

Ecological Constraints and Opportunities Report

Hyde Lane, Whitminster, Stroud, Gloucestershire

(central OS grid reference: SO 777 085)

A report on behalf of Redrow Homes

Ref: 1012-ECOP-FM

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1. Introduction

This document has been produced by Green Ecology on behalf of Redrow Homes to provide preliminary ecological constraints and opportunities at the above site.

Note that this document aims to provide design and planning advice prior to further surveys that may be required, and it is not intended to be submitted with a planning application to develop the Site. However, recommendations have been provided below with a view to support and enhance any future applications.

2. Site Survey

The survey comprised an Extended Phase 1 Habitat Survey and habitat condition assessment undertaken on 23 December 2019, supplemented by a desk-based study, whereby biological data was obtained from the Gloucestershire Centre for Environmental Records (GCER). This survey identified the potential for protected species for which surveys need undertaking (see **Section 5**).

3. Results

Figure 1 shows the survey area and identifies key constraints as well as opportunities to avoid, mitigate and enhance key ecological features.

Table 1 provides more detail of issues for consideration. In summary, recommendations are made to ensure the design meets nature legislation and the principles of the NPPF and local policy, including:

- 🔥 Sites of importance to wildlife should be safeguarded, e.g. SACs/ SPAs, SSSIs, locally designated sites and ecological networks/ corridors;
- 🔥 Developments should apply the mitigation hierarchy: avoid, mitigate, compensate;
- 🔥 Avoid loss of irreplaceable habitat e.g. ancient woodland or trees;
- 🔥 Conservation and enhancement of biodiversity is supported, especially where this secures measurable net gains for biodiversity.

4. Biodiversity Net Gain

The Government are planning to roll out a requirement for achieving a 10% net gain in biodiversity for all developments once the Environment Bill is enacted. This 10% gain relates to both linear habitats (e.g. hedgerows) and non-linear habitats (e.g. grassland/woodland) and requires the use of a 'metric' to calculate the required biodiversity units. Some LPA's already request the use of the metric through current or emerging policies. For this site, the use of the metric should be confirmed with the LPA ecologist.

Habitats of high 'distinctiveness' should be targeted for retention such as hedgerows, woodland and watercourses and new habitats with high distinctiveness can be created

to provide net gains. Offsite measures may be acceptable through legal agreements but should only be sought once all on-site options have been explored.

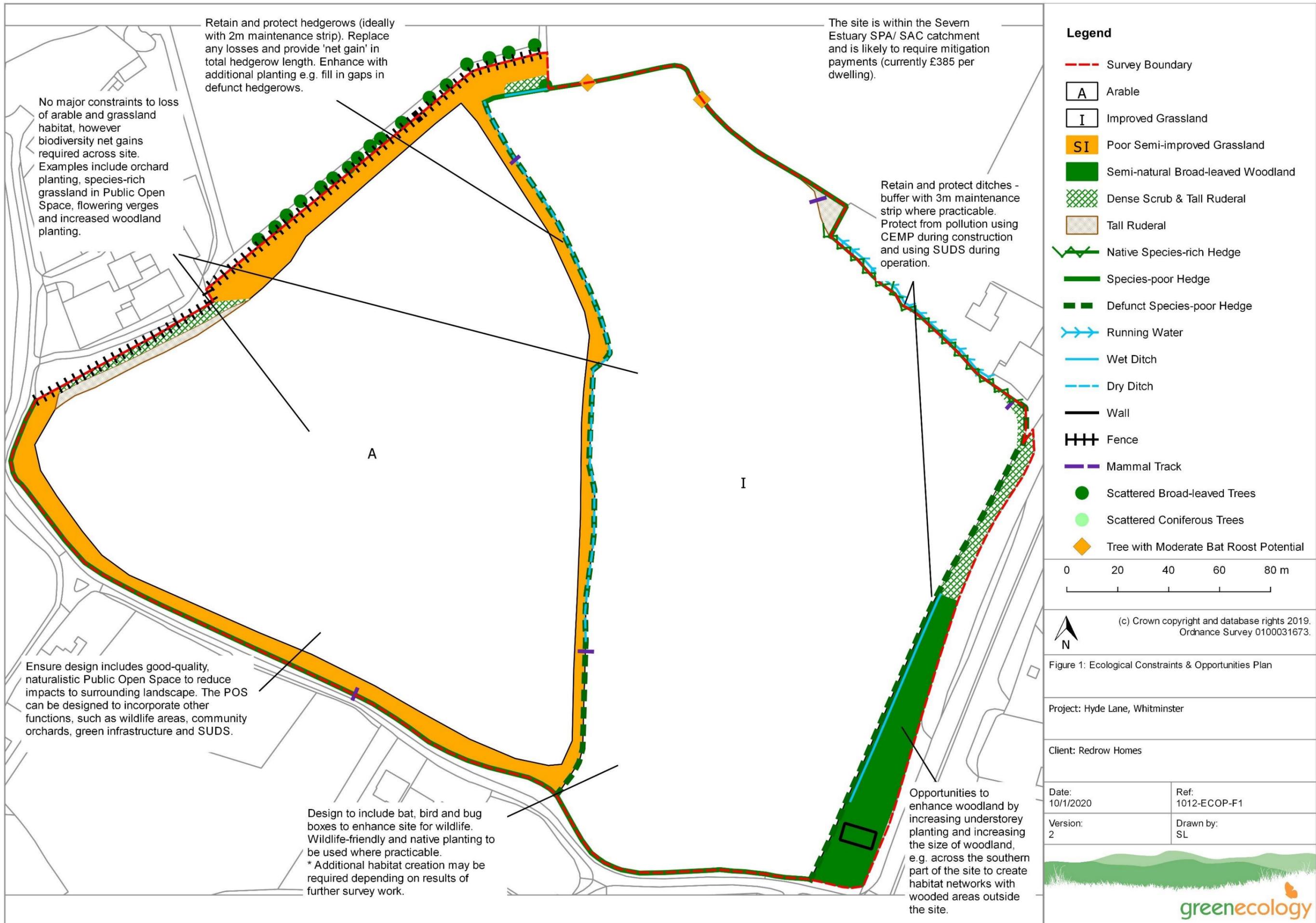
Refer to **Tables 2 & 3** for an indication of the BNG requirements on this Site.

4. Further Survey Work

The timeline below shows the further ecological survey work that would be expected to accompany a planning application and to inform suitable mitigation.

| TASK | Jan Mar | - | Apr | May | Jun | Jul | Aug | Sept | Oct Dec | - |
|---|------------|---|-----|-----|-------------|-----|-----|------|------------|---|
| Bird surveys – requirement/ scope to be agreed with LPA as to need for winter bird surveys. | | | | | | | | | | |
| Commuting/ foraging bats – (1 transect walked monthly & 3 static automated bat detectors per visit, for 5 nights) | | | | | | | | | | |
| Reptiles (8 visits, approx. 50 refugia) | | | | | Sub-optimal | | | | | |
| Dormouse survey (50 tubes April/ May to September) | | | | | | | | | | |
| Great crested newt eDNA survey | | | | | | | | | | |
| Ecological Impact Assessment for Planning Application, including BNG Assessment | | | | | | | | | | |

Many of these surveys are seasonally constrained and therefore ecological advice early in the project programme is always recommended. However, if there are conflicts with the project timetable, please speak to a member of the team at Green Ecology at an early stage and we will make every effort to find a pragmatic approach that works within your time frame if possible.



Retain and protect hedgerows (ideally with 2m maintenance strip). Replace any losses and provide 'net gain' in total hedgerow length. Enhance with additional planting e.g. fill in gaps in defunct hedgerows.

No major constraints to loss of arable and grassland habitat, however biodiversity net gains required across site. Examples include orchard planting, species-rich grassland in Public Open Space, flowering verges and increased woodland planting.

The site is within the Severn Estuary SPA/ SAC catchment and is likely to require mitigation payments (currently £385 per dwelling).

Retain and protect ditches - buffer with 3m maintenance strip where practicable. Protect from pollution using CEMP during construction and using SUDS during operation.

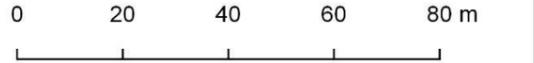
Ensure design includes good-quality, naturalistic Public Open Space to reduce impacts to surrounding landscape. The POS can be designed to incorporate other functions, such as wildlife areas, community orchards, green infrastructure and SUDS.

Design to include bat, bird and bug boxes to enhance site for wildlife. Wildlife-friendly and native planting to be used where practicable. * Additional habitat creation may be required depending on results of further survey work.

Opportunities to enhance woodland by increasing understorey planting and increasing the size of woodland, e.g. across the southern part of the site to create habitat networks with wooded areas outside the site.

Legend

- Survey Boundary
- A Arable
- I Improved Grassland
- SI Poor Semi-improved Grassland
- Semi-natural Broad-leaved Woodland
- Dense Scrub & Tall Ruderal
- Tall Ruderal
- Native Species-rich Hedge
- Species-poor Hedge
- - - Defunct Species-poor Hedge
- Running Water
- Wet Ditch
- - - Dry Ditch
- Wall
- - - Fence
- Mammal Track
- Scattered Broad-leaved Trees
- Scattered Coniferous Trees
- ◆ Tree with Moderate Bat Roost Potential



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Figure 1: Ecological Constraints & Opportunities Plan

Project: Hyde Lane, Whitminster

Client: Redrow Homes

Date: 10/1/2020

Ref: 1012-ECOP-F1

Version: 2

Drawn by: SL



Table 1: Preliminary Constraints and Opportunities Related to Development of Site

| Ecological Receptor | Constraints and Likely Impacts During Construction and Operation | Recommended Mitigation, Opportunities and Enhancements |
|--|--|---|
| Designated Sites | | |
| <p>Natura 2000 sites within 10km:</p> <ul style="list-style-type: none"> Severn Estuary SAC/ SPA/ Ramsar (3.7km west) Walmore Common SPA/ Ramsar (6.8km north-west) Rodborough Common SAC (8km south-east) Cotswold Beechwoods SAC (9.8km north-east) | <ul style="list-style-type: none"> The Site is within the 7.7km Catchment Zone of the Severn Estuary, due to being at risk from increased recreational pressure (refer to Stroud District Council's Strategy for Avoidance of Likely Significant Adverse Effects on the Severn Estuary SAC, SPA and Ramsar Site, December 2017). The Site is outside the Rodborough Common SAC Catchment Area for new housing within 3km of its boundary. The other sites are unlikely to be at risk from development of this Site. | <ul style="list-style-type: none"> A financial contribution in accordance with the mitigation strategy will be required – currently £385 per dwelling to deliver strategic mitigation via a S106 Agreement. Alternatively, mitigation solutions could be proposed onsite in consultation with the LPA/ Natural England. |
| <p>Statutory sites within 2km:</p> <ul style="list-style-type: none"> Frampton Pools Site of Special Scientific Interest (SSSI) (1.9km south-west) <p>The Site is within an Impact Risk Zone for this SSSI; Natural England will be consulted for 'All residential applications with a total net gain in residential units.</p> | <ul style="list-style-type: none"> The Site is designated for standing water formed as a result of gravel extraction. The lakes support a diverse range of aquatic plants and invertebrates and is of local importance for wintering waterfowl. The SSSI is in largely unfavourable condition and may be sensitive to recreational pressure and changes in hydrology. There are footpaths linking the Site to the SSSI. | <ul style="list-style-type: none"> Include good quality, linked and naturalistic Public Open Space (POS) within design, to provide recreational opportunities within the site itself. Ensure that no pollution/ hydraulic changes arise during construction and operation (e.g. through Construction Environmental Management Plan (CEMP) and Sustainable Drainage System). |
| <p>Non-statutory sites within 2km:</p> <ul style="list-style-type: none"> River Frome Mainstream & Tributaries LWS (0.8km) Mole Grove LWS (1.1km) Gloucester & Sharpness Canal LWS (1.7km) | <ul style="list-style-type: none"> The river and canal Local Wildlife Sites will be susceptible to water pollution if pathways exist from the Site. Mole Grove is not publicly accessible and is not expected to be adversely impacted. | <ul style="list-style-type: none"> Ensure that no pollution/ hydraulic changes arise during construction and operation (e.g. through Construction Environmental Management Plan (CEMP) and Sustainable Drainage System). |
| Habitats | | |
| <p>Arable/ Improved grassland (silage)</p> | <ul style="list-style-type: none"> No major constraints – low value botanically and low distinctiveness. Compensatory habitat creation required under new Biodiversity Net Gain Metric. | <ul style="list-style-type: none"> Scope to provide net gain by creating areas of species-rich grassland (especially along watercourse and hedgerows), flowering lawns on road verges and other higher quality habitat such as orchards, which are well-recorded in the surrounding area. POS provides good opportunities for providing recreational space as well as informal areas with wildlife value. |
| <p>Plantation woodland</p> | <ul style="list-style-type: none"> A small area of low value plantation woodland is present along the eastern boundary. | <ul style="list-style-type: none"> Opportunities to enhance the woodland with additional understorey planting and extending its size, for example along the southern boundary to connect existing wooded/ orchard areas. Several traditional orchards are present locally and the scheme offers opportunities to create new orchards for community use. |
| <p>Ditches</p> | <ul style="list-style-type: none"> Small ditches are present on the northern and eastern boundaries. These are likely to drain into rhyes to the north. Potential impacts include pollution to downstream receptors. | <ul style="list-style-type: none"> Ensure appropriate mitigation measures are in place during construction (e.g. CEMP). Create wildlife-friendly SuDS to prevent pollution incidents to water courses. This can include species-rich wetland meadow planting. Buffer ditches with minimum 3m where practicable to protect water |

| Ecological Receptor | Constraints and Likely Impacts During Construction and Operation | Recommended Mitigation, Opportunities and Enhancements |
|---------------------|--|---|
| Hedgerows | <ul style="list-style-type: none"> Species-rich and species-poor hedgerows are a Habitat of Principal Importance (S41 of NERC Act), Gloucestershire BAP habitat and important ecological feature. | <p>from pollution as well as allow access for management.</p> <ul style="list-style-type: none"> Retain where possible, restore and buffer (outside property boundaries) to allow future management. Enhance species-poor/ defunct hedgerows with additional planting. Can form part of green infrastructure strategy. Replace any losses and plant new native hedgerows to provide 'net gain'. |
| Fauna | | |
| Birds | <ul style="list-style-type: none"> Protected under Wildlife and Countryside Act (WCA) 1981. Potential for offence to be committed by damaging/ destroying active birds' nests. A large number of notable birds have been recorded within 2km of the Site, including barn owl and wintering wildfowl (due to the proximity of the estuary). The hedgerows in particular may support breeding farmland birds of conservation concern. The scope of further surveys should be agreed with the LPA – whether winter bird surveys are required due to the proximity to the SPA. | <ul style="list-style-type: none"> Retain trees and hedgerows that provide nesting habitat for birds. Provide new nesting opportunities e.g. new berry-producing shrubs, place nest boxes on retained trees and incorporate nest boxes into new buildings. Time vegetation clearance to avoid bird breeding season (March – August inclusive), including ground-nesting birds, or with a check for active birds' nests. |
| Bats | <ul style="list-style-type: none"> European Protected Species. Many bats are also Species of Principal Importance under the NERC Act 2006. Site boundaries (trees and hedgerows) may be important commuting/ foraging routes. Surveys required to establish key flyways. | <ul style="list-style-type: none"> Identify key corridors for bats, retain and buffer these habitats where possible. Avoid direct lighting of key areas during construction and operation. Enhance site with additional roosting opportunities. |
| Reptiles | <ul style="list-style-type: none"> Protected under WCA 1981. Risk of an offence being committed (killing/ injury of reptiles) during clearance of suitable vegetation (e.g. woodland/ ditch edges, hedgerow bases, long grass). Surveys required to establish presence/ absence. | <ul style="list-style-type: none"> Retain woodland areas and enhance 'edge' habitat. Enhance site to increase the value for reptiles e.g. habitat enhancement such as rough grassland, pond and log piles. |
| Invertebrates | <ul style="list-style-type: none"> The woodland, ditches and hedgerows are likely to support common/ widespread invertebrates and potentially some notable species. Ideally these habitats should be retained or suitable replacement habitats included in the design. | <ul style="list-style-type: none"> The buildings could incorporate a green roof and bee/bug bricks. A range of habitats should be retained/ created within POS, including orchards to support specialist invertebrates. New planting schemes should include wildlife friendly species e.g. selected from the RHS Perfect for Pollinators list. |
| Great Crested Newt | <ul style="list-style-type: none"> There are a collection of four ponds within approximately 300m north-west of the Site and a further two within 500m. Great crested newts (European Protected Species) have been recorded 880m south-east. The majority of the Site provides low value foraging habitat, although the hedgerows and woodland provide some commuting and foraging potential. An eDNA survey should be undertaken in the first instance to establish [presence/ absence within 500m. If present, the development could result in a permanent loss of terrestrial habitat for this species and result in an offence under UK and EU legislation. Traditional survey and licensing techniques can be used, or the Stroud GCN District Licensing Scheme. | <ul style="list-style-type: none"> It is recommended that initially eDNA samples are taken within ponds within 500m. If present, it may be possible to avoid further surveys through the Stroud GCN District Licensing Scheme. This is an optional approach but may reduce cost and speed up the licensing process. Alternatively, surveys of surrounding ponds should be undertaken, and appropriate mitigation undertaken on site – for example including high quality terrestrial habitat providing wildlife corridors and new ponds. A licence from Natural England may be required. |

| Ecological Receptor | Constraints and Likely Impacts During Construction and Operation | Recommended Mitigation, Opportunities and Enhancements |
|---------------------|--|---|
| Dormouse | <ul style="list-style-type: none"> European Protected Species. The site provides good quality hedgerows for this species although there are no known records within 2km. Surveys required to establish presence/ absence. If present, a licence from Natural England is likely to be required for hedgerow removal. | <ul style="list-style-type: none"> Avoid removal of hedgerows and woodland. If present, mitigation will involve additional hedgerow/ woodland planting (at least 2:1) and timing constraints to vegetation removal. |
| Water vole | <ul style="list-style-type: none"> Water vole are protected via the Wildlife & Countryside Act 1981 (as amended) – the larger ditch on the northern boundary may support this species and presence should be assumed (survey access not possible). | <ul style="list-style-type: none"> Buffer ditch to avoid disturbance of riparian mammals. |

Table 2: Biodiversity Metric Indicative Baseline Calculations (Habitats)

| Habitat Distinctiveness | Habitats on Site | Current Condition | Units on Site | Requirements to Deliver Gain | Likely Delivery |
|-------------------------|---|-------------------|---------------|---|---|
| Very Low | None | N/A | | | |
| Low | Modified/ Improved Grassland, Arable and Ruderal Vegetation | Poor | 16.3 | Same distinctiveness or better habitat required | <ul style="list-style-type: none"> Retain existing grassland where possible e.g. in buffers and enhance to 'good' condition Create species-rich meadow (higher distinctiveness) Create other high distinctiveness habitats e.g. scattered trees, woodland, orchard, marshy grassland, ponds, wetland |
| Medium | Mixed Scrub | Poor | 0.18 | Same broad habitat or a higher distinctiveness habitat required | <ul style="list-style-type: none"> Retain and enhance to 'good' condition Replace with broadleaved woodland |
| High | None | N/A | | | |
| Very High | None | N/A | | | |

Table 3: Biodiversity Metric Indicative Baseline Calculations (Hedgerows)

| Habitat Distinctiveness | Habitats on Site | Current Condition | Units on Site | Requirements to Deliver Gain | Likely Delivery |
|-------------------------|------------------------------|-------------------|---------------|---------------------------------|--|
| Very Low | None | N/A | | | |
| Low | Native Species-Poor Hedgerow | Moderate | 4.28 | Same distinctiveness or better. | <ul style="list-style-type: none"> Retain and enhance to 'good' condition Create new species-rich hedgerows to replace losses and provide net gain |
| | | Good | | | <ul style="list-style-type: none"> Retain where possible Create new species-rich hedgerows to replace losses and provide net gain |
| Medium | Species-rich Hedgerows | Moderate | 3.53 | Like for like or better | <ul style="list-style-type: none"> Retain and enhance to 'good' condition Create new species-rich hedgerows to replace losses and provide net gain |
| High | None | N/A | | | |

| | | |
|-----------|------|-----|
| Very High | None | N/A |
|-----------|------|-----|

NOTE – more biodiversity units are available when habitats are retained and protected during construction, and then ‘enhanced’ through management. A detailed assessment will be required as the scheme develops, which will indicate the habitat areas required. To achieve a 10% gain (if requested by LPA), the Site will need to demonstrate 18.1 habitat units and 8.6 linear (hedgerow) units.

6. Conclusions

The preliminary survey work has not identified any major ecological constraints to development of the site.

Whilst further surveys are required to help fully inform the emerging masterplan for the site, it is considered that the habitats of ecological value can be readily accommodated into a sensitively designed scheme and measures can be implemented via the district strategy to prevent impacts to European designated sites. There remains ample opportunity for mitigation, compensation and enhancement measures on site through careful design, following the guidance given above.

Overall, it is considered that there are no significant or in-principle ecological constraints that would preclude the residential development of the site, and there is moreover the opportunity to achieve biodiversity net gain and compliance with local and national policy.