Biodiversity Net Gain Matrix

For

Pat Seals

Seals Fodder Room

High Street

DE55 1AA

Reference: Q15543

Prepared by
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1. Introduction

ProHort Limited have been commissioned by Pat Seals to conduct a Biodiversity Net Gain Assessment for Seals Fodder Room on 07/07/2025.

The Local Planning Authority has requested that a Biodiversity Net Gain (BNG) Assessment is completed to support the planning application. The development includes the erection of nine dwellings with associated amenity garden space and hardstand.

Amber Valley Borough Council requires developments in the area to achieve a net gain in biodiversity, with a minimum of a 10% gain compared to the pre-development value of the site. A quantitative measure of the base value of a Site for biodiversity, and the value of a Site post-development, is arrived at by using a recognised Biodiversity metric. Biodiversity metrics measure the value of a Site in terms of Biodiversity Units. Biodiversity Units are a proxy measure of biodiversity, arrived at by assessing the type, area and condition of semi-natural habitats on site. A limitation of the use of metrics is that they only measure habitat areas, and do not consider species-specific measures which may nevertheless make meaningful contributions to gains in local biodiversity.

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2. Site and Surroundings

The area surveyed was a commercial property at Seals Fodder Room Ltd, The Mill, High St, Swanwick, Alfreton, DE55 1AA (Figure 1), hereafter referred to as the 'Site'. The Site is located west of Somercotes to the southwest of Alfreton. The surrounding area is dominated by residential and commercial properties to the east, agricultural fields to the west and numerous hedgerows alongside a few wooded blocks.

The Site is within a 2km range of two Sites of statutory designation, Local Nature Reserves, Hammersmith Meadows, Ripley, and Oakerthorpe. The woodland to the north of the site is designated as a priority habitat, deciduous woodland, of which there are several blocks within a 2km radius of the Site. There are several parcels of priority habitat within a 2km range from the Site, and these include traditional orchard, lowland fens, ancient & semi-natural woodland (including Broadoak Plantation), and lowland meadows. There were no water features on Site and the closest is 1292m north.

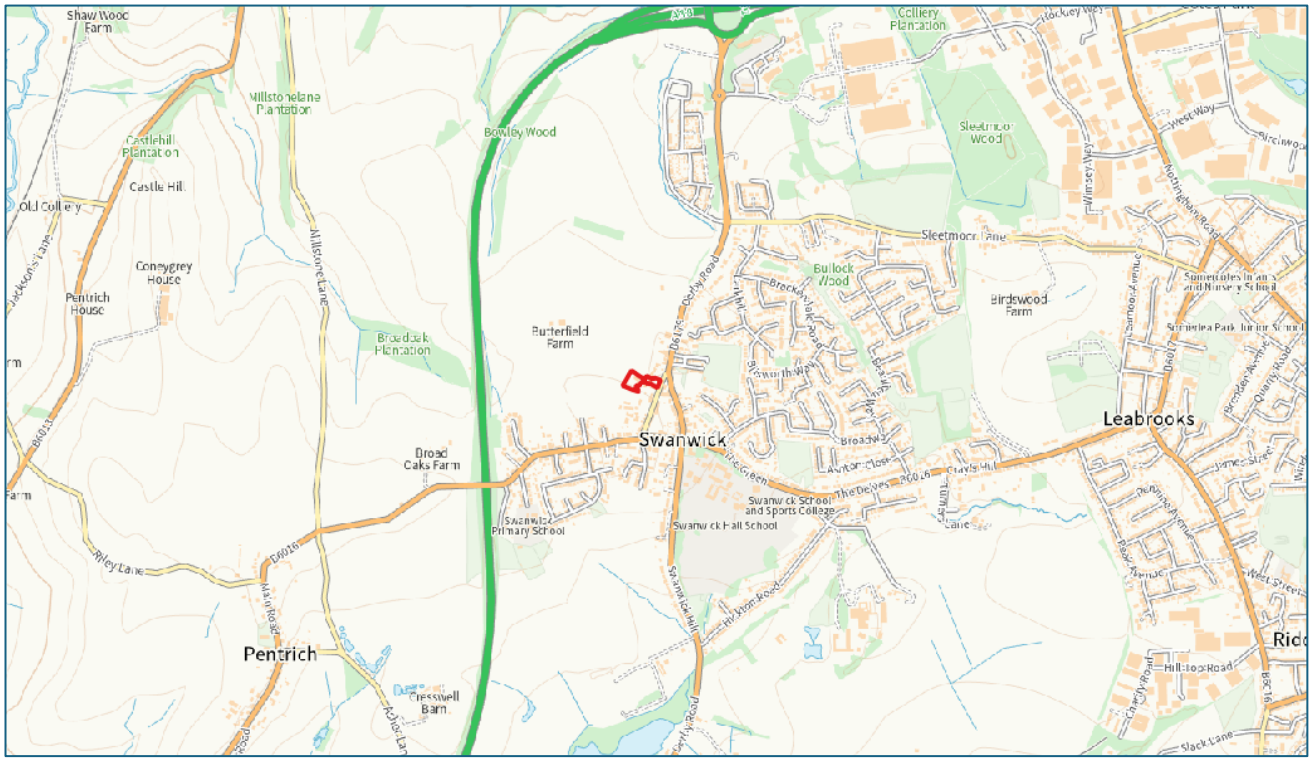

Figure 1 – Red line boundary of the Site and the surrounding area.
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3. Methodology

The pre-development (baseline) and post development (proposed) value of the habitats have been calculated using the DEFRA/Natural England's Statutory Biodiversity Metric calculator. The methodology for determining habitat distinctiveness and condition values, follows the guidelines set out in the User Guide and Technical Supplement for Biodiversity Metric.

The current assessment utilised the principles outlines in the 'Mitigation Hierarchy' denoting the steps involved in reaching the conclusions outstated in this report and preserving natural features and resources of importance. The 'Mitigation Hierarchy' states:

- Avoid: The easiest, cheapest and most desirable method of reducing potential impacts of the proposed development.
- Minimise: Where avoidance is not possible, measures can be taken to minimise the impacts of the proposed development.
- Mitigate: Where minimisation is not possible, measures can be taken to enhance/ create on Site habitats to compensate for potential losses caused by the proposed development.
- Offset: Where mitigation is not possible, on-site habitat loss must be compensated off site. This should be utilised as a last resort for compensating losses as it is the most risk involved, expensive and complex solution.

Site Boundary

The following data sources have been used to define the boundary for the BNG calculation and determine the relevant attributes for BNG (e.g. size, condition and habitat type) for the pre and post-development habitats.

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The boundary used for the BNG assessment is the red line application boundary for the project (See Figure 2 for a detailed red line boundary).

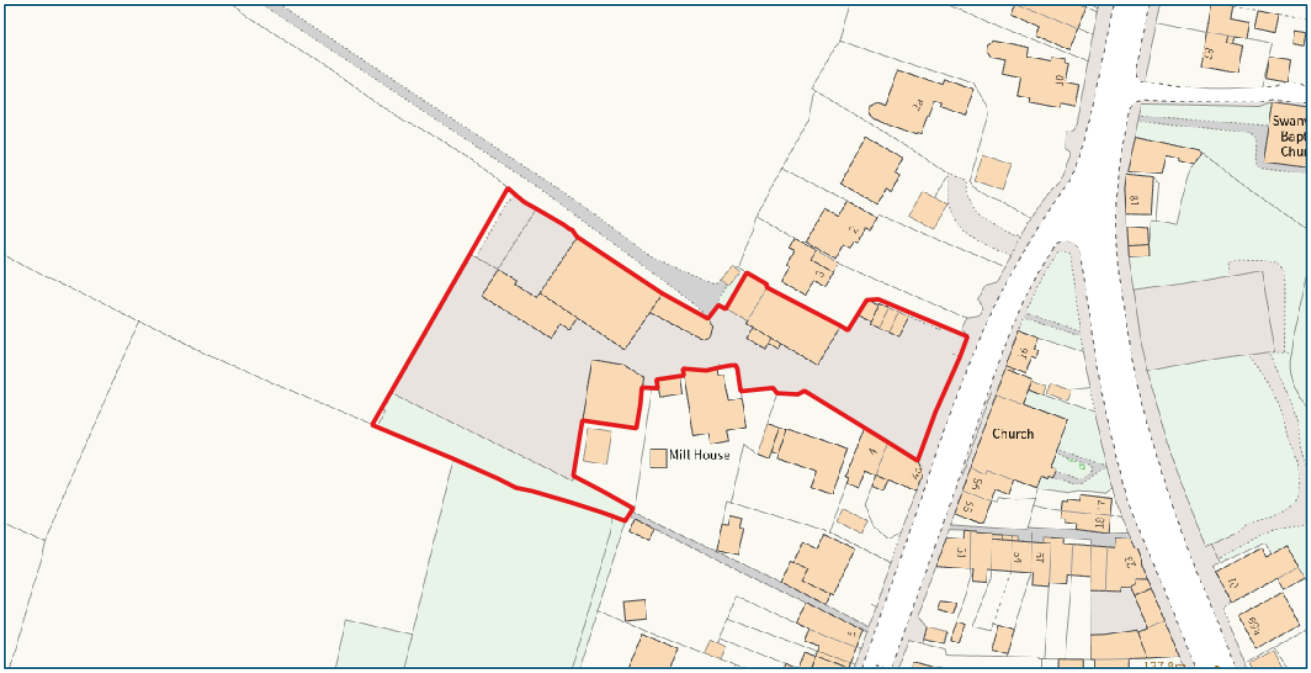

Figure 2 – Red line boundary of the Site
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Baseline Habitats:

In order to generate the site baseline habitat data (e.g. habitat type, condition), a phase 1 habitat survey was undertaken, where the site was systematically walked over and the dominant habitat type in each area recorded. Dominant plant species were noted, as were any that are legally protected (Schedule 8 of the Wildlife and Countryside Act 1981), invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981. Additionally, 5 (1 meter-squared) quadrats were used to determine species richness on any grassland habitats and the other grassland conditions were estimated from a visual inspection of the site.

The information collected during the site visit was used to baseline any applicable habitats and satellite mapping was used to calculate habitat areas. The areas and conditions of any onsite habitats were inputted into DEFRA/Natural England's Statutory Biodiversity Metric calculator. The metric includes 3 broad categories of habitats and biodiversity units for which scores are calculated differently:

- Area habitats, such as grasslands, woodlands and ponds
- Linear hedgerows and lines of trees
- Linear rivers and ditches

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4. Habitat Baseline

4.1. Habitat descriptions

All habitats within the Site are outlined below:

- g Grassland ~ g4 Modified grassland
- u1 Built-up areas and gardens ~ u1b5 Buildings ~ u1b6 Other developed land
- u1 Built-up areas and gardens ~ 845 Ground level planters

Three linear features were found within the red line boundary of the Site.

- h2 Hedgerows ~ h2a Native hedgerow ~ h2a6 Other Native hedgerow

The location of all baseline habitats can be seen in Appendix 1 and habitat descriptions are outlined in Table 1.

Table 1 – baseline habitat descriptions

Habitat Type	Habitat Description	Flora Species
g Grassland ~ g4 Modified grassland	Area of grassland around the south aspect of the Site is composed of naturally occurring wildflowers and grasses.	**Frequent**: Yorkshire fog (*Holcus lanatus)* **Occasional**: bramble (*Rubus),* field thistle (*Cirsium arvense)*, stinging nettle (*Urtica dioica)*, cleavers (*Galium aparine)*, blackberry (*Rubus fruticosus)*, milk thistle (*Silybum marianum)* **Rare:** barley (*Hordeum vulgare)*, ragwort (*Jacobaea vulgaris)*,
u1 Built-up areas and gardens ~ u1b5 Buildings ~ u1b6 Other developed land	The area includes buildings and all associated impermeable hardstands.	–
u1 Built-up areas and gardens ~ 845 Ground level planters	Located in the eastern aspect of the Site, adjacent to the entrance. The planters are composed of introduced, non-native varieties of shrubs and plants.	**Rare**: *calendula*, Japanese pieris (*Pieris japonica)*, *aubrieta*, milk thistle (*Silybum marianum)*
h2 Hedgerows ~ h2a Native hedgerow ~ h2a6 Other Native hedgerow	Three native hedgerows within the south boundary of the Site.	*Hedgerow 1* **Frequent**: holly (*Ilex aquifolium)*, blackberry (*Rubus)* **Occasional:** Stinging nettle (*Urtica dioica)*, hawthorn (*Crataegus monogyna)* **Rare**: sycamore (*Acer pseudoplatanus)* *Hedgerow 2* **Occasional:** cleavers (*Galium aparine)*, hawthorn (*Crataegus monogyna)*, elderberry, blackberry (*Rubus)* *Hedgerow 3* **Abundant:** hawthorn (*Crataegus monogyna)* **Occasional:** bramble (*Rubus)*

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Rare: holly (*Ilex aquifolium)*, cleavers (*Galium aparine)*

4.2. Baseline Metric

The value of the area and linear baseline habitats was calculated using the Statutory Biodiversity Metric and is outlined in Tables 2 and 3 below.

Table 2 – area habitat baseline calculation

Habitat	Notes	Area (ha)	Habitat Units	Area retained	Area enhanced	Units lost
g Grassland ~ g4 Modified grassland	'*Moderate*' condition passing criteria C, D, E, and F.	0.039	0.160	0.038	--	0.010
u1 Built-up areas and gardens ~ u1b5 Buildings ~ u1b6 Other developed land	Condition criteria not applicable.	0.356	0.000	0.000	--	0.000
u1 Built-up areas and gardens ~ 845 Ground level planters	Condition criteria not applicable.	0.042	0.080	0.000	--	0.080
Totals		**0.44**	**0.24**	**0.04**	**–**	**0.09**

The area habitat baseline of 0.24 units must be enhanced by 10% resulting in at least a **0.27**- unit baseline post intervention. If this cannot be achieved on Site, off Site credits will need to be acquired.

Table 3 – linear habitat baseline calculation

Habitat	Notes	Length (km)	Habitat Units	Length retained	Length enhanced	Units lost
h2 Hedgerows ~ h2a Native hedgerow ~ h2a6 Other Native hedgerow	All hedgerows scored '*good*' passing criteria A1, A2, B1, B2, C1, D1, and D2.	0.043	0.260	0.043	--	0.000
Totals		**0.04**	**0.26**	**0.04**	**–**	**0.00**

The linear habitat baseline of 0.26 units must be enhanced by 10% resulting in at least a **0.28**-unit baseline post intervention. If this cannot be achieved on-Site, off-Site credits will need to be acquired.

5. Proposed Habitats

All habitats proposed within the Site are outlined below:

- g Grassland ~ g4 Modified grassland (retained and proposed)

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- u1 Built-up areas and gardens ~ u1b5 Buildings ~ u1b6 Other developed land (proposed)
- u1 Built-up areas and gardens ~ 828 Vegetated garden (proposed)
- h2 Hedgerows ~ h2a Native hedgerow ~ h2a6 Other Native hedgerow (retained and proposed)

The location of these proposed habitats can be seen in Appendix 2.

In accordance with the Statutory Biodiversity Metric Guidelines, no creation or enhancement of habitats within the curtilage of a privately owned or tenanted dwelling is to be recorded. As these gains cannot be legally secured the area habitat will be classified as either 'vegetated garden' or 'unvegetated garden'.

We outline indicative suggestions on how such habitats may be established and should be treated as general guidelines. Explicit details and tailored plans should be created to establish the habitats in the relevant conditions.

5.1. Developed land; sealed surface

Areas composed of nine new residential dwellings with associated hardstand and driveway. This includes the creation of a resurfaced and levelled road.

5.2. Modified grassland

The retained areas of grassland on the south aspect of the Site should be maintained by using a suitable annual mowing regime to maintain its '*moderate'* condition. To establish a modified grassland, the existing vegetation will be cut short, and a native wildflower and grass seed mix will be distributed around the area. This will then be rolled in to increase the likelihood of plant establishment. The wildflower and grass seed mix should be selected based on soil type of area and the location of seed distributors. The new areas are required to meet a '*poor'* condition. Therefore, once the areas have been established, minimal maintenance will be required to ensure the habitat establishes, and then an annual mowing regime should be implemented. At a minimum criteria B, D and E should be met.

5.3. Vegetated garden

In order to establish a vegetated garden, any existing vegetation will be cut short. A grass seed mix containing a range of species will be distributed around the area. This will then be rolled in to increase likelihood of establishment. This will contain species that can handle heavy management e.g. red clover (*Trifolium pratense*), white clover (*Trifolium repens*), ribwort plantain (*Plantago lanceolata*), yarrow (*Achillea millefolium*), black medick (*Medicago lupulina*), common sorrel (*Rumex acetosa*) and a mix of grass species.

5.4. Native hedgerow

In order to achieve the obligatory 10% uplift in biodiversity of linear habitats, it is proposed that native hedgerow is planted in the south area of the Site, as indicated in Appendix 2. Criteria A1, A2, B1 and B2 should be aimed to be satisfied.

To establish the native hedgerow area, the existing grassland will be cut very close to the ground and native hedgerow saplings will be planted along the length of the new hedgerow. In order to meet the

proposed '*poor*' condition once the hedgerow has been planted minimal maintenance is required. The hedgerow species should be selected based on the soil type of the area. Examples of native species to include are common box (*Buxus sempervirens*), hawthorn (*Crataegus monogyna)*, holly (*Ilex aquifolium*), field maple (*Acer campestre*), pedunculate oak (*Quercus robur*), spindle (*Euonymus europaeus*) common beech (*Fagus* sylvatica) and hazel (*Corylus avellana*).

5.5. Proposed habitats metric

Table 4 – area habitat proposal calculation

Habitat	Notes	Area (ha)	Habitat Units Delivered
On-site habitat creation	.		
g Grassland ~ g4 Modified grassland	Condition criteria proposed 'poor' passing minimum criteria B, D and E.	0.035	0.070
u1 Built-up areas and gardens ~ u1b5 Buildings ~ u1b6 Other developed land	Condition assessment not applicable.	0.246	0.000
u1 Built-up areas and gardens ~ 828 Vegetated garden	Condition assessment not applicable	0.113	0.220
Totals		**0.40**	**0.29**

If all area habitats and conditions are met post-intervention, then an **81.15%** uplift in biodiversity will be achieved.

Table 5 – linear habitat proposal calculation

Habitat	Notes	Length (km)	Habitat Units Delivered
On-site habitat creation	.		
h2 Hedgerows ~ h2a Native hedgerow ~ h2a6 Other Native hedgerow	Criteria A1, A2, B1 and B2.	0.015	0.030
Totals		**0.02**	**0.03**

If all linear habitats and conditions are met post-intervention, then a **11.22%** uplift in biodiversity will be achieved.

Trading rules were satisfied.

6. Achieving a Net Gain in Local Biodiversity

Under the mandatory BNG regime, habitats determined by the LPA to constitute "significant on-site enhancements" must be retained, appropriately managed, monitored and reported on for a minimum of 30-years following completion of development, and this requirement must be legally secured by a Conservation Covenant.

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The application needs to be supported by clear, site-specific proposals e.g. details of long-term management and monitoring, a draft long-term management plan (Habitat Management and Monitoring Plan [HMMP]) - set out "initial" habitat creation and enhancement works and to demonstrate that appropriate management will be delivered so the predicted target conditions are achieved. In addition to long-term management of these habitats, appropriate long-term management of retained habitats is required to ensure they do not decline / deteriorate in condition.

7. Conclusion

The development will not result in a measurable loss to local biodiversity.

There will be a total uplift of 81.15% biodiversity of area habitats. This will be achieved through the creation of a modified grassland area in 'poor condition'.

There will be a total uplift of 11.22% biodiversity of linear habitats. This will be achieved through the creation of a hedgerow in '*poor*' condition.

As mitigating and minimising was not a viable option due to the scale of the project off setting was the only feasible option.

8. Other recommended enhancements

- At least 1 bat roosting box should be installed on mature trees on or around the Site or retained/ created buildings. The box should be either CJM, Kent-style or 1FW Schwegler Bat Hibernation Boxes (available at nhbs.com) and be mounted at least 4m from the ground. The box should face southeast and should remain unobstructed. Good quality boxes can last for up to 25 years. If any maintenance work is required, this should be done by a suitably qualified and licensed ecologist.
- At least 1 bird box should be installed on mature trees on or around the Site or retained/ created buildings. These boxes should be to target a variety of species (e.g. Schwegler 1B 32mm bird box to target tits, redstart, nuthatch, flycatchers, wrynecks or sparrows; or Vivara Pro Woodstone Swift nest box etc.). A minimum of two bird boxes are suggested. Annual cleaning of boxes is recommended between October- February. Using plant- based detergent will be most appropriate, allowing the boxes to fully dry before placing them back.
- A Biocube planter (available at bioscapes.co.uk) should be placed within the Site to create a habitat for a variety of species. These should be sown with native seeds and/or native bulbs like wild anemone *Anemone blanda*, English bluebell *Hyacinthoides non- scripta,* snowdrops *Galanthus nivalis*, daffodils *Narcissius lobularis* or *N. obvallaris*, *Crocus*, grape hyacinth *Muscari* or spring quills *Scilla verna*. These plant species were recommended for their aesthetic attractiveness and wildlife benefits.
- Green and Blue Bee bricks (available at greenandblue.co.uk) should be used within the brick walls of the building to be constructed. Bug hotels should be created out of suitable materials like non-varnished and unglazed wood block which then can be drilled with holes to provide refuge for burrowing bees. The holes drilled should range between 4-10 mm (4mm, 5mm, 6mm, 7mm, 8mm,

9mm, 10mm respectively) and have a depth of 15cm. This provides the optimum depth and size hole to target species like those in the families *Osmia* Mason bees, *Megachile* Leaf cutter and resin bees, and *Eumeninae* Potter wasps. Alternatively, bamboo, reed and hollow plant stems with holes around that diameter mentioned can be effective. Hanging bug friendly structures should be placed between 1-1.5 m above ground.

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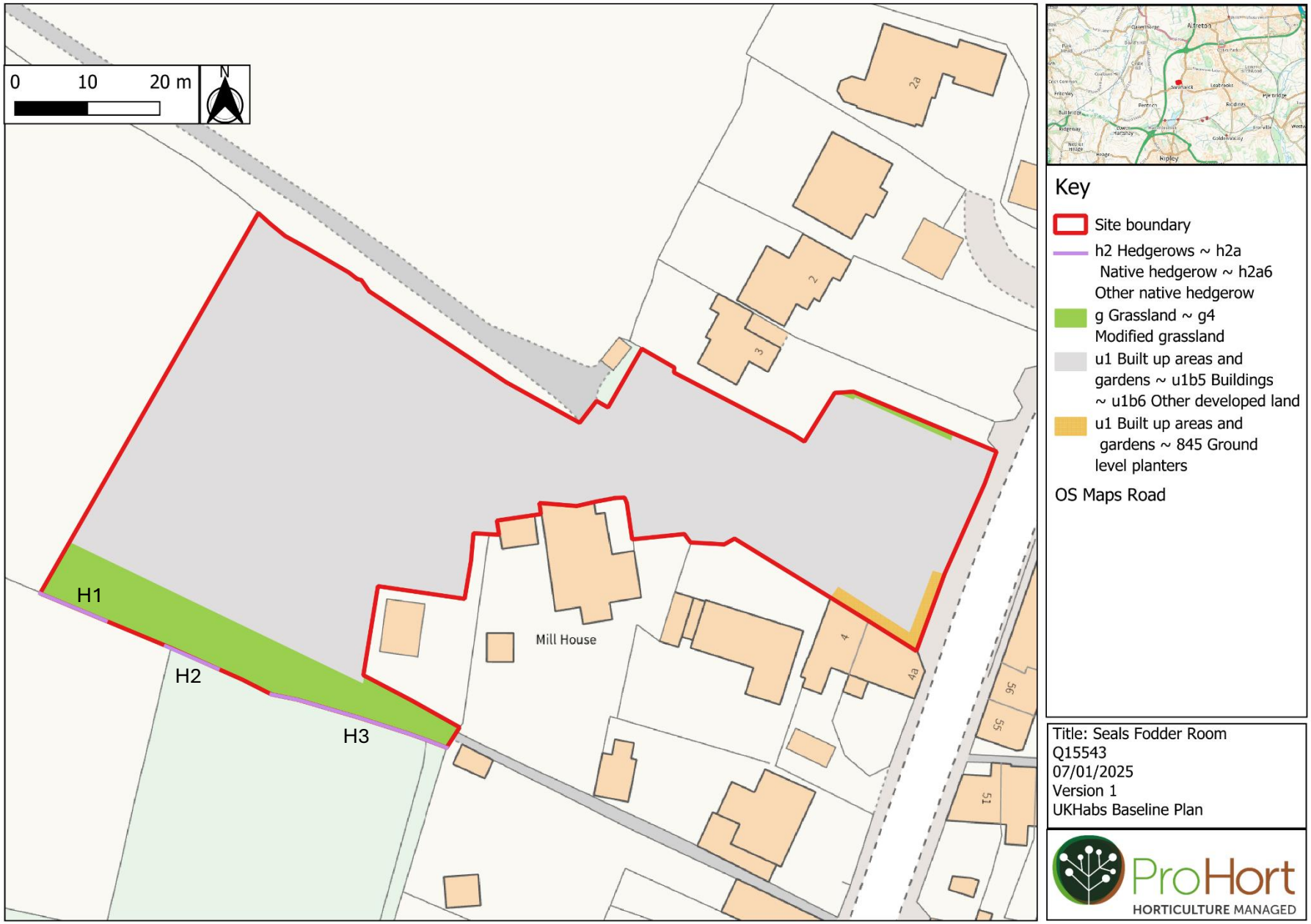
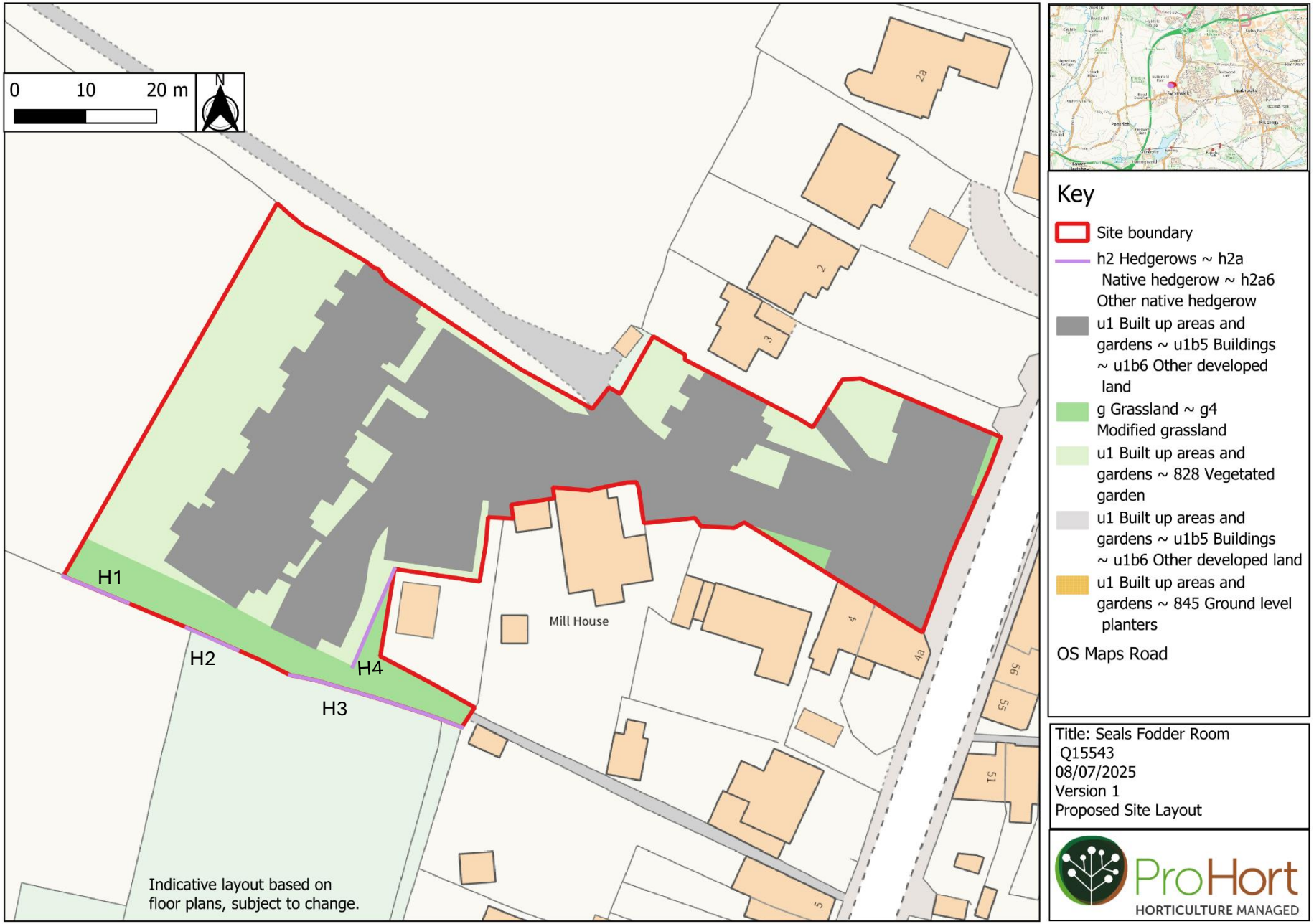
Appendix 1 Baseline Habitats Map



Appendix 2 Habitat Proposals



Appendix 3 Photographs



Image 1 – Area of hardstand- developed land



Image 2 – Modified grassland areas

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Image 3 – Planters

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Image 4 – Sample image of native hedgerow

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