
RESIDENTIAL DEVELOPMENT AT MANOR FARM, RODBOURNE, WILTSHIRE

BIODIVERSITY NET GAIN REPORT

On behalf of

MR S GRAFFTEY-SMITH

Final Report

9th July 2025

Prepared by



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1 Introduction

1.1 Background

The client is seeking planning permission from Wiltshire Council to convert six agricultural buildings to residential dwelling space, demolish another three utilitarian buildings and construct another two associated buildings at Manor Farm, Rodbourne, Malmesbury, Wiltshire, SN16 0EU, see Figure 1 (Location of Development Site) and Figure 2 (Proposed Development).

Manor Farm is located approximately 1km southeast of Corston and 3km south of Malmesbury. It comprises a grouping of agricultural buildings centered around two open yards. The National Grid Reference for the Project Area is ST 9383 5135.

Figure 1 *Location of Development Site*

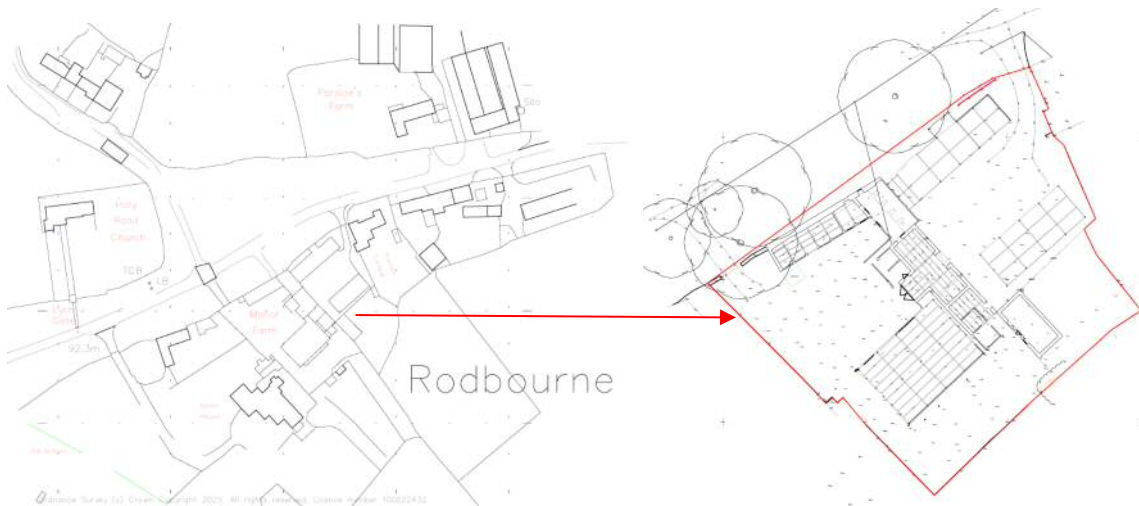


Figure 2 *Proposed Development*



1.2 Scope of work and experience

A Biodiversity Net Gain (BNG) Metric calculation and this BNG Report has been produced as part of the planning application submission documentation, as required by The Biodiversity Gain (Town and Country Planning) (Modifications and Amendments) (England) Regulations 2024.

To inform the BNG calculations, a habitat survey and condition assessment of the land within the red line application site has been undertaken using UKHabs methodology, which identifies, categorises and quantifies baseline habitats affected by the proposed development or which are being used to provide habitat compensation/enhancement¹. This BNG report should be read in conjunction with the Protected Species Report.

The baseline habitat data and proposed development plan have been used to populate the Defra Statutory Biodiversity Metric Calculation Tool to run a BNG calculation (macro-free version of the Metric accompanying this report).

The BNG assessment has been completed by Dr Stephen Dangerfield and Dominic Hill who have a combined 40 years' experience. Stephen is a Chartered Environmentalist and a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

¹ Pure Ecology Ltd (2025). *Manor Farm, Rodbourne, Malmesbury, Wiltshire, SN16 0EU – Protected Species Report*

2 Methodology

2.1 Field survey

A habitat survey of the proposed development site was undertaken on 20th June 2024. The survey determined habitat type(s) according to UK Habitats Classification (UKHab Ltd, 2023) as well as extent and condition (Natural England, 2024). Botanical species within each habitat type were recorded where appropriate. BNG habitat condition assessments were completed for relevant existing and proposed habitats.

2.2 Study limitations

There are no limitations for the survey – all areas were accessible and weather conditions were good (dry, 22°C, sunny (30% cloud) and still).

2.3 Biodiversity Net Gain

2.3.1 Approach

The Environment Act 2021 covers targets, plans and policies for, *inter alia*, 'improving the natural environment' and 'nature and biodiversity'. The Act brings in new requirements in relation to Biodiversity Net Gain (BNG).

The Environment Act establishes the precedent for achieving a biodiversity gain as a condition of planning permission and establishes that a biodiversity gain is met if the biodiversity value attributable to the development exceeds the pre-development biodiversity value of the on-site habitat by at least 10%. Furthermore, any habitat enhancement must be maintained for at least 30 years after the development is completed.

Site habitat losses/gains have been calculated based on a comparison of baseline habitat and the proposed scheme layout habitat.

The baseline habitat survey data and proposed development plans have been used to create BNG baseline and proposed plans (see Appendix A), which are then quantified in terms of area (ha), length (km) or number of trees to populate the Defra Statutory Biodiversity Metric, which is used to calculate Biodiversity Net Gain (BNG) in terms of habitat unit gains or deficits. Habitat conditions for relevant habitats (some habitat do not require habitat conditions to be set) are based on the baseline habitat survey or predicted future management.

The means by which BNG can be demonstrated is set out in the following guidance and resources. These have been used to inform the BNG assessment and overall approach set out in this report.

- ❖ CIEEM, CIRIA, IEMA (2019) Biodiversity Net Gain: Good practice principles for development.
- ❖ CIEEM (2021) Biodiversity Net Gain Report and Audit Templates.
- ❖ British Standard (2021) BS 8683:2021 Process for designing and implementing Biodiversity Net Gain – Specification.
- ❖ Defra (2024) The Statutory Biodiversity Metric - including the Technical Supplement, User Guide, Calculation Tool and Habitat Condition Sheets.
- ❖ The Biodiversity Gain (Town and Country Planning) (Modifications and Amendments) (England) Regulations 2024.
- ❖ UKHab Ltd (2023). UK Habitat Classification Version 2.0.

The BNG User Guide (Defra, February 2024) identifies limitations of the biodiversity metric defined as principles that inform the use of the biodiversity metric tool, including:

- ❖ Principle 1: The metric assessment should be completed by a competent person.
- ❖ Principle 2: The use of the biodiversity metric does not override existing biodiversity protections, statutory obligations, policy requirements, ecological mitigation hierarchy or any other requirements. This includes consenting or licensing processes, for example woodlands.
- ❖ Principle 3: The biodiversity metric should be used in accordance with established good practice guidance and professional codes.
- ❖ Principle 4: The biodiversity metric is not a complex or comprehensive ecological model and is not a substitute for expert ecological advice.
- ❖ Principle 5: Biodiversity units are a proxy for biodiversity and should be treated as relative values.
- ❖ Principle 6: The biodiversity metric is designed to inform decisions in conjunction with locally relevant evidence, expert input, or guidance.
- ❖ Principle 7: Habitat interventions need to be realistic and deliverable within a relevant project timeframe.
- ❖ Principle 8: Created and enhanced habitats should be, where practical and reasonable, local to any impact and deliver strategically important outcomes for nature conservation.
- ❖ Principle 9: The biodiversity metric does not enforce a minimum habitat size ratio for compensation of losses. Proposals should aim to:
 - maintain habitat extent - supporting more, bigger, better and more joined up ecological networks.
 - ensure that proposed or retained habitat parcels are of sufficient size for ecological function.

2.3.2 BNG trading rules

The BNG trading rules are set out in the table below (extract from Statutory Biodiversity Metric User Guide, Natural England, 2024). These set minimum habitat creation and enhancement requirements to compensate for specific habitat losses, up to the point of no net loss. They are based on the habitat type and distinctiveness of the lost habitat.

Baseline habitat distinctiveness band	Area module (area units)	Hedgerow module (hedgerow units)	Watercourse module (watercourse units)
Very High	Priority should be given to replacing losses with area habitat units of the same habitat type (see below notes on trading)	Losses must be replaced with hedgerow units of the same habitat type	Priority should be given to replacing losses with watercourse units of the same habitat type (see below notes on trading)

Baseline habitat distinctiveness band	Area module (area units)	Hedgerow module (hedgerow units)	Watercourse module (watercourse units)
High	Losses must be replaced with area habitat units of the same habitat type	Losses must be replaced with hedgerow units of the same habitat type or of a higher band	Losses must be replaced with watercourse units of the same habitat type
Medium	Losses must be replaced by area habitat units of medium band habitats within the same broad habitat type	Losses must be replaced with hedgerow units of the same band	Losses must be replaced with watercourse units of the same habitat type
Low	Losses must be replaced with area habitat units of the same or higher band	Losses must be replaced with hedgerow units of the same or of a higher band	Losses must be replaced with watercourse units of a higher band
Very low	Trading rules do not apply	Losses must be replaced with hedgerow units of the same or of a higher band	Not applicable

3 Existing Habitats

3.1 Developed land, sealed surface

The existing buildings (B1 – B6) and concrete hard-standing in the southwest yard covers 0.1863 ha.

Habitat Condition = Not Applicable



3.2 Artificial land, unsealed surface

The land at the site entrance and in front of Building 1 is compacted, bare ground used for parking and storage of materials covering 0.0623 ha.

Habitat Condition = Not Applicable



3.3 Modified grass

In the eastern corner of the Manor Farm Project Area is a small area (0.03 ha) of grassland. The grassland is categorised as poor semi-improved [somewhat nutrient enriched] grassland that appears to have previously been managed with cutting before being neglected in recent years. The grassland sward supports rye grass (*Lolium perenne*), rough meadow-grass (*Poa trivialis*) and Yorkshire fog (*Holcus lanatus*). Common forbs typical of improved / neglected grassland include broad-leaved dock (*Rumex obtusifolius*), cleavers (*Galium aparine*), common vetch (*Vicia sativa*), creeping buttercup (*Ranunculus repens*), field forget-me-not (*Myosotis arvensis*), hogweed (*Heracleum sphondylium*), nettle (*Urtica dioica*), red campion (*Silene dioica*), spear thistle (*Cirsium vulgare*) and white clover (*Trifolium repens*). Self-set sapling trees in the grassland include ash (*Fraxinus excelsior*), English elm (*Ulmus procera*), oak (*Quercus robur*) and bramble (*Rubus fruticosus* agg). The average number of plants per square metre is 7.5.

Habitat Condition = Good (see Appendix B).



4 Proposed Habitats

4.1 Developed land, sealed surface

The new house will cover 0.0542 ha.

Target Habitat Condition = Not Applicable

4.2 Artificial land, unsealed surface

The proposed new car parking area and paths comprising gravel will cover 0.0737 ha.

Target Habitat Condition = Not Applicable

4.3 Vegetated garden

The remaining land surrounding the house will comprise vegetated garden being laid mainly to lawn with herbaceous borders, vegetable planting areas, trees/shrubs and ornamental hedging, which will cover 0.1422 ha.

Target Habitat Condition = Not Applicable

4.4 Mixed native scrub

Two small areas of mixed, native scrub will be planted along the southern and south-western boundary of the development site, which will be located south of the new footpath and outside the property garden. These areas of scrub will include field maple (*Acer campestre*) and silver birch (*Betula pendula*) trees with an understorey of dogwood (*Cornus sanguinea*), holly (*Ilex aquifolium*) and guelder rose (*Viburnum opulus*).

Habitat Condition = Moderate (see Appendix B).

4.5 Species-poor native hedgerow

A length of new native (species-poor), evergreen hedgerow (68m) will be planted along the south-western boundary of the garden separating the house garden from the proposed footpath.

Species for the new hedgerow will be mainly native including beech (*Fagus sylvatica*), holly (*Ilex aquifolium*), yew (*Taxus baccata*) with holm oak (*Quercus ilex*).

Habitat Condition = Good (see Appendix B).

4.6 Species-rich native hedgerow

A length of new mixed (species-rich) native hedgerow (30m) will be planted along the north-western boundary of the development site alongside the lane.

Species for the new hedgerow will be native including field maple (*Acer campestre*), dogwood (*Cornus sanguinea*), alder buckthorn (*Rhamnus frangula*), wild privet (*Ligustrum vulgare*), guelder rose (*Viburnum opulus*) and hornbeam (*Carpinus betulus*).

Habitat Condition = Good (see Appendix B).

5 Habitat Change Summary

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

Existing habitats			Proposed habitats		
Type	Extent	Condition	Type	Extent	Condition
<i>Area habitats (ha)</i>					
Developed land, sealed	0.1863	n/a	Developed land, sealed	0.0542	n/a
Artificial land, unsealed	0.0623	n/a	Artificial land, unsealed	0.0737	n/a
Modified grass	0.0300	Good	Modified grass	0.0000	n/a
Vegetated garden	0.0000	n/a	Vegetated garden	0.1422	n/a
Mixed native scrub	0.0000	n/a	Mixed native scrub	0.0085	Moderate
Total	0.2786		Total	0.2786	
<i>Linear habitats (km)</i>					
Species-poor native hedge	0.00	n/a	Species-poor native hedge	0.68	Good
Species-rich native hedge	0.00	n/a	Species-rich native hedge	0.30	Good

6 BNG Assessment

The Defra Statutory Biodiversity Metric has been used to quantify 'habitat' losses/gains based on information from the baseline habitat survey and the proposed scheme designs (see Sections 4 and 5).

Baseline

- ❖ Habitats = 0.18 units
- ❖ Hedgerows = 0.00 units

Proposed

- ❖ Habitats = 0.33 units
- ❖ Hedgerows = 0.50 units

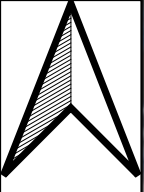
Therefore, for this proposed development the calculated BNG is:

- ❖ Habitats = net unit change = + 0.15 units and net percentage change = **+ 84.08%**
- ❖ Hedgerows = net unit change = + 0.50 units and net percentage change = **Not applicable**

It is therefore concluded that the proposed scheme covers the requirements of the Environment Act 2021, which requires a minimum 10% betterment of wildlife habitat, which is achieved (minimum 10% BNG targets met and biodiversity trading rules have been satisfied) through the creation of a green/open space habitats and new hedgerows.

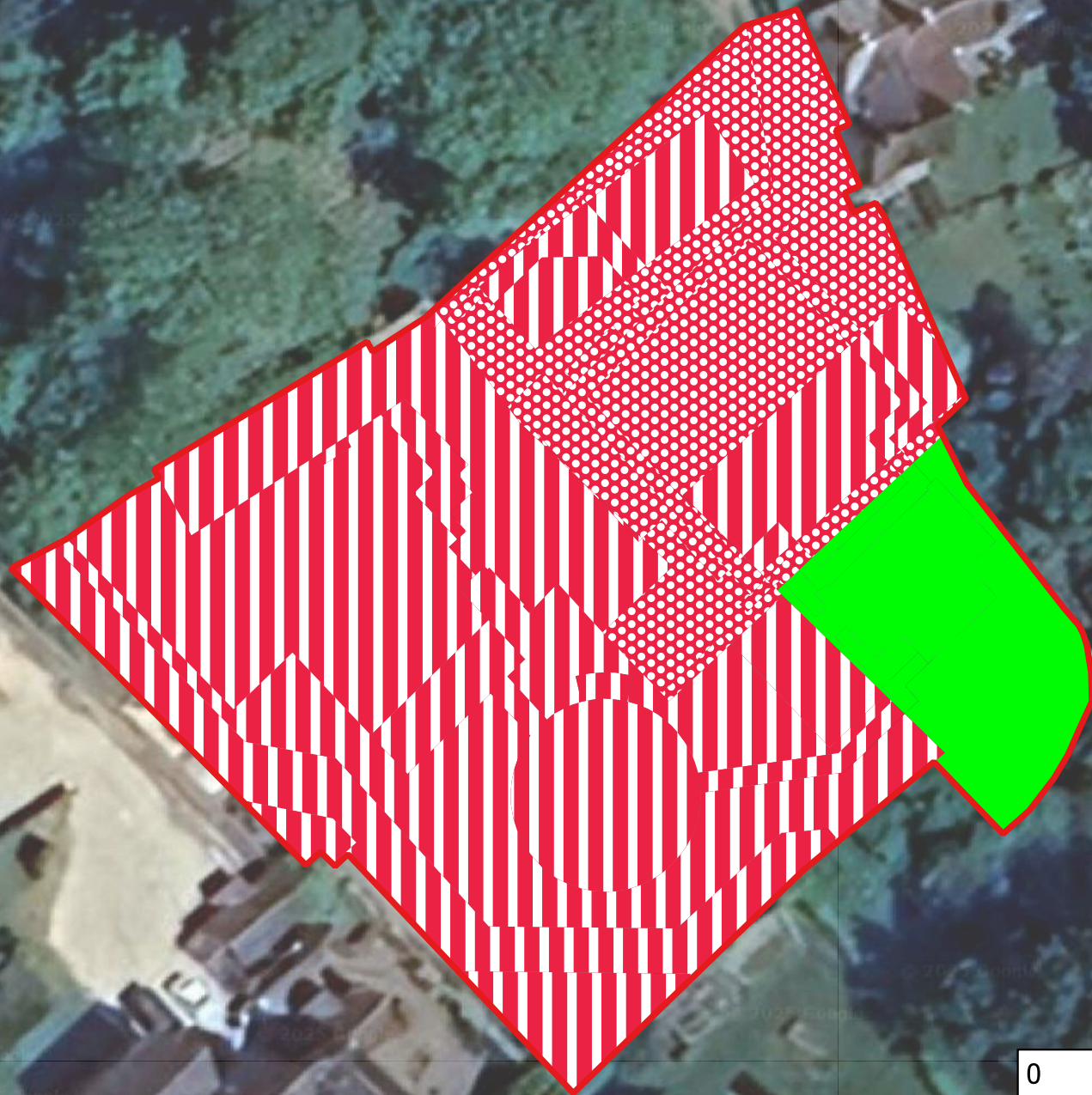
The applicant / homeowner will be responsible for the planting, aftercare and management of the habitats that form the Biodiversity Net Gain requirement, which will be secured as part of new development planning permission.

Appendix A BNG Baseline and Proposed Plans



Church Rd

- Application area boundary
- Habitats Baseline
 - Artificial unvegetated, unsealed surface
 - Developed land; sealed surface
 - Modified grassland
- Google Hybrid



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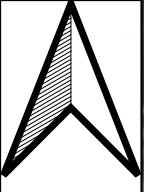
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Environmental
Consulting

DATE: 22/05/2025
PROJECT: Manor Farm,
Rodbourne
CREATOR: D. Hill
APPROVED: S.
Dangerfield

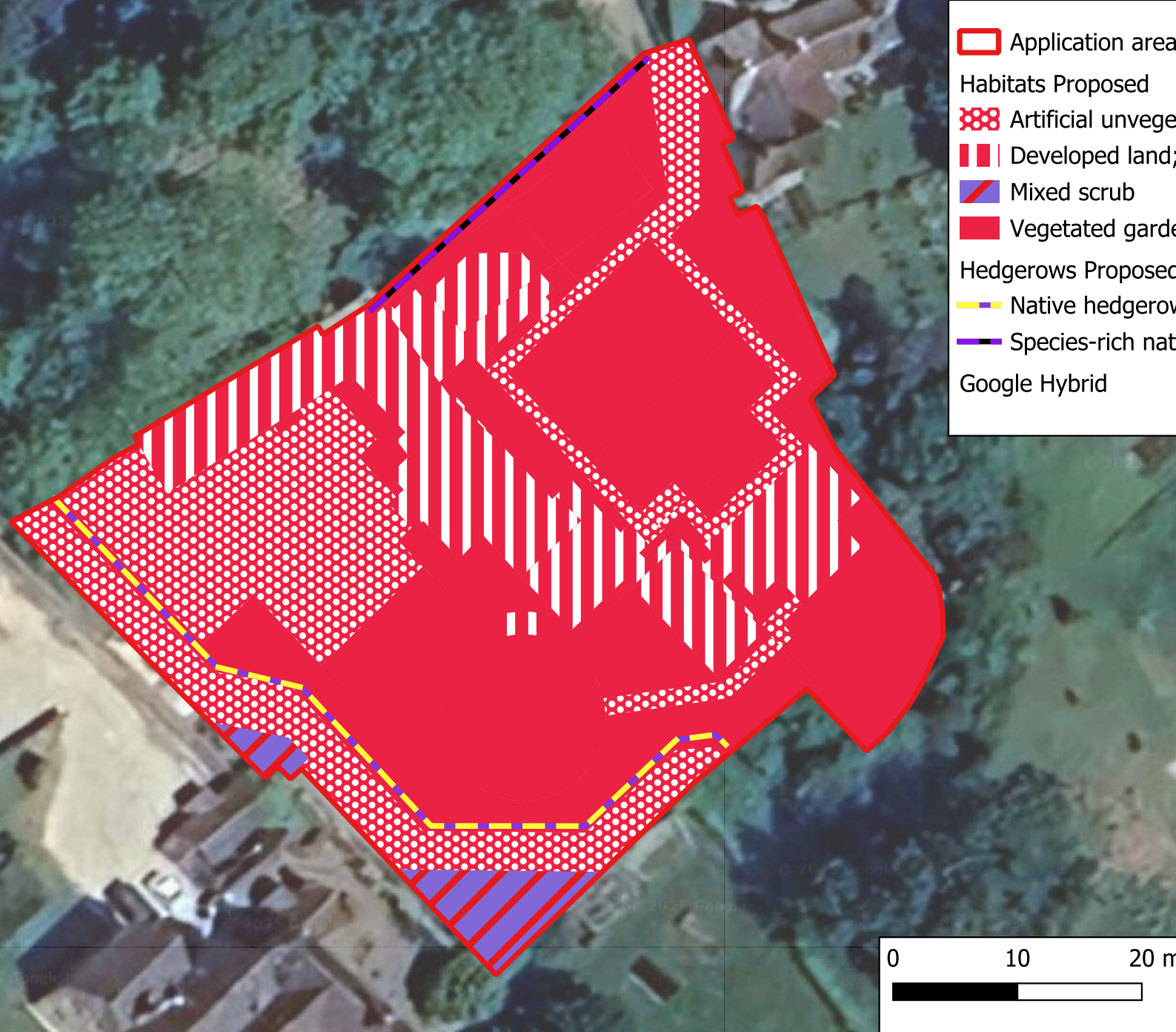
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BNG Baseline Plan



Church Rd



Application area boundary

Habitats Proposed

Artificial unvegetated, unsealed surface

Developed land; sealed surface

Mixed scrub

Vegetated garden

Hedgerows Proposed

Native hedgerow

Species-rich native hedgerow

Google Hybrid

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BNG Proposed Plan

Appendix B BNG Habitat Condition Assessments

Baseline Habitats Condition Criteria

Modified Grassland

The existing modified grassland is categorised as having 'good condition' as it meets the 7 criteria, as set out below.

1. There are 6-8 vascular plant species per m² present, including at least 2 forbs (these may include those listed in Footnote).
2. Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.
3. Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present).
4. Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.
5. Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).
6. Cover of bracken *Pteridium aquilinum* is less than 20%.
7. There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA4).

Footnote: Creeping thistle (*Cirsium arvense*), spear thistle (*Cirsium vulgare*), curled dock (*Rumex crispus*), broad-leaved dock (*Rumex obtusifolius*), common nettle (*Urtica dioica*), creeping buttercup (*Ranunculus repens*), greater plantain (*Plantago major*), white clover (*Trifolium repens*) and cow parsley (*Anthriscus sylvestris*).

Proposed Habitats Condition Criteria

Mixed native scrub

To achieve a 'moderate' condition status the management of the scrub will aim to achieve the first three of the following components.

1. The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description, which includes:
 - ❖ At least 80% of scrub is native.
 - ❖ There are at least three native woody species.
 - ❖ No single species comprises more than 75% of the cover (except hazel *Corylus avellana*, common juniper *Juniperus communis*, sea buckthorn *Hippophae rhamnoides* (only in its restricted native range), or box *Buxus sempervirens*, which can be up to 100% cover).
2. Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.
3. There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA) and species indicative of suboptimal condition make up less than 5% of ground cover.

4. The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.

5. There are clearings, glades or rides present within the scrub, providing sheltered edges.

Species indicative of suboptimal condition for this habitat type may include: non-native conifers, tree-of-heaven (*Alianthus altissima*), holm oak (*Quercus ilex*), European turkey oak (*Quercus cerris*), cherry laurel (*Prunus laurocerasus*), snowberry (*Symphoricarpos* spp.), shallon (*Gaultheria shallon*), American skunk cabbage (*Lysichiton americanus*), buddleia (*Buddleja* spp.), cotoneaster (*Cotoneaster* spp.), Spanish bluebell (*Hyacinthoides hispanica*) and hybrid bluebells (*Hyacinthoides x massartiana*). There may be additional relevant species local to the region and or site, as well as species listed on Schedule 9 of the Wildlife & Countryside Act 1981.

Native hedgerow

To achieve a 'good' condition status management of the hedgerow will aim to achieve no more than 2 failures in total and no more than 1 failure in any functional group (A-D) of the following components.

A1. *Height*. Has a greater than 1.5m average height along length.

A2. *Width*. Has a greater than 1.5m average width along length.

B1. *Gap – hedge base*. Gap between ground and base of canopy <0.5m for 90% of length.

B2. *Gap – hedge canopy continuity*. Gaps make up <10% of total length and no canopy gaps >5m long.

C1. *Undisturbed ground and perennial vegetation*. >1m width of undisturbed ground with perennial herbaceous vegetation for >90% length (from outer edge of hedge on at least one side)

C2. *Nutrient-enriched perennial vegetation*. Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.

D1. *Invasive and neophyte species*. >90% of the hedgerow and undisturbed ground is free of invasive, non-native plant species (including those listed on Schedule 9 of the WCA) and recently introduced species.

D2. *Current damage*. >90% of the hedgerow or undisturbed ground is free of damage caused by human activities.