4.5.2 Common hedgerow birds including blackbird (*Turdus merula*), robin (*Erithacus rubecula*), goldfinch (*Carduelis* carduelis), chaffinch (*Fringilla coelebs*) and wren (*Troglodytes troglodytes*) were recorded in adjacent hedgerow / scrub and some are very likely to nest within this habitat. However, none of this habitat will be removed.

4.5.3 The application site field is unsuitable for ground nesting species being small, enclosed by hedges, suffering disturbance from walkers, and having overhead cables across the site. No evidence of ground nesting bird species was recorded during the survey.

4.5.4 The application site field, being regularly cut, provides sub-optimal foraging habitat for barn owl (*Tyto alba*) and other birds of prey, which prefer to hunt over long grass which better supports their prey (i.e. small rodents such as field vole). Therefore, the development site for most of the time is unlikely to

provide optimal foraging habitat for barn owl, and is therefore highly unlikely to be critical to maintaining local populations.

4.6 Reptiles

4.6.1 There are two records of grass snake (*Natrix helvetica*) associated with the Kennet & Avon Canal.

4.6.2 The habitat contained within the application site and directly affected by the proposed development footprint is unsuitable for supporting reptiles being regularly cut grassland. Boundary habitats including the canal, ditches and hedgerows will remain intact and unaffected and grass snake will be able to move through the area unaffected.

4.7 Great crested newt

4.7.1 There are no records of great crested newt or other amphibians within 1km of the development site. There are no ponds within the application site or within 250m of the site. Two small field ponds show on the OS map between 275 and 385m to the southeast are separated from application site by a road, which will act as a barrier to movement in the direction of the site.

4.7.2 The habitat contained within the application site and directly affected by the proposed development footprint is unsuitable for supporting great crested newt or other amphibians in their terrestrial state being regularly cut grassland.

5 Assessment

5.1 Introduction

5.1.1 **Appendix 3** provides details of relevant legislation. The protection afforded to key habitats and species by the legislation has informed the scope of the ecological studies undertaken to determine baseline conditions and guided measures that will protect and benefit valued ecological resources associated with the site.

5.1.2 In accordance with national and local biodiversity planning policy and CIEEM best practice ecological impact assessment guidelines, adverse ecological impacts have been completely removed or significantly reduced by siting the proposed development within grassland of low ecological value and the existing field access will be used to avoid boundary habitats with more local value such as the hedgerows.

5.1.3 This avoids and minimises adverse impacts on protected/notable species that may be breeding, foraging or migrating within the local landscape. The impact of the grassland habitat loss is not considered to be significant, and the

proposed development also includes habitat creation, in the form of native screen planting, to compensate for any habitat loss and which will be available for wildlife to use.

5.2 Designated Sites

5.2.1 The Kennet & Avon Canal LWS (locally designated nature conservation site) is approximately 80m from the application site and is outside the development footprint. The canal is evaluated as being important at a county level. It will be retained and has been protected by observing a suitable exclusion zone between the watercourse and application site. As such there are no identified potential impact pathways between the proposed development and this designated site. The proposed development will not alter local environmental/abiotic conditions associated with the local designated site. Therefore, the proposed stables will have no effect on the existing baseline conditions, in terms of habitat structure/function and supported wildlife, associated with the Kennet & Avon Canal.

5.2.2 The impact of the proposed development on the Kennet & Avon Canal LWS is *neutral*, and no additional mitigation is required. This is in accordance with Wiltshire Core Policy 50.

5.3 Habitats

Boundary Features

5.3.1 The proposed scheme does not require any removal/loss or fragmentation of existing boundary hedgerows (H1 or H2) or any bankside vegetation along the canal.

5.3.2 The proposed stables building and yard is located within the southwest corner of the field, allowing for a stand-off to the hedgerow boundary for tree root protection. This can be managed through clear delineation for the development footprint and the good site working practices recommended in Section 6.

Grassland

5.3.3 The proposed development footprint (for the stables building and hardcore yard) is 1160m^2 (0.116ha). This will result in the loss of poor semi-improved grassland that is evaluated as being important within the Local (Site) context only. The application site is located close to the existing field entrance, where there is compacted bare ground caused by regular vehicle access. The existing bare ground accounts for approximately 44 m^2 of the application site area.

5.4 Bats

5.4.1 The potential effects of the proposed development will be fully contained within the application site, and will not alter the existing baseline conditions of the European designated sites for bats covered by the *Bat Special Areas of Conservation (SAC) Planning Guidance for Wiltshire* (see Section 4.1) in terms of habitat structure and function, or pressures on the sites, and will have no impact on the known bat roosts associated with qualifying species at the European sites or the lesser horseshoe roost within in the wider local landscape that is considered to be a Core Roost that is functionally linked to the Bath and Bradford on Avon Bat SAC (as discussed in Section 4.1). There are no buildings or potential bat roost trees are being removed or adversely affected to facilitate the proposed development.

5.4.2 The proposed development will result in the loss of 1160 m^2 (0.116 ha) of mown grassland being replaced with buildings/hard-standing (with a further 600 m^2 (0.06 ha) of other non-grazed grassland and landscape planting being provided as habitat enhancement, as detailed in Section 7.

5.4.3 This loss of grassland can be quantified at different landscape scales as follows:

- 13.1% of the grassland field within which the application site is located (8813 m^2 /0.8813 ha).
- 0.0001% of land within a 2km radius of the lesser horseshoe roost at Roost Ref. 1 in Table 2 (i.e. the 1256 ha landscape area around the roost) – that is the Core Area for adult bats at the roost.

5.4.4 Furthermore, 600 m^2 of land within the application site field will be enhanced with additional tree planting and wildflower grassland.

5.4.5 The canal corridor and the field boundary hedgerows/ditches will remain intact and undisturbed both physically and environmentally through provision of buffers. Retention and protection of the canal and hedgerows will ensure continuous connectivity between foraging habitats surrounding the application site.

5.4.6 The proposed development may require modest external, artificial lighting. and without control this could illuminate existing or proposed new habitats being used by bats, which would be a negative impact. This potential adverse impact will be addressed by developing and implementing appropriate mitigation including a suitable lighting design (see Section 6). There are roof lights in the stables, but given the nature and use of the building the requirement for internal lights will be relatively limited, such as periods during the day when the horses are being cared for. Internal lights are not expected to be used for long periods throughout the night and therefore light spill from the roof lights is not predicted to have significant impact on adjacent habitats.

5.4.7 A significant adverse effect on the integrity of the Bath and Bradford on Avon Bat SAC must be a significant loss or damage of critical habitat that would lead to a risk of damaging the viability of the SAC core roosts (both breeding and hibernation) in such a way so as to impact upon the distribution of the qualifying bat species within its natural habitat range.

5.4.8 It is therefore important to recognise that the application site field, which is under the direct control of the applicant, will be retained and used as a horse paddock. Furthermore, some of the land within the application site will be enhanced with additional tree planting and creation of more botanically rich wildflower grassland areas.

5.4.9 The proposed scheme has been designed in accordance with the *Bat Special Areas of Conservation (SAC) Planning Guidance for Wiltshire* (Wilshire Council, Issue 3.0, September 2015). In particular this proposed development incorporates the following avoidance mitigation, compensation and enhancement features:

- Not removing / adversely affecting any known bat roosts or potential bat roosting habitat/features;
- Not significantly reducing the extent or connectivity of existing bat foraging and commuting habitat;
- Managing application site field boundary and fringing habitats to extend, strengthen and enhance bat foraging and commuting habitat;
- Establishing appropriately wide stand-off buffers along existing boundary hedgerows;
- Integrating appropriately designed external lighting within the scheme to protect existing and future foraging and commuting bat habitat; and
- Incorporating a bat roosting feature into the new building (albeit not targeted at horseshoe bats but instead crevice-dwelling species).

5.4.10 It is concluded that the replacement / removal of a small extent of permanent mown grassland will not result in any significant loss or damage to the Bath and Bradford on Avon Bat SAC, or the populations qualifying bat species.

5.4.11 It is possible to conclude 'with reasonable scientific certainty' that the proposal would not have an adverse effect on the integrity of the Bath and Bradford on Avon Bat SAC taking into consideration the following issues:

- The proposed scheme will not destroy, damage or significantly disturb the population of the designated qualifying bat species (for example, breeding or hibernating lesser horseshoe bats and their roosts);
- The proposed scheme will not harm ecological connectivity within the wider landscape, for example, removing or significantly damaging/fragmenting a hedgerow that could help to support SAC qualifying bat species;

- The proposed scheme will not reduce the ability of the Bath and Bradford on Avon Bat SAC to support the designated bat species within their natural range within the county; and

- The proposed scheme does not restrict access to habitat resources that are important to the Bath and Bradford on Avon Bat SAC qualifying bat species.

5.4.12 The bat habitat appraisal provides sufficient information to predict impacts on local bat populations, including lesser and greater horseshoe bats. Therefore, no further bat baseline survey data is necessary to allow Wiltshire Council to complete an Appropriate Assessment (Habitat Regulations Assessment).

5.4.13 With appropriate scheme design to avoid adverse affects from artificial lighting, the impacts on bats is *neutral*,. This is in accordance with Wiltshire Core Policy 50.

5.5 Great crested newts

5.5.1 The application site is within a district licensing area for great crested newts, but there are no ponds within 250m of the site and WSBRC did not return any records of great crested newts within a 1 km search area. A habitat appraisal of ponds within 500m of the Site concluded they are disconnected from the application site by landuse and landscape features, such as roads that form a barrier. Furthermore, the grassland within the application site does not provide suitable terrestrial habitat for great crested newts as it is regularly mown and has a uniform structure. Hedgerow boundaries that can provide wildlife corridors for newts will be retained. This assessment of likely absence of great crested newts is supported by research published by English Nature (now Natural England) that has shown there is a strong relationship between the proximity of breeding ponds and the likelihood of capturing great crested newts (during studies of capture and exclusion exercises within mitigation projects). This research has shown that measures to avoid significant disturbance, killing and injury (through trapping and translocation) are most effective within a 50m radius of a breeding pond (Cresswell and Whitworth, 2004).

5.5.2 It is therefore concluded great crested newts are likely to be absent from the application site and there are no predicted adverse impacts on great crested newt populations.

5.6 Other Species

5.6.1 Hedgehog is a priority species due to declining populations. They could be present within boundary habitats. The proposed development does not directly impact these areas and therefore the risk of damaging or destroy hedgehog habitats is neutral. Any adverse indirect impacts during construction will be removed through implementing appropriate safeguards.

5.6.2 Other locally common mammals (such as hare) that could also traverse the application site, and there is potential to damage or kill animals (through entrapment) if undertaken without appropriate safeguards. If this were to happen this is a negative impact. This adverse impact will be removed through implementing appropriate mitigation (see Section 6).

5.6.3 There are no predicted impacts on nesting birds. The application site is unsuitable for ground nesting birds and boundary hedgerows will be retained. Nesting birds are not a constraint for the proposed development.

5.6.4 Reptiles are not considered to be present and are not a constraint for the proposed development.

5.6.5 Otter and water vole are not predicted to traverse the application site and the adjacent field ditches are largely unsuitable for these species.

5.7 Further Survey Work

5.7.1 No further survey work is considered necessary to assess the potential impacts of the proposed development on land at Barge Inn, Seend Cleeve. The current baseline is considered sufficient to allow appropriate mitigation strategies to be developed.

5.7.2 There was not access permission to ponds within 500m of the application site, but these features have not been identified as significant ecological receptors and a great crested newt HSI of these waterbodies is not required for the ecological impact assessment.

6 Mitigation

6.1 Protecting retained boundary habitats

6.1.1 All retained boundary vegetation including hedgerow/ditches and the canal corridor with scrub and trees will have root zones, which can extend wider than the canopy, protected from compaction or physical damage. This will be achieved through avoidance with appropriately sized buffers. Working areas may need to be clearly delineated to prevent vehicles and machinery from encroaching upon and damaging vegetation that is to be retained.

6.2 Protecting Commuting and Foraging Bats (External Lighting)

Construction

6.2.1 Construction activities will be undertaken during normal, daylight working hours, thereby avoiding the need for artificial lighting.

Operation

6.2.2 The proposed scheme design will limit the impact of light pollution on commuting and foraging bats through the careful use of external lighting in critical areas only and preferably positioned at a low level with no upward and minimal outward spill.

6.2.3 The proposed development scheme should be implemented in accordance with an agreed lighting design, which will be based upon best practice guidance set out in the Bats and Lighting in the UK (Bat Conservation Trust and Institution of Lighting Professionals, 2018). The scheme will minimise artificial lighting within the development site and protect important bat habitat, using the following principles:

- External lighting should be restricted to critical areas only, for example doorways to the stables and sign shop.
- Access road lighting should be unlit, except for low bollard lighting at gated entrances if needed. This lighting will need to be directed away from the potentially important boundary hedgerow commuting / foraging habitat to ensure there is no significant increase in ambient night-time light levels;
- Lighting directed to where needed with upward light spill avoided and outward light spill minimised. This should be achieved through use of features such as low bollard heights and use of diffused, downward pointing and unidirectional lighting;

- Lighting should use the correct and recommended LED luminaires to minimise/avoid ultraviolet emissions (use of warm colour temperature lights), and which have a sharp cut-off; and

- Use of timers on lights to ensure periods of complete darkness through each night.

- Studies on bats and lighting indicate that light levels on hedgerows most regularly used by lesser horseshoe bats is 0.45 Lux (Stone et al., 2009) and significant impacts occur when light levels are 3.6 Lux or above (Stone et al., 2012). Therefore, scheme design should ensure boundary hedgerows are maintained at below 0.5 Lux.

- This predicted level of lighting is below the maximum Lux level limits recommended in recently published research (Zeale et al., 2018), which states that light levels on commuting hedgerows should not exceed 0.74 Lux for lesser horseshoe bats.

- Finally, the entire application site field will be under the direct control of the applicant / landowner. This ensures the long-term protection of the retained bat commuting / foraging corridors along the site boundaries and avoids any potential risk of habitat degradation or destruction, for example through vegetation removal or inappropriate cutting, or installation of new inappropriate external lighting.

6.3 Protecting hedgehog and other common mammals

6.3.1 Mitigation to ensure protection of common mammals that may traverse the application site during construction includes:

- Any excavations or trenches that need to be left overnight should either be covered or fitted with a mammal ramp to ensure that any animals that enter the hole can safely escape; and

- Any open pipework with an outside diameter of greater than 120 mm must be covered at the end of each work day to prevent animals entering/becoming trapped; and

- All excavations, trenches or open pipework should be inspected first thing each morning. If an animal is found an ecologist should be consulted.

7 Enhancement

7.1 Tree planting and wildflower grassland

7.1.1 Landscape planting for the proposed scheme will include a 600m^2 strip of tree planning and wildflower grassland between the footpath and canal, as shown on the Block Plan as Proposed Site, Drawing No. 4033-20B (Figure 2).

7.1.2 The proposal is to plant 20 trees. Tree species will be native and should be sourced from a reputable nursery preferably using stock derived from a local provenance. Species that are fruit or berry producing to maximise benefits for birds are included. Native tree specimens will be incorporated into the planting scheme including field maple (*Acer campestre*), wild cherry (*Prunus avium*), wild service tree (*Sorbus torminalis*), beech (*Fagus sylvatica*), crab apple (*Malus sylvestris*) and hawthorn (*Crataegus monogyna*).

7.1.3 New planting should preferably take place between November and March, and newly planted areas should be inspected regularly to confirm establishment or identify remedial action. Any dead plants should be replaced with new plants of the same species.

7.1.4 The wildflower grassland will be established using an appropriate seed mix obtained from a reputable seed house. It is recommended that Emorsgate EM2F (standard general purpose wild flowers) or Naturescape N1F (general purpose mix flowers) or equivalent be used. The wildflower seed mix will supplement the existing grass seedbank.

7.1.5 The land to support wildflowers will be prepared carefully before seeding. The grassland will be prepared in late summer by cutting the sward very hard, while creating gaps in the sward (aiming to create 50% bare soil) either by harrowing or by raking. Alternatively grass patches or strips can be sprayed-off using herbicide.

7.1.6 The wildflower seed mix will be sown preferably in the autumn (August-September) or alternatively spring (March-April). The seed will be surface sown and must not be covered with additional soil but instead rolled to give good soil/seed contact. Seeds will be sown at the rate specified by the supplier.

7.1.7 Most sown grassland species will be perennial and will be slow to germinate and grow. There will often be a flush of annual weeds in the first growing season, which will be controlled by topping or mowing. A minimum of three cuts will be undertaken in the first year (when the crop exceeds 15cm) with the clippings removed. This regime may also be required in the second year.

7.1.8 Once established the wildflower grassland will be managed with an annual cut. The grassland will be left un-cut from spring preferably through to early

August to give the sown forb species an opportunity to flower and set seed. After flowering a cut will be undertaken to about 50mm sward height. The cut grass will be left *in situ* to dry and shed seed for 3-7 days (depending on prevailing weather).

7.1.9 Cut grass must be collected and removed from the grassland to avoid a build-up of nutrients that would favour more competitive, vigorous and undesirable plants.

7.1.10 Re-growth of the sward will be kept at a height of about 50mm by regular mowing, which should continue until late autumn (e.g. end of October).

7.1.11 Some weed control may need to be implemented when required, which could involve hand pulling of self-set, young woody species as well as the targeted use of herbicide for docks/thistles or other invasive or undesirable species which could appear.

7.2 Bat and bird boxes on building and trees

7.2.1 To provide an enhancement for bats, one bat box that can be integrated into the fabric of the external south elevation wall of the stables will be installed to provide isolated roosting habitat for crevice-dwelling bat species. The proposed location for the bat box is shown on drawing 4033-20B (**Figure 2**) and should be installed as high above the ground as possible, preferably at the apex of a gable.

7.2.2 Two swift (*Apus apus*) nesting boxes will also be installed on the new building. Nest-boxes, which can be integrated into the fabric of an external wall or bolted onto an external wall/under eaves, will be installed. The boxes will be placed on the north external wall as this provides shelter from direct sunlight. The proposed location of the swift boxes is shown on drawing 4033-20B (**Figure 2**).

7.2.3 The open fronted machine store (see drawing 4033-22B, **Figure 4**) will also provide opportunities for barn swallow (*Hirundo rustica*) to nest at the site.

7.2.4 The range of products from manufactures of prefabricated integrated bat boxes for buildings can be viewed on-line (e.g. www.nhbs.com or www.wildcare.co.uk).

8 Residual Effects

8.1.1 In accordance with biodiversity planning policies and CIEEM best practice guidelines adverse ecological impacts have been significantly reduced by positioning the proposed new stables and yard within habitat of low ecological value.

8.1.2 Residual adverse impacts include the loss of poor semi-improved grassland that will be replaced with a new building and sealed (stone) surface. The residual ecological impact is low and is not considered to be ecological significant beyond the site as it represents a very small loss of grassland within the farmland and local landscape context, with significant amounts of grassland retained within the application site field and extensive pasture available within the local landscape for wildlife species to continue to use.

8.1.3 The scheme includes the planting of 20 trees and 600m^2 of the retained agricultural grassland will be floristically enhanced to create a wildflower area by the canal. The new habitats will benefit a range of wildlife including protected/notable species found in the local landscape such as bats, birds, hedgehog and insects including butterflies and moths.

8.1.4 The Defra Biodiversity Small Sites Metric V4.0 has been used to quantify 'habitat' losses/gains based on information from the Phase 1 habitat baseline survey and the proposed scheme design (see **Figure 2**).

8.1.5 The calculated changes in baseline and proposed BNG habitats are summarised in the table below.

Existing habitats			**Proposed habitats**		
Type	**Size (ha)**	**Condition**	**Type**	**Size (ha)**	**Condition**
Modified grassland	0.1716	Moderate	Other neutral grassland	0.0600	Good
Developed land, sealed surface	0.0044	n/a	Developed land, sealed surface	0.1160	n/a
Total areas	0.176			0.176	
Type	**Number**	**Condition**	**Type**	**Number**	**Condition**
Trees	0	n/a	Trees	20	n/a

8.1.6 For this development, habitat gains are calculated to be:

- Habitat baseline habitat units = 0.6864
- Habitat: total net unit change = +0.0837 units (total net percentage change = 12.2%)

8.1.7 The proposed development therefore provides an acceptable biodiversity gain (BNG targets met and biodiversity trading rules have been satisfied).

8.1.8 The scheme design also includes one bat box and two swift nest boxes.

8.1.9 Given the absence of a residual ecological adverse impact associated with the proposed scheme combined with appropriate and proportionate habitat creation, the residual ecological effect of the proposed development is considered to be positive in a *Local (Site)* context.

8.1.10 The proposed development complies with both national and local planning policies (NPPF and Wiltshire Council's Core Policy 50) to maintain and enhance biodiversity, in particular those habitats and species found on or adjacent to the application area that are identified as priorities in the UK and Wiltshire.

References

Bontadina, F., Schofield, H. and Naef-Daenzer, B. (2002), *Radio-tracking reveals that lesser horseshoe bats (Rhinolophus hipposideros) forage in woodland*. Journal of Zoology, 258: 281–290.

CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester

Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn*). The Bat Conservation Trust, London

Cresswell, W. & Whitworth, R. (2004). *An Assessment of the Efficiency of Capture Techniques and the Value of Different Habitats for Great Crested Newts*. English Nature Report 576.

Duvergé, L. & Jones, G. 1994. *Greater Horseshoe Bats – Activity, foraging behaviour and habitat use*. British Wildlife, 6, 69-77.

JNCC, 2010. *Handbook for Phase 1 Habitat Survey - a technique for environmental audit*. JNCC Revised reprint 2003, reprinted 2007 & 2010

Rainho, A. & Palmeirim, J. W. 2011. *The Importance of Distance to Resources in the Spatial Modelling of Bat Foraging Habitat.* PLoS ONE, April 2011.

Rosenberg, D. K. & McKelvey, K. S. 1999. *Estimation of Habitat Selection for Central-place Foraging Animals.* Journal of Wildlife Management 63 (3): 1028 -1038.

Figure 1. Habitat Plan

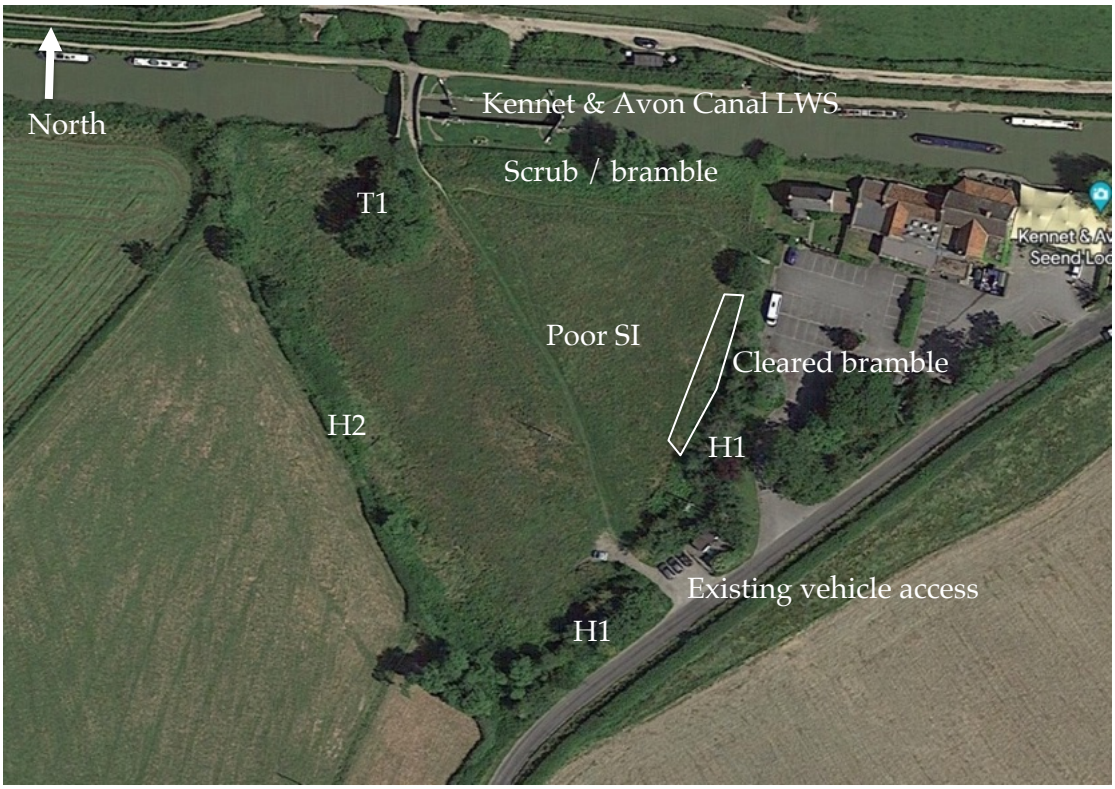

Figure 2. Location and Block Plan

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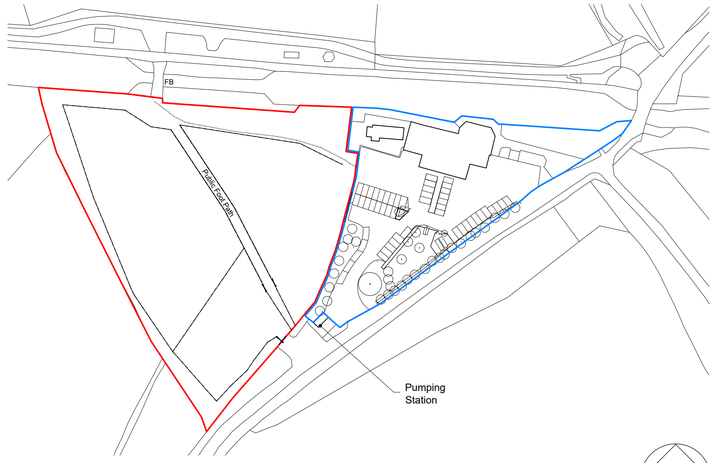
Any discrepencies between the drawing and site conditions should be reported to the Principal Designer



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LOCATION PLAN
Scale 1:1250

0 25m 50m 75m

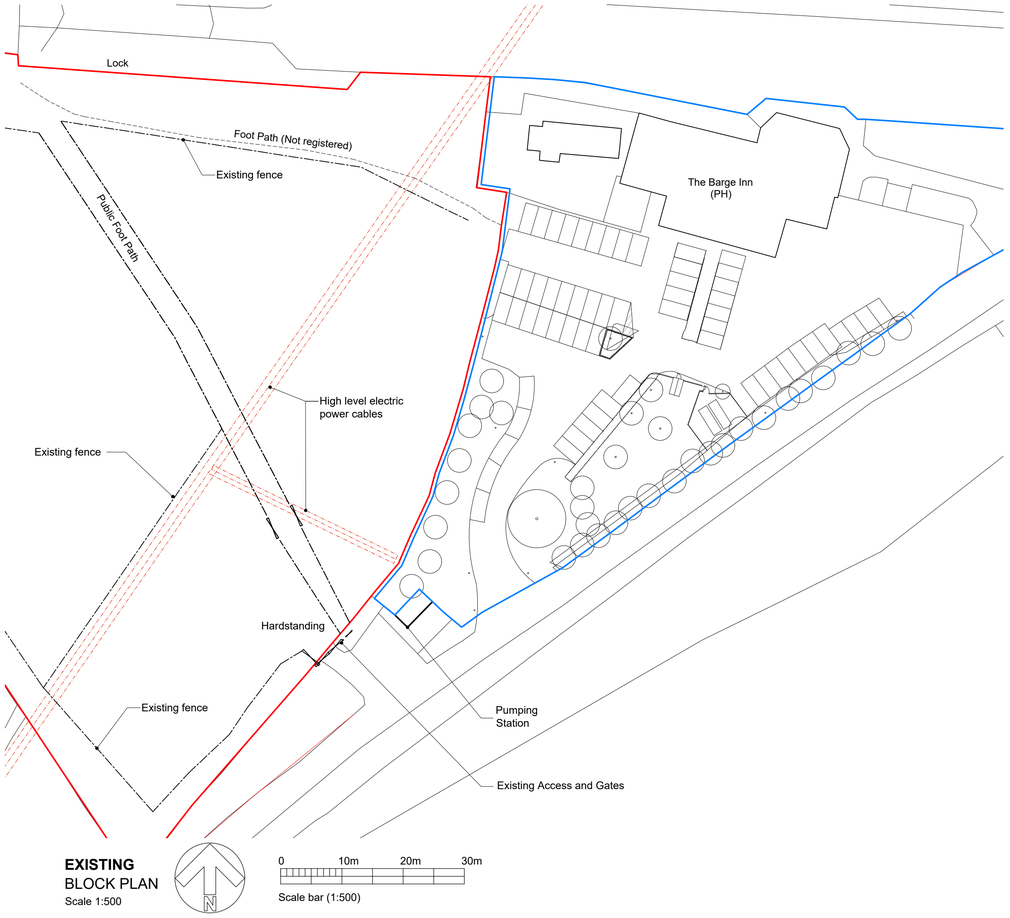
Scale bar (1:1250)



PROPOSED
BLOCK PLAN
Scale 1:500

0 10m 20m 30m

Scale bar (1:500)



EXISTING
BLOCK PLAN
Scale 1:500

0 10m 20m 30m

Scale bar (1:500)

Rev.	Date		Init
B	20.12.23	Fencing completed. Annotations updated. Ecology notes added.	EK
A	15.11.23	Topographical survey updated.	EK

CLIENT
Wadworth & Co Ltd
Northgate Brewery, Devizes

PROJECT
Stables for Shires Horses
Barge Inn, Seend Cleeve

DRAWING
Location & Block Plans as Existing & Proposed

DRAWN:	Date:	Scale:
EK	26/10/2023	Various @ A1

Drawing number: **4033-20** Rev. **B**

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Figures 3 & 4. Proposed Scheme

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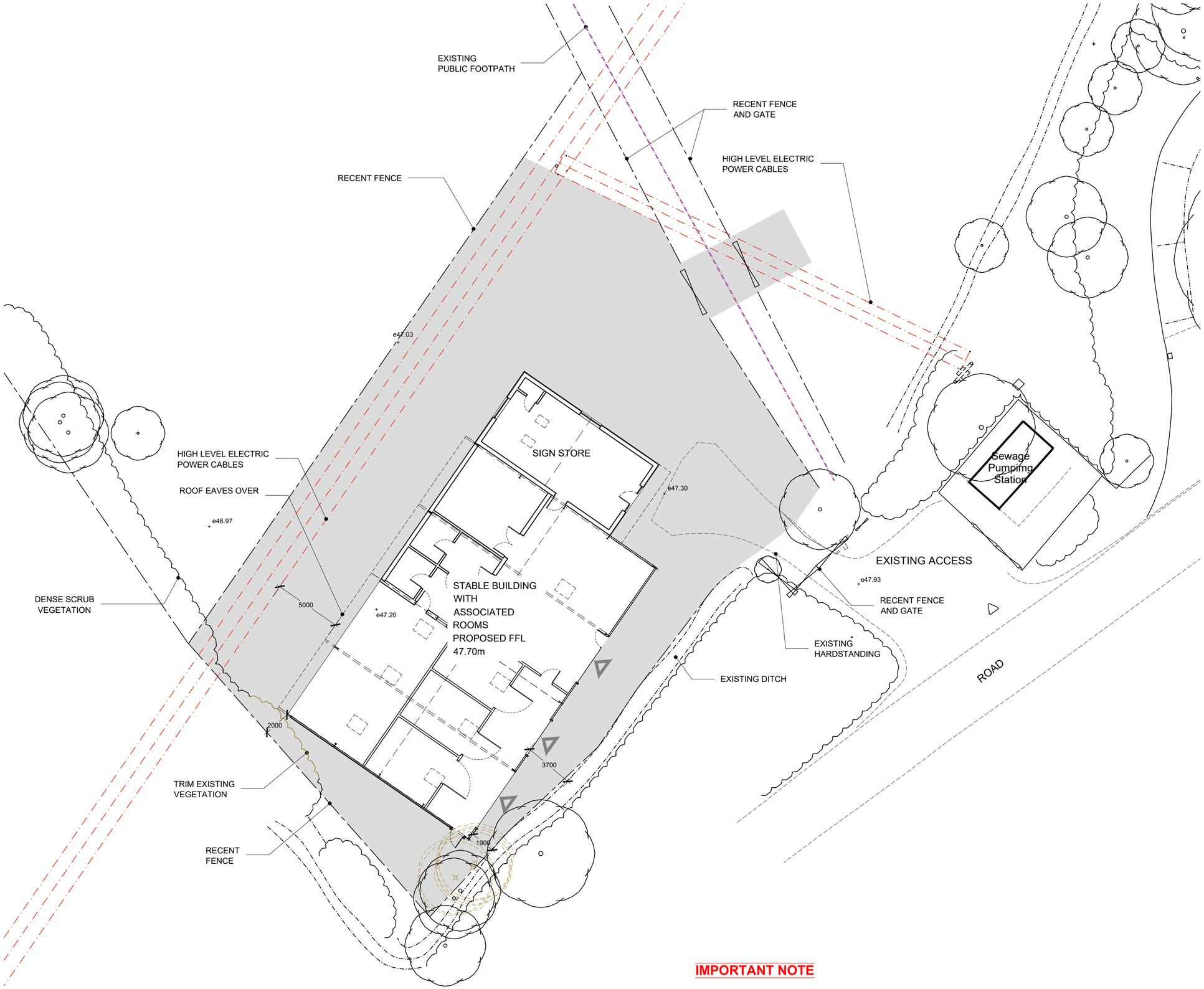
Contractor must take site sizes

Any discrepencies between the drawing and site conditions should be reported to the Principal Designer



KEY:

- TREE TO BE REMOVED
- EXISTING TREE
- NEW TREE
- + e47.93 EXISTING LEVEL
- TO BE REMOVED (HEDGE, FENCE)
- ROLLER SHUTTER DOOR (STABLE ACCESS)
- PROPOSED HARDSTANDING

PROPOSED
BLOCK PLAN Scale 1:200

0 2m 4m 6m 8m 10m 12m
Scale bar (1:200)

IMPORTANT NOTE

- Overhead electrical distribution line: 11kV (assumed)
- Clearance (Ground Level to underside of electrical distribution line) 7m

Rev.	Date		Init
B	20.12.23	Fencing completed. Annotations updated.	EK
A	15.11.23	Topographical survey updated to show recent fences and gates. Sign Shop relocated and layout amendments to meet Clients comments. Title block amended.	EK

CLIENT
Wadworth & Co Ltd
Northgate Brewery, Devizes

PROJECT
Stables for Shires Horses
Barge Inn, Seend Cleeve

DRAWING
Proposed Block Plan

DRAWN:	Date:	Scale:
EK	26/10/2023	1:200 @ A2

Drawing number: **4033-21** Rev. **B**

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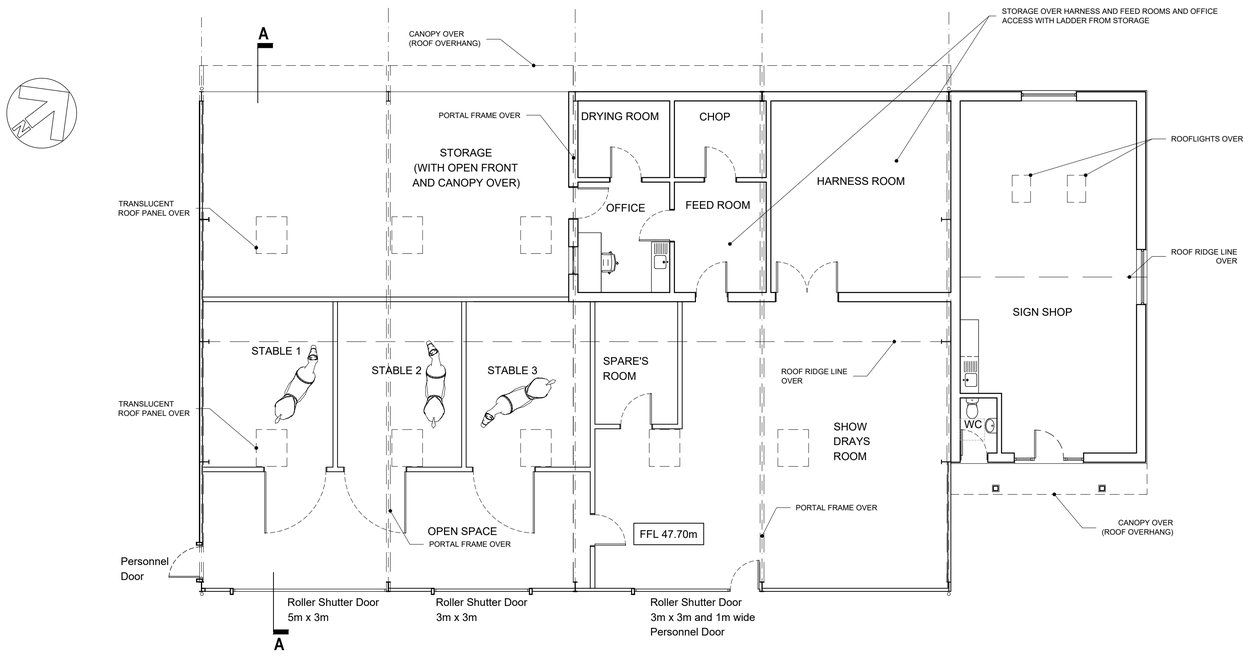
THIS DRAWING IS COPYRIGHT
Contractor must take site sizes

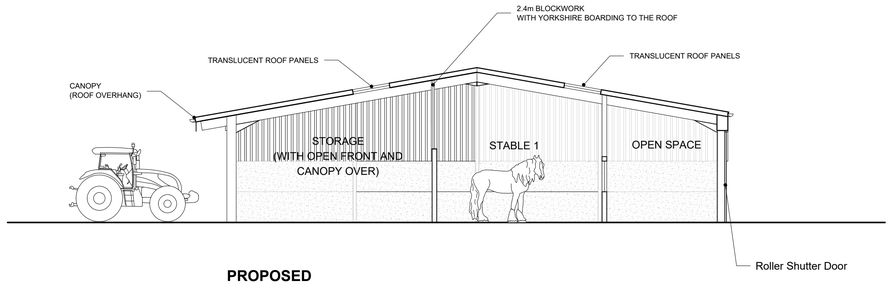
Any discrepencies between the drawing and site conditions should be reported to the Principal Designer



PROPOSED
FLOOR PLAN
Scale: 1:100

0 1m 2m 3m 4m 5m 6m

Scale bar (1:100)



PROPOSED
A-A SECTION
Scale: 1:100

0 1m 2m 3m 4m 5m 6m

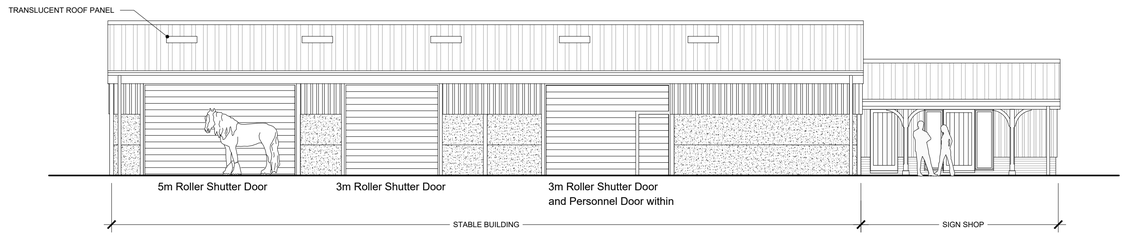
Scale bar (1:100)

Materials
Structure - Steel portal frame & gable posts

Walls - Concrete panels
- Yorkshire boarding

Roof - Insulated composite panel

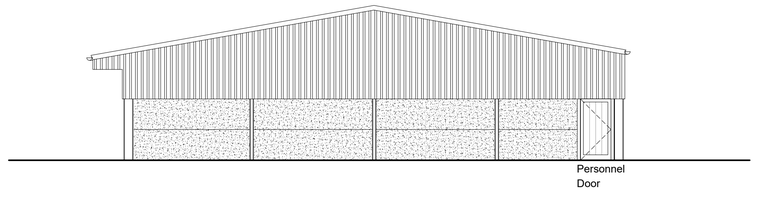
Doors - Steel personnel door
- Roller shutter (non) insulated



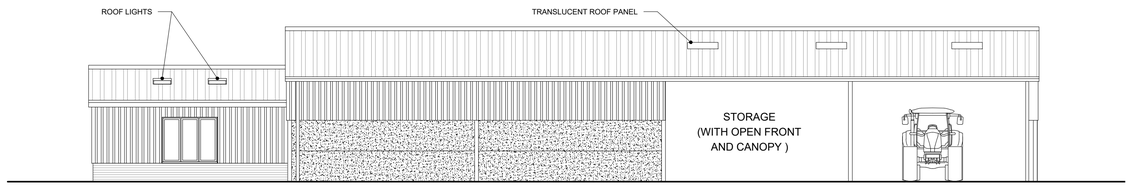
PROPOSED
EAST ELEVATION
Scale: 1:100

0 1m 2m 3m 4m 5m 6m

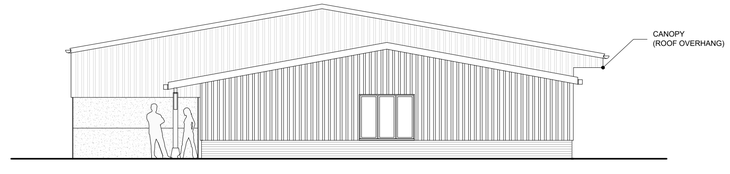
Scale bar (1:100)



PROPOSED
SOUTH ELEVATION
Scale: 1:100



PROPOSED
WEST ELEVATION
Scale: 1:100



PROPOSED
NORTH ELEVATION
Scale: 1:100

Rev.	Date		Init
B	20.12.23	FFL stated. Roof lights shown.	EK
A	10.11.23	Sign Shop relocated and layout amendments to meet Client's comments	EK

CLIENT
Wadworth & Co Ltd
Northgate Brewery, Devizes

PROJECT
Stables for Shires Horses
Barge Inn, Seend Cleeve

DRAWING
Proposed Plan, Section & Elevations

DRAWN:	Date:	Scale:
EK	26/10/2023	1:100 @ A1

Drawing number: **4033-22** Rev. **B**

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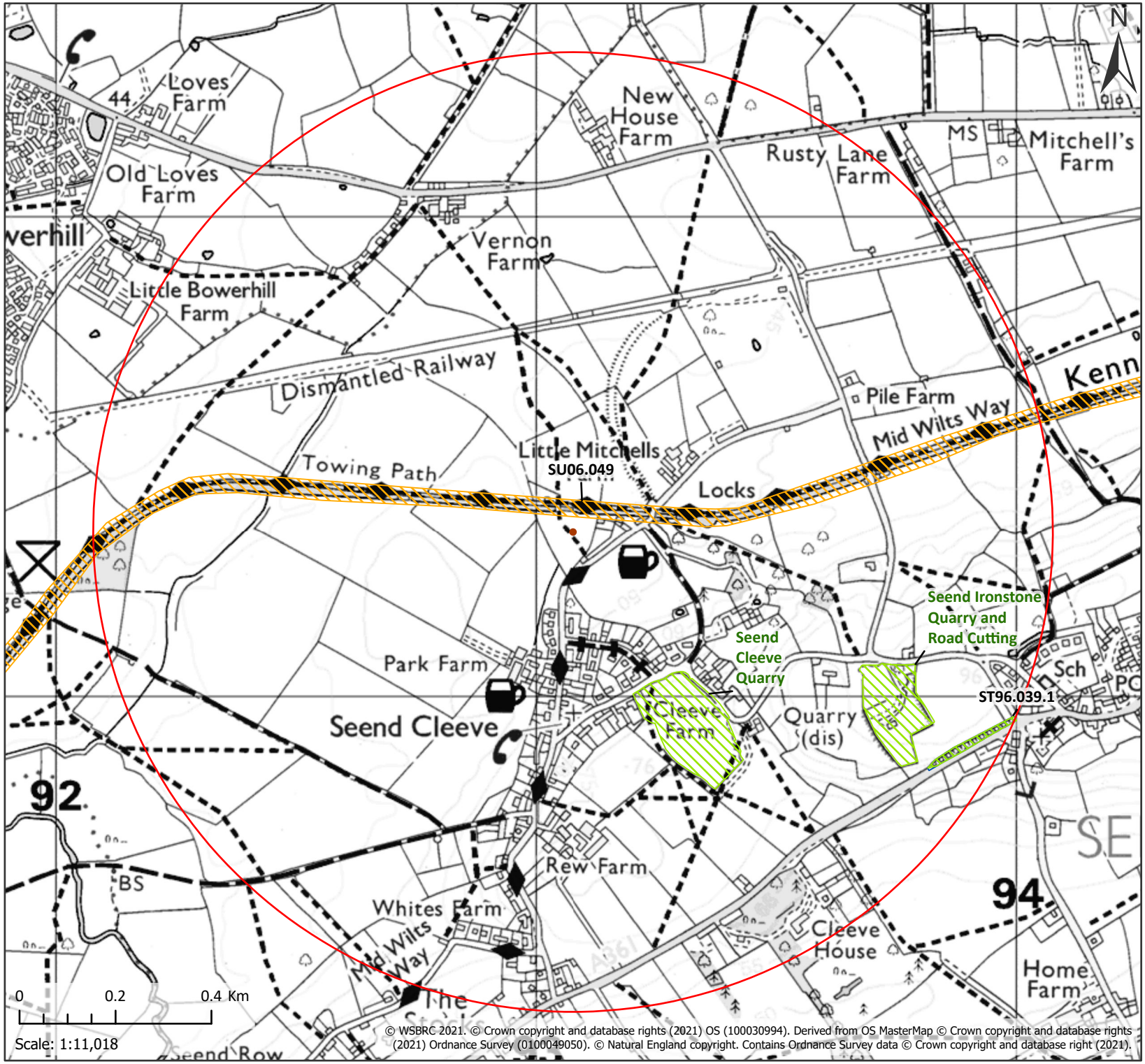
Appendix 1. WSBRC Designated Sites Plan



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WSBRC | Wiltshire & Swindon Biological Records Centre

Wildlife Sites within 1 km of Barge Inn: ST9307761343

28/04/2023

- Wiltshire Wildlife Trust Reserve
- Site of Special Scientific Interest
- National Nature Reserve
- Special Area of Conservation
- Special Protection Area
- Local Nature Reserve
- Local Wildlife Sites
- Local Geological Site
- Protected Road Verge
- Woodland Trust Reserve (boundary information only)
- Bat Consultation Zone

Appendix 2. Photographs

Photo 1. View of the proposed application site development plot



Photo 2. Existing and proposed access to the application site field – shows the area of compacted bare ground



Photo 3. Hedgerow H1 along the southeast boundary of the field



Photo 4. Hedgerow H2 that defines the west boundary of the field



Photos 5 & 6. Field boundary ditch with H2





Photo 7. Canal lock – looking toward the application site field	Photo 8. Application site field side view of the bank of bramble along the canal side
	
Photo 9. Mature ash tree T1	Photo 10. Area of cleared bramble on southern side of the application site field.
	

Appendix 3. Legislative Context and Licensing

Conservation of Habitats and Species Regulations 2017

In relation to wildlife and nature conservation, two key Directives have been adopted by the European Community. These are (i) Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds ("The Birds Directive" formerly 79/409/EEC); and (ii) Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora ("The Habitats Directive"). These Directives provide for the protection of animal and plant species of European importance and the habitats which support them, particularly through the establishment of a network of protected sites.

The Conservation of Habitats and Species Regulations 2017 comes into force from the 30th November 2017 and consolidate and update the Conservation of Habitats and Species Regulations 2010. The regulations provide for the designation and protection of European Sites, the protection of European protected species and the adaptation of planning and other controls for the protection of European Sites.

Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 (as amended) (WCA) consolidated and amended existing national legislation to implement the Convention of the Conservation of European Wildlife and Natural Habitats (The Bern Convention) and the Birds Directive. There have been various amendments since the original enactment. Schedules 1 and 5 of the Act identify species of bird and other animal in relation to which the Act makes killing, injury, taking and disturbance an offence while Schedule 8 to the Act lists species of plant in relation to which the Act makes it an offence to intentionally pick, uproot or destroy.

The Natural Environment and Rural Communities Act 2006

The Natural Environmental and Rural Communities Act 2006 (NERC) introduced changes intended to benefit rural communities and the environment. Section 40 of the Act creates a duty on public bodies to have due regard for habitats and species of principal importance for biodiversity in England when exercising their duties; Section 41 requires the Secretary of State to maintain a list of such habitats and species. This is important in the context of planning decisions as the National Planning Policy Framework (paragraph 117) affords planning policy protection to the habitats of species listed by virtue of Section 41.

Protected Species

Nesting Birds

It is an offence under the Wildlife and Countryside Act to intentionally take, damage or destroy the nest of any wild bird whilst it is in use or being built.

Reptiles

All native reptiles are listed as rare and most threatened species under Section 41 of the Natural Environment and Rural Communities Act (2006). You must have regard for the conservation of Section 41 species as part of your planning decision.

All four native widespread reptiles species (grass snake, slow worm, common lizard and adder) are legally protected under the Wildlife and Countryside Act 1981 from killing or injury.

European Protected Species (EPS)

Great crested newts, dormice and bats and their habitats are protected in the UK. The key pieces of legislation are the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) and The Conservation of Habitats and Species Regulations 2017.

EPS are legally protected from harm and it is an offence to deliberately or intentionally kill or injure an EPS animal. It is also prohibited to incidentally or deliberately capture, kill, disturb or take EPS, or damage or destroy a breeding site or resting place - irrespective of whether it is occupied.

Taken together, the Act and Regulations make it illegal to:

- Deliberately capture or intentionally take EPS;
- Deliberately or intentionally kill or injure a EPS;
- To be in possession or control of any live or dead animal or any part of, or anything derived from an EPS;
- Damage or destroy a breeding site or resting place of an animal;
- Intentionally or recklessly obstruct access to any place that EPS uses for shelter or protection;
- Intentionally or recklessly disturb an animal while it is occupying a structure or place that it uses for shelter or protection;
- Deliberately disturb EPS, in particular any disturbance which is likely to (i) impair their ability to survive, breed, reproduce or to rear or nurture their young; or in the case of hibernating or migratory species, to hibernate or migrate; or (ii) to affect significantly the local distribution or abundance of the species to which they belong.