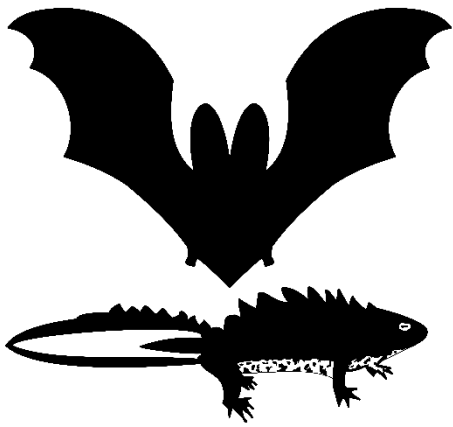




AEWC Ltd

Animal Ecology & Wildlife Consultants

Biodiversity Net Gain Assessment

Land East of Henfield Road (A281)

**Henfield Road
Cowfold
West Sussex
RH13 8DT**

Natalie Arscott & Paul Thrift

**25-101
July 2026**

**AEWC Ltd Birch Walk, Lower Street, Fittleworth, West Sussex, RH20 1JE
Tel: 08452 505585, info@aecwc.co.uk, www.aecwc.co.uk**

Registered in England and Wales No. 06527840

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Author	Paul Thrift
Authorised By	Natalie Arscott
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Summary

- AEWCLtd were commissioned by Landacre Developments Ltd on behalf of their client to undertake a Biodiversity Net Gain Assessment at Land East of Henfield Road (A281), Cowfold, West Sussex, RH13 8DT at central grid reference TQ 21392 22023 to help inform the proposed development of the site.
- The estimated baseline and post-development biodiversity value of the habitats on the site is calculated using the Defra Statutory Biodiversity Metric Calculation Tool.
- The proposed development comprises 40 residential dwellings with associated infrastructure. The proposals will result in the loss of much of the modified grassland across the site, together with limited areas of scrub and sections of hedgerow and a single tree required to facilitate the development layout.
- Biodiversity enhancements incorporated into the development proposals include the creation of higher quality grassland with swales in the south of the site, enhancement of existing scrub, enhancement of modified grassland as well as creation of new areas of modified grassland, enhancement of an existing hedgerow, creation of species-rich native hedgerows, and tree planting. The stream to the south will be enhanced through the removal of grazing pressure and enhancement of the riparian corridor.
- **The habitat unit results show an increase of 2.09 habitat units which equates to a 23.87% net gain.**
- **The hedgerow results show an increase of 1.60 hedgerow units which equates to a 30.48% net gain.**
- **The watercourse unit results show an increase of 0.54 watercourse units which equates to a 14.94% net gain.**
- **As such, the minimum target of 10% net gain has been exceeded. Trading rules have also been satisfied.**
- **A Habitat Management and Monitoring Plan (HMMP) will need to be produced to secure the land management for a period of at least 30 years. A draft HMMP is provided in Section 7 of this report.**

This report has been prepared by AEWCLtd, with all reasonable skill, care and diligence within the terms of the Contract with the client. We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above. This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

The information and data which has been prepared and provided is true and has been prepared and provided in accordance with the 'Guidelines for Preliminary Ecological Appraisal' and 'Code of Professional Conduct' issued by the Chartered Institute of Ecology and Environmental Management (CIEEM). We confirm that the opinions expressed are our true and professional bona fide opinions.

1. Introduction

- 1.1 AEWC Ltd were commissioned by Landacre Developments Ltd to undertake a Biodiversity Net Gain Assessment at Land East of Henfield Road (A281), Cowfold to help inform the proposed development of the site.
- 1.2 In England, BNG is mandatory under Schedule 7A of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2021). This came into force in February 2024 for major developments and April 2024 for minor developments. Under the legislation, developers must deliver a minimum biodiversity net gain of 10%.
- 1.3 The purpose of this report is to give an estimate of the BNG units that will be achieved under the current development proposals.

2. Background

- 2.1 The proposed development site is located at Land East of Henfield Road (A281), Cowfold, West Sussex, RH13 8DT at central grid reference TQ 21392 22023. The site is situated in a semi-rural location on the southern edge of Cowfold village, adjacent to Henfield Road and Eastlands Lane. The surrounding landscape predominantly comprises agricultural fields, pasture, and small blocks of woodland, interconnected by hedgerows and tree lines, with scattered residential properties throughout the wider landscape and more built-up residential development within Cowfold village to the north. A sewage treatment works lies adjacent to the eastern boundary of the site, with Cowfold Stream located along the southern boundary. The nearest major roads are the A281, adjacent to the west of the site, and the A272, located approximately 390m to the north. See Figure 1.
- 2.2 The proposed development site is approximately 2.6ha and comprises two horse-grazed paddocks, each containing a small field shelter, with a small pond located in the eastern paddock. There are hedgerows with trees and areas of scrub at the boundaries, and a belt of scrub, hedgerow, and trees separates the two paddocks. The site access is located in the northwest corner and includes a short length of hardstanding and a grass track. Cowfold Stream runs adjacent to the southern boundary of the site. See Figure 2.
- 2.3 AEWC Ltd undertook a Preliminary Ecological Appraisal at the site in January 2026, during which the on-site habitats were mapped and condition assessed. An update habitat condition assessment was undertaken in May 2026, during the peak growing season.

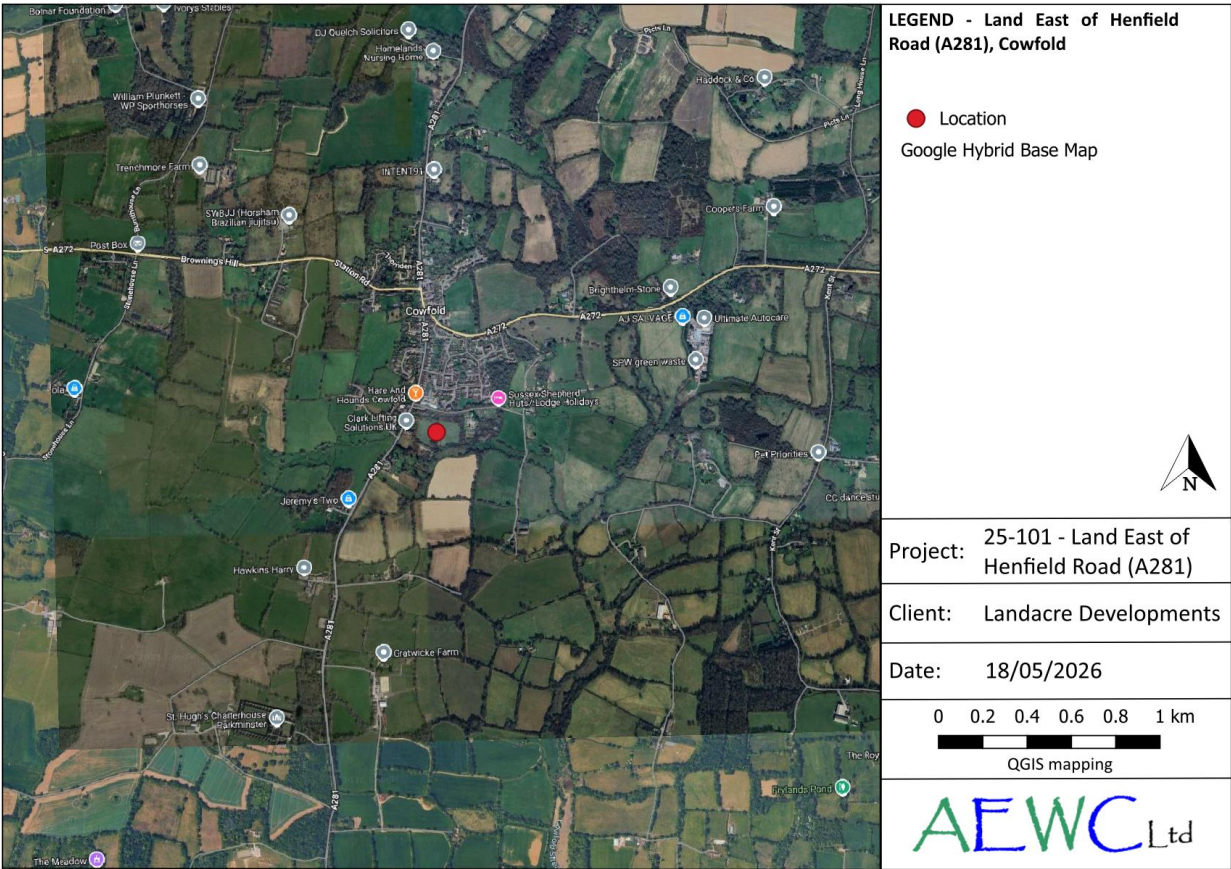


FIGURE 1: SHOWING THE SITE LOCATION



FIGURE 2: AERIAL VIEW OF THE SITE SHOWING THE SITE BOUNDARY

2.4 The proposals are for a residential development comprising 40 dwellings with associated private gardens, internal access roads, parking areas, drainage basins, and areas of public open space. The proposals will result in the loss of much of the modified grassland across the site and the removal of limited sections of scrub and hedgerow to facilitate access and development parcels. The majority of boundary vegetation, including native hedgerows, trees, and scrub, will be retained and enhanced where appropriate. Additional planting buffers and areas of open space are also incorporated throughout the site, including alongside the southern boundary and in the northeastern section of the site. The existing pond will be encompassed within a drainage basin feature. See Figure 3. Since this is an outline application, it should be noted that proposals are illustrative only and will be updated at the Reserved Matters stage.



FIGURE 3: PROPOSED PLANS

3. Method and Constraints

3.1 The estimated baseline and post-development biodiversity value of the habitats on the site has been calculated using the Defra Statutory Biodiversity Metric Calculation Tool (Version 1.0.4 released July 2025). Habitat condition was assessed using the Statutory Biodiversity Metric – Technical Annex 1 Condition Assessment Sheets (Version 1.0.2 released July 2025).

3.2 The following assumptions have been made and therefore associated constraints should be considered when looking at BNG unit values obtained:

- The potential for protected and notable species is not covered within the scope of this report.
- Baseline habitats on-site are taken from those identified within the surveys undertaken in January and May 2026. A short belt of bramble scrub was cleared from the northwestern track shortly prior to the January survey, and therefore this has been included as bramble scrub.
- A River Condition Assessment was carried out by an accredited surveyor in March 2026 from the stream adjacent to the southern boundary. Full details can be found within the River Condition Assessment report.
- Post-development habitats have been inferred from those given with the Proposed Site Layout as shown in Figure 3 and as discussed with the client.
- All areas and lengths are approximate and have been obtained from QGIS mapping software.
- Areas in hectares and lengths in km are both given to four decimal places, therefore small rounding errors are unavoidable.
- Habitat condition has been estimated for post-development habitats using the proposed development plans and professional judgement.
- Tree areas are calculated using the tree helper tool within the metric.
- The area of new trees outside of private gardens has been estimated using small trees in the tree helper tool.
- In line with the User Guide, proposed habitats that will fall inside private gardens have been included as 'vegetated garden' only.

3.3 Given the above constraints the values for BNG obtained should be considered to be an **estimate** only.

3.4 Calculations may need to be adjusted in future should the BNG metrics or requirements be revised. The calculations will also need to be updated at Reserved Matters stage to reflect the detailed scheme design.

4. Habitat Data

4.1 At baseline, the site comprises modified grassland, bramble scrub, mixed scrub, non-native ornamental hedgerow, native hedgerow, native hedgerow with trees, native hedgerow with trees associated with ditch, a line of trees, individual trees, a small pond, developed land sealed surface, and an adjacent stream to the south.

4.2 The majority of the site comprises modified grassland assessed as being in poor condition due to intensive horse grazing resulting in the grassland being species-poor

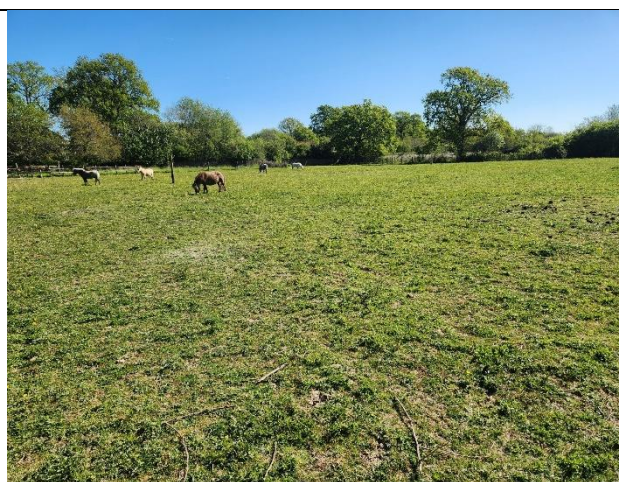
with a very short sward height and considerable damage through poaching. A small area of modified grassland associated with the site access track in the northwest corner is ungrazed and this was assessed as being in moderate condition.

- 4.3 Areas of bramble scrub and mixed scrub are present along the site boundaries and within the central corridor separating the two paddocks. All areas of mixed scrub were assessed as being in moderate condition. The areas of mixed scrub have positive condition features, but all lack a well-developed edge due to grazing pressure, and those along the southern boundary are species poor.
- 4.4 A short length of non-native and ornamental hedgerow is present in the northwestern corner of the site along the fenceline between the site gate and the road.
- 4.5 A short length of native hedgerow is present along the northern boundary of the access track and was assessed as being in moderate condition.
- 4.6 A wide native hedgerow with trees is present along the southern boundary of the site across both paddocks, bordering the adjacent stream, and was assessed as being in good condition.
- 4.7 A native hedgerow with trees associated with a shallow ditch is present between the two paddocks. The northern section was assessed as being in moderate condition, with the hedge layer being sparse and gappy, whilst the southern section was assessed as being in good condition. The ditch associated with this hedgerow appears to be dry for the majority of the year and would not be expected to hold water for more than four months of the year, and as such has not been included as a watercourse.
- 4.8 A line of Italian Lombardy poplar trees is present along the southern half of the western boundary. The trees are medium-sized, tall and narrow in form, with scrub vegetation present beneath the canopy. It was assessed as being in poor condition.
- 4.9 A low number of individual native trees are present throughout the site. Two medium sized individual trees adjacent to the access track were assessed as being in good condition, whilst one small individual tree adjacent to the access track was assessed as being in moderate condition. In the north-eastern corner of the site, three medium individual trees and one small individual tree were all assessed as being in moderate condition. A very large oak tree located within the southern part of the site was assessed as being in good condition.
- 4.10 A small pond is present within the eastern paddock and was assessed as being in poor condition. The pond appears to dry out annually and lacks typical aquatic or marginal vegetation. It is not considered to be priority habitat.
- 4.11 Areas of developed land sealed surface comprise the site access driveway and two timber field shelters.

- 4.12 Cowfold Stream runs adjacent to the south of the site, entering the red line boundary briefly. The western half of the stream was assessed as being in moderate condition whilst the eastern half was assessed as being in fairly good condition. There was no watercourse encroachment to either section. Both sections have no riparian encroachment on the off-site site but major riparian encroachment on the site side due to intensive grazing by small ponies right up to the stream edge.
- 4.13 The watercourse was assigned high strategic significance since it features in the West Sussex Local Nature Recovery Strategy. The remainder of the habitats on-site were assigned low strategic significance.
- 4.14 Full, detailed habitat descriptions can be found in the Preliminary Ecological Appraisal by AEWCLtd dated February 2026, and habitat condition assessment information can be found within the accompanying condition assessment sheets. See Photographs 1 – 12 below for the site at baseline in January and May 2026.



Photograph 1 – Grazed modified grassland in the eastern field.



Photograph 2 – Grazed modified grassland in the western field.



Photograph 3 – Ungrazed modified grassland, native hedgerow and individual trees on access track.



Photograph 4 – Mixed scrub along the eastern boundary.



Photograph 5 – Native hedgerow with trees along the southern boundary.



Photograph 6 – Native hedgerow with trees associated with a ditch dividing the two fields.



Photograph 7 – Line of trees with bordering scrub.



Photograph 8 – Very large individual tree.



Photograph 9 – Small pond (photographed in January – found to be almost completely dry in May).



Photograph 10 – Tarmac access drive.



Photograph 11 – Adjacent stream (east).



Photograph 12 – Adjacent stream (west).

- 4.15 The proposals will result in the loss of much of the modified grassland across the site and small areas of bramble scrub, mixed scrub, developed land sealed surface, and short sections of non-native hedgerow and native hedgerow with trees associated with ditch, and a single small tree. Most of the boundary vegetation will be retained.
- 4.16 Areas of developed land; sealed surface will be created throughout the site. Areas of vegetated garden will also be created associated within the proposed private residential gardens.
- 4.17 A wide buffer of semi-natural habitat will be created along the southern boundary. Within this area natural swales and meadow-type grassland (other neutral grassland) will be created through re-seeding with a suitable wildflower mix and appropriate ongoing management. The existing pond in this area will form part of a new swale.
- 4.18 Most of the existing bramble scrub is to be enhanced to mixed scrub through additional shrub planting and appropriate management, and the eastern boundary belt of mixed scrub will be enhanced to good condition through creation of a better edge habitat.
- 4.19 In northern areas of public open space, good condition modified grassland is to be both created and enhanced from the existing grassland. There will also be small areas of poor condition amenity type modified grassland across the site.
- 4.20 The northern section of the central native hedgerow with trees associated with ditch will be enhanced to good condition through additional hedgerow shrub planting to fill in gaps and improve the structure. Several new species-rich native hedgerows are also to be planted. There will be extensive tree planting across communal areas of the site.
- 4.21 The stream to the south will be enhanced through the removal of grazing pressure and enhancement of the grassland and scrub within 10m of the stream edge, resulting in a change from major encroachment to no encroachment on the site-side riparian zone.
- 4.22 The baseline and post-development habitats used for this BNG assessment are illustrated in Figures 4 and 5 respectively.

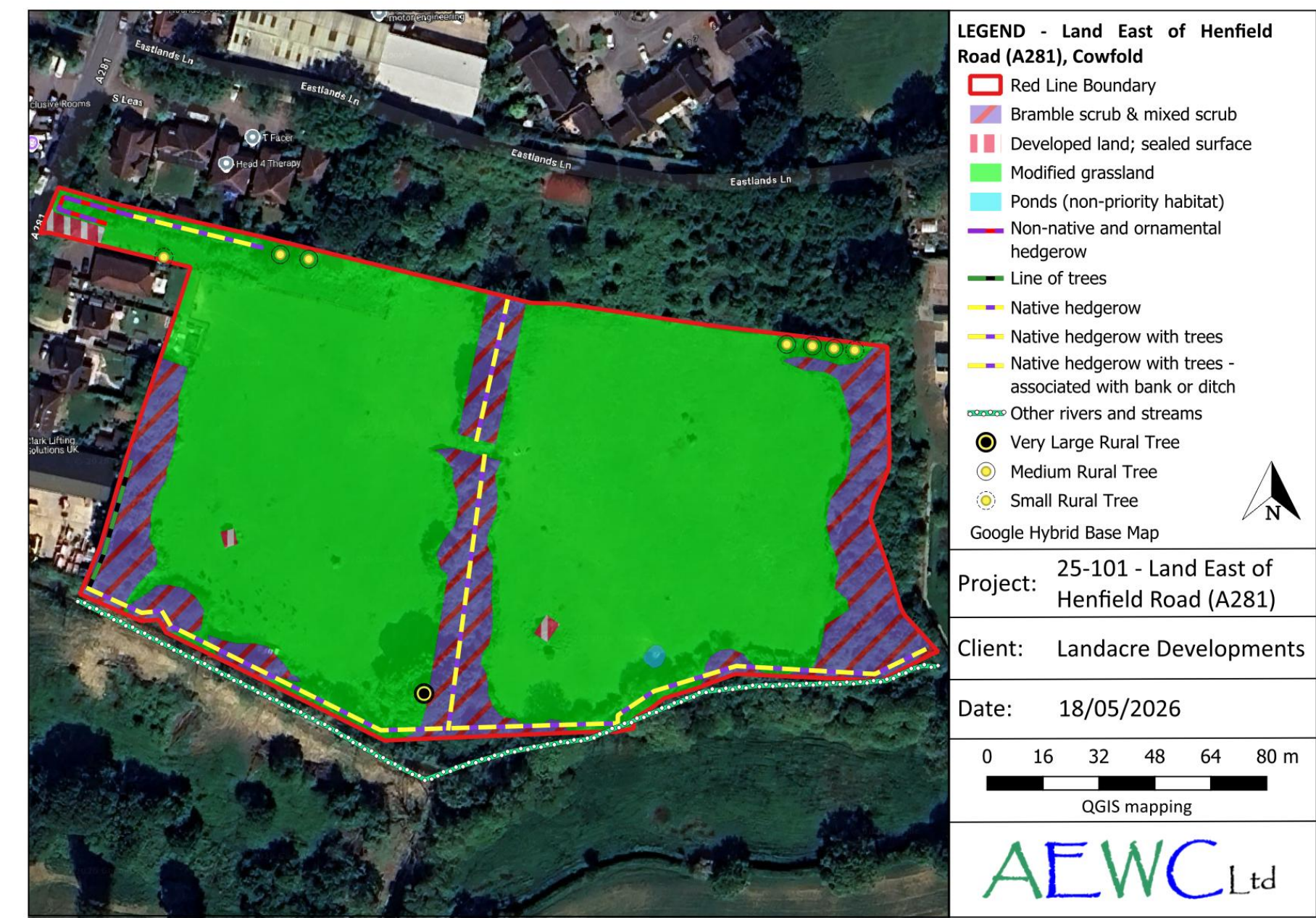


FIGURE 4: BASELINE ON-SITE HABITATS

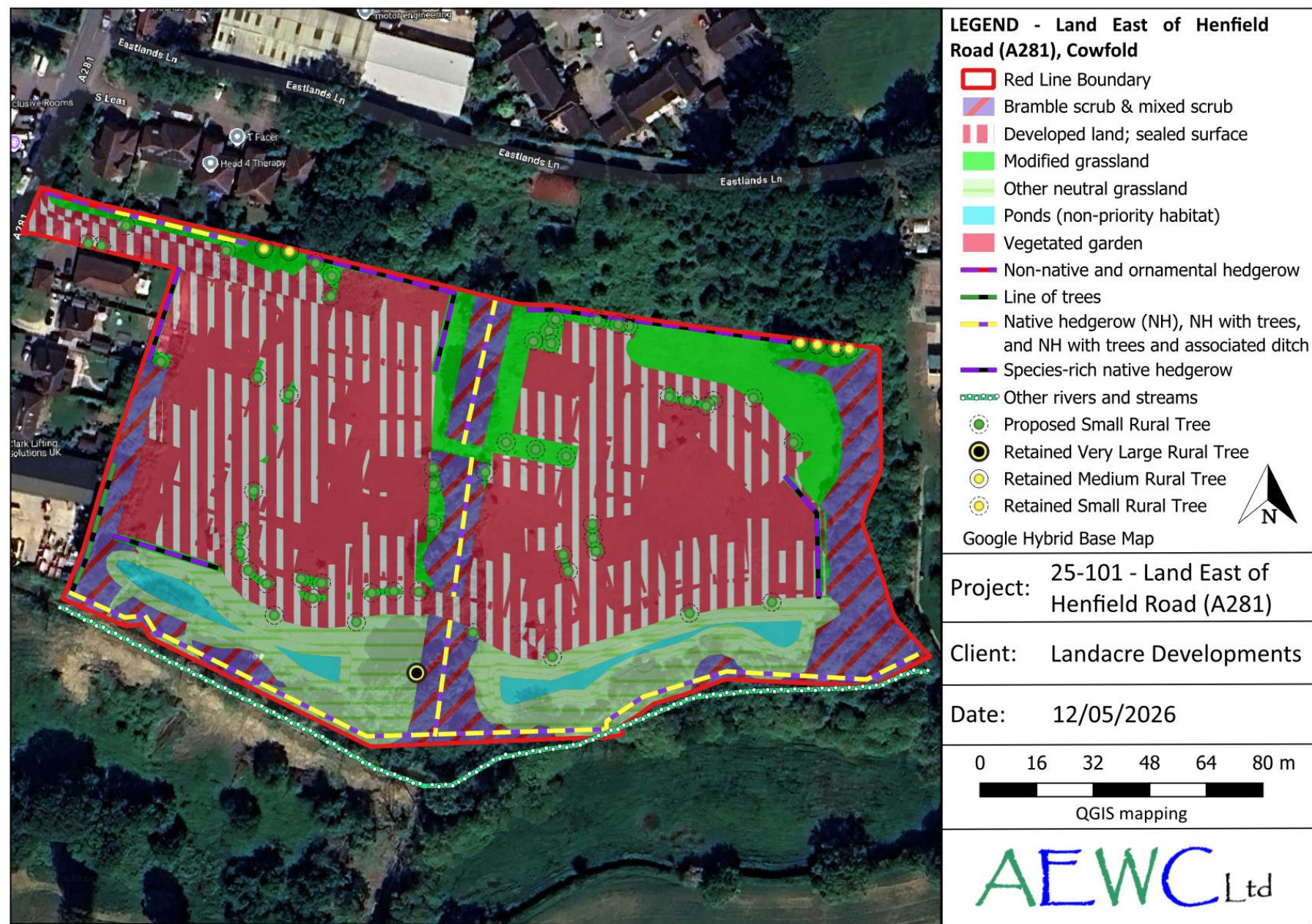


FIGURE 5: POST-DEVELOPMENT ON-SITE HABITATS

5. Results

- 5.1 The headline results using the above habitats and calculations are given below (refer to the metric for full details).

Table 1: Headline estimated BNG values

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Area habitat units</i>	2.09
	<i>Hedgerow units</i>	1.60
	<i>Watercourse units</i>	0.54
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Area habitat units</i>	23.87%
	<i>Hedgerow units</i>	30.48%
	<i>Watercourse units</i>	14.94%
Trading rules satisfied?	Yes ✓	

6. Conclusions & Recommendations

- 6.1 The proposed development will result in the loss of much of the modified grassland across the site, together with limited areas of scrub and sections of hedgerow and a single tree required to facilitate the development layout. The majority of the higher quality boundary vegetation will be retained.
- 6.2 Biodiversity enhancements incorporated into the development proposals include the creation of a wide belt of higher quality grassland with swales in the south of the site, enhancement of existing scrub, condition enhancement of modified grassland as well as creation of new areas of modified grassland, condition enhancement of an existing hedgerow, creation of new species-rich native hedgerows, and extensive tree planting. The adjacent stream to the south will be enhanced through the removal of grazing pressure and enhancement of the riparian corridor.
- 6.3 **The habitat unit results show an increase of 2.09 habitat units which equates to a 23.87% net gain.**
- 6.4 **The hedgerow results show an increase of 1.60 hedgerow units which equates to a 30.48% net gain.**
- 6.5 **The watercourse unit results show an increase of 0.54 watercourse units which equates to a 14.94% net gain.**
- 6.6 **As such, the minimum target of 10% net gain has been exceeded. Trading rules have also been satisfied.**

- 6.7 The proposals for the site include creation of notable areas of medium and high distinctiveness habitats, therefore the proposal is considered to deliver 'significant gain'.
- 6.8 **A Habitat Management and Monitoring Plan (HMMP) will need to be produced for the proposed habitat creation and enhancement where significant gains are proposed. This will set out exactly how the proposed habitats will be created through planting and ongoing management. Regular monitoring will be required to ensure the habitats are maintained at the quality that has been proposed. The HMMP will need to secure the land management for a period of at least 30 years.**

7. Draft Habitat Creation, Management, and Monitoring Plan

- 7.1 A draft plan for the creation, management, and monitoring of the habitats to be created or enhanced on-site is provided below. These habitats include modified grassland in good condition, other neutral grassland in moderate condition, ponds in moderate condition, individual trees in moderate condition, mixed scrub in moderate and good condition, native hedgerow with trees associated with ditch in good condition, and species-rich native hedgerows in moderate condition.
- 7.2 Other habitats created include modified grassland in poor condition, vegetated garden, and developed land; sealed surface. These habitats do not require specific management to achieve their target condition and therefore are not included in the draft HMMP.
- 7.3 The watercourse along the southern boundary of the site will be enhanced, however this will be through a reduction in riparian encroachment only, through the removal of grazing pressure and enhancement of the grassland and scrub within the riparian zone. As such, this enhancement is covered by the other neutral grassland and mixed scrub sections. No specific actions for the watercourse are included in the draft HMMP.
- 7.4 This plan should be seen as an outline in draft only and should be formalised following reserved matters planning consent. At this stage, a formal landscape plan will be created and the BNG may require amending accordingly.

Modified Grassland

Condition Targets

- 7.5 Modified grassland within areas of public open space in the northeast corner and central northern portion of the site are proposed as good condition. These will be partially created new and partially enhanced from the existing sparse, poor condition modified grassland. The following criteria will be targeted:

- A – There are 6-8 vascular plant species per m² present, including at least 2 forbs.
- C – Any scrub present accounts for less than 20% of the total grassland area.
- D – Physical damage is evident in less than 5% of total grassland area.
- E – Cover of bare ground is between 1 and 10%, including localised areas.
- F – Cover of bracken is less than 20%.
- G – There is an absence of invasive non-native plant species.

Creation / Enhancement

7.6 Instructions for the modified grassland creation / enhancement and initial aftercare are as follows:

- Initial works to create the grassland should be undertaken in spring/early summer (March – June) or autumn (September – November).
- Where applicable, the existing grassland is to first be heavily cut back with cuttings removed after mowing. 50-70% bare soil patches are to be created prior to overseeding using harrowing, raking, or light tilling.
- A good quality grass seed mix will need to be selected to suit the soil type, drainage, and regional conditions. This will include a range of fine grasses and modest proportion of native wildflowers.
- The seed mix should be sown at a density of 4-5 g/m². The seeds can be mixed with damp sand or similar for even distribution. They can then be hand sown or sown with a seed spreader. Following distribution of the seeds, the ground must be firmed with a roller or by treading to ensure good soil contact. Any specific guidance given by the seed mix provider should be followed.
- In the first year of establishment, the grassland should be mown regularly to a height of 5-10cm to prevent grasses from overshadowing emerging wildflowers. Cuttings must be removed to prevent nutrient enrichment. Dominant and/or invasive species should be regularly checked for, and spot-treated or removed as required. Any invasive species listed on Schedule 9 of The Wildlife and Countryside Act must be immediately removed. Any areas of poor establishment are to be re-seeded.

Management

7.7 After the first year of establishment, the modified grassland may be mown as required to achieve the desired appearance. Grass cuttings should always be removed to avoid nutrient accumulation.

7.8 No fertiliser is to be applied to the grassland. Herbicide should be used for spot treatments only.

- 7.9 The grassland should be continually checked for invasive species and encroaching bracken or scrub, and removals undertaken as required.
- 7.10 Where bare ground exceeds 10% of the total grassland area, bare patches are to be re-seeded. Encouraging residents to use formalised paths will minimise trampling across the entire grassland area.

Monitoring

- 7.11 Monitoring will be undertaken annually for the first five years and once every five years thereafter, during the optimal growing season. The modified grassland will be assessed against the six targeted condition criteria. Where any criteria are not met, remedial actions or adjustments to the management regime will be implemented.

Other Neutral Grassland

Condition Targets

- 7.12 Other neutral grassland in moderate condition will be created in the south of the site, surrounding the proposed swales and forming the upper sections of the swale slopes, which are proposed to be predominantly dry. The other neutral grassland will mostly be enhanced from the existing sparse, poor condition modified grassland, with some areas created following reprofiling to create the swales. The following criteria will be targeted:
- A – The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type.
 - C – Cover of bare ground is between 1% and 5%, including localised areas.
 - D – Cover of bracken is less than 20% and cover of scrub is less than 5%.
 - E – Combined cover of species indicative of suboptimal condition and physical damage accounts for less than 5% of the total area. No invasive non-native plant species are present.

Creation / Enhancement

- 7.13 Instructions for the other neutral grassland creation / enhancement and initial aftercare are as follows:
- Initial works to create the grassland should be undertaken in spring/early summer (March – June) or autumn (September – November).
 - Where applicable, the existing grassland is to first be heavily cut back with cuttings removed after mowing. 50-70% bare soil patches are to be created prior to overseeding using harrowing, raking, or light tilling.
 - A UK native wildflower and grass seed mix will need to be selected to suit the soil type, drainage, and regional conditions. For example, Emorsgate EM1 General

Purpose Meadow Mixture or similar. Within the swale basin, a wetland seed mix may be more appropriate.

- The seed mix should be sown at a density of 4-5 g/m². The seeds can be mixed with damp sand or similar for even distribution. They can then be hand sown or sown with a seed spreader. Following distribution of the seeds, the ground must be firmed with a roller or by treading to ensure good soil contact. Any specific guidance given by the seed mix provider should be followed.
- In the first year of establishment, the grassland should be mown regularly to a height of 5-10cm to prevent grasses from overshadowing emerging wildflowers. Cuttings must be removed to prevent nutrient enrichment. Dominant and/or invasive species should be regularly checked for, and spot-treated or removed as required. These include, but are not limited to, bracken, dock, thistles, common nettle, creeping buttercup, greater plantain, and cow parsley. Any invasive species listed on Schedule 9 of The Wildlife and Countryside Act must be immediately removed.

Management

7.14 After the first year of establishment, an annual routine can be adopted for long-term management of the grassland. Cuts will include:

- A spring cut – undertaken in March or April, the grassland is cut to 5-10cm height to remove dead grass and prepare for new growth, cuttings to be immediately removed.
- A summer hay cut – undertaken between late July and end of August, after wildflowers have set seed, the grassland is cut to 5-10cm height, cuttings to be left to dry for a few days to allow seeds to drop before removing.
- Autumn cutting (optional)– undertaken between September and November, cuttings to be immediately removed.

7.15 No fertiliser is to be applied to the grassland. Herbicide should be used for spot treatments only. The grassland should be continually checked for dominant or invasive species, and removals undertaken as required.

7.16 The grassland should be continually checked for invasive or dominant species and encroaching bracken or scrub, and removals undertaken as required.

7.17 Where bare ground exceeds 5% of the total grassland area, bare patches are to be re-seeded. Encouraging residents to use formalised paths will minimise trampling across the entire grassland area.

7.18 Yellow rattle can be introduced to further help diversify the species present within the grassland. This is a semi-parasitic plant which feeds off the nutrients in the roots of nearby grasses, reducing the vigorous growth of the grass and allowing more delicate grassland herb species to develop.

Monitoring

- 7.19 Monitoring will be undertaken annually for the first five years and once every five years thereafter, during the optimal growing season. The modified grassland will be assessed against the four targeted condition criteria. Where any criteria are not met, remedial actions or adjustments to the management regime will be implemented.

Ponds (Non-Priority Habitat)

Condition Targets

- 7.20 Ponds in moderate condition will be created in the south of the site, within the deepest parts of the swales. The following criteria will be targeted:
- A – The pond is of good water quality, with clear water indicating no obvious signs of pollution.
 - C – Less than 10% of the water surface is covered with duckweed or filamentous algae.
 - F – There is an absence of listed non-native plant and animal species.
 - G – The pond is not artificially stocked with fish.
 - H – Emergent, submerged or floating plants (excluding duckweed) cover at least 50% of the pond area which is less than 3m deep.
 - I – The pond surface is no more than 50% shaded by adjacent trees and scrub.

Creation

- 7.21 Construct the swales to the approved engineering design, incorporating gently sloping margins and a range of water depths to provide varied aquatic habitat.
- 7.22 Create shallow marginal shelves around the perimeter to encourage the establishment of emergent vegetation.
- 7.23 Allow the swales to fill naturally where feasible.
- 7.24 Plant with a diverse mixed of native emergent, marginal and submerged aquatic and wetland species of local provenance. Suitable species may include soft rush, common rush, yellow flag iris, water mint, lesser pond sedge, brooklime, and amphibious bistort.
- 7.25 No fish shall be introduced to the swales.

Management

- 7.26 The swales will be maintained to ensure they continue to provide both sustainable drainage and ecological functions.
- 7.27 Annual inspections will ensure any inlets, outlets and flow controls remain free of excessive debris and continue to function as designed.

- 7.28 Marginal and emergent vegetation is to be managed on a rotational basis, removing no more than one-third of emergent vegetation in any single year where management is required to maintain hydraulic capacity.
- 7.29 The majority of aquatic vegetation is to be retained to provide habitat and maintain at least 50% vegetation cover within shallow water areas.
- 7.30 Excessive accumulations of leaf litter or sediment will be removed only where they compromise drainage performance or ecological quality, undertaking works on a rotational basis.
- 7.31 Scrub or tree encroachment adjacent to the pond edges will be prevented where this begins to cause shading. The site design will retain an open area immediately surrounding the ponds, with no trees within a few metres.
- 7.32 Any invasive species are to be removed upon identification.
- 7.33 No fertilisers, herbicides or pesticides are to be applied within or adjacent to the swales, except for targeted treatment of invasive non-native species where necessary.
- 7.34 The ponds are not to be stocked with fish, and any non-native fish identified present must be removed upon identification.
- 7.35 The ponds are to be monitoring for excessive duckweed or filamentous algal growth. Where these become persistent, potential nutrient sources will be investigated.

Monitoring

- 7.36 Monitoring will be undertaken annually for the first five years and once every five years thereafter, during the optimal growing season. The ponds will be assessed against the six targeted condition criteria. Where any criteria are not met, remedial actions or adjustments to the management regime will be implemented.

Individual Trees

Condition Targets

- 7.37 New trees in moderate condition will be planted across the site. The following criteria will be targeted (criterion A may be passed for a low proportion of the trees, if required):
- A – The tree is a native species (or at least 70% within the block are native species).
 - B – The tree canopy is predominantly continuous (individual trees automatically pass this criterion).
 - D – There is little or no evidence of an adverse impact on tree health by human activities. There is no current regular pruning regime, so the trees retain >75% of expected canopy for their age and height.
 - F – More than 20% of the tree canopy area is oversailing vegetation beneath.

Creation

7.38 A range of native tree species are to be selected, appropriate for the local area and habitat type. Up to 30% of the trees may be non-native species if required, however these must not be species with invasive tendencies.

7.39 Trees are to be planted on vegetated areas, not within hardstanding.

7.40 Instructions for the tree planting and initial aftercare are as follows:

- The planting of bare rooted trees should be carried out between November and March, avoiding periods of frost, snow, or waterlogged soil. Container trees can be planted throughout the year, but if planted in the summer they will need a lot more watering.
- Prior to planting, vegetation must be cleared in a one-metre circle where the tree will be planted. Competition for water and nutrients can severely affect trees, particularly when young. This circle around the tree should therefore be kept clear of grass and weeds for at least three years after planting, through weed-suppressant matting, application of a thick mulch or regular weeding.
- If using bare-root trees, soak the roots in water for 1-2 hours before planting to prevent drying out.
- Where the soil structure is good, maidens can be notch-planted. For larger trees, and where soil structure needs to be improved, a hole at least twice as wide as the tree's root ball and slightly deeper than the roots must be dug.
- Place the tree in the hole with the root collar (where the trunk meets the roots) at soil level. Do not bury the trunk. Fill in the hole, firming the soil gently.
- The trees should be staked with a short stake of no more than 30 cm above ground level. This will allow the tree to flex and strengthen the trunk and roots.
- Apply a 5-10cm layer of mulch (such as wood chips or well-rotted compost) around the base of the tree, leaving a gap around the trunk to prevent rot, to suppress weeds and retain moisture.
- Use tree guards or fencing to protect young trees from grazing animals. Guards should be checked regularly and adjusted if they are causing the tree any damage.
- Water regularly during the first 2-3 growing seasons, especially during dry periods.

Management

7.41 Stakes should be removed after 2-3 years, once the tree is stable.

7.42 Tree guards should be removed once the tree is well-established (typically after 3-5 years) or if the tree begins to outgrow the guard.

- 7.43 Once the trees are established, no ongoing maintenance should be required. Any trees that fail to establish, die, or fall should be replaced in the next appropriate planting season.
- 7.44 Trees should not be subject to regular pruning, allowing the tree canopy to achieve at least 75% of its expected size. Light pruning may be undertaken where identified as necessary for tree health or where trees present a health and safety risk or obstruction.
- 7.45 No herbicides are to be used on the trees other than for targeted, short-term treatments if required. Should vandalism of trees become an issue, action must be taken to prevent this.

Monitoring

- 7.46 Monitoring will be undertaken annually for the first five years and once every five years thereafter, during the optimal growing season. The trees will be assessed against the three-four targeted condition criteria. Where any criteria are not met, remedial actions or adjustments to the management regime will be implemented.

Mixed Scrub (Enhanced from Bramble Scrub, Moderate Condition)

Condition Targets

- 7.47 Areas of bramble scrub along the western and southern boundaries and between the two fields will be enhanced to mixed scrub in moderate condition. The following criteria will be targeted:
- A – The parcel represents a good example of its habitat type – the appearance and composition of the vegetation closely matches its UKHab description. At least 80% of the scrub is native, there are at least three native woody species, and no single species comprises more than 75% of the cover.
 - B – Seedlings, saplings, young shrubs and mature shrubs are all present.
 - C – There is an absence of invasive non-native plant species and species indicative of suboptimal condition make up less than 5% of ground cover.

Creation / Enhancement

- 7.48 Instructions for the scrub creation and initial aftercare are as follows:
- Scrub planting should be carried out between November and March, avoiding periods of frost, snow, or waterlogged soil.
 - Small patches of bramble scrub are to be selectively cut back, using hand tools, to create spaces for new shrub planting. The ground in these patches must be cleared of vegetation and soil loosened prior to planting.
 - UK native structural shrub species should be selected, such as hawthorn, blackthorn, field maple, and hazel. Secondary species should also be incorporated to provide diversity, such as dogwood, dog rose, wild privet, and goat willow.

- Shrubs should be planted at a density of 1-2 shrubs per square metre.
- Dig holes large enough to accommodate the root systems of the shrubs.
- If using bare-root plants, soak the roots in water for 1-2 hours before planting to prevent drying out.
- Place each shrub so the base of the stem is at soil level and spread the roots out gently. Fill the holes with soil, firming it down gently.
- Apply a layer of mulch (such as wood chips or well-rotted compost) around the base of the plants to suppress weeds and retain moisture.
- Water regularly during the first 2 years, especially in dry spells, to help the plants establish.

Management

- 7.49 Scrub should be managed through the coppicing or removal of individual bushes, or bramble patches, as required in order to thin the habitat and maintain structural diversity with varied age classes. The scrub habitat should be managed on a minimum of a 4-year cycle, with no more than one quarter of the scrub removed in any given year, this should take place in September/October to fall outside of the bird nesting season, but prior to the hibernation period when hibernating amphibians, reptiles and hedgehogs may be present.
- 7.50 Any invasive species or species indicative of suboptimal condition (non-native woody species or woodland / hedge ground flora) are to be removed upon identification.

Monitoring

- 7.51 Monitoring will be undertaken annually for the first five years and once every five years thereafter, during the optimal growing season. The mixed scrub will be assessed against the three targeted condition criteria. Where any criteria are not met, remedial actions or adjustments to the management regime will be implemented.

Mixed Scrub (Enhanced to Good Condition)

Condition Targets

- 7.52 The block of mixed scrub at the eastern boundary currently meets four of five condition criteria (A, B, C and E). To enhance this block to good condition, criterion D will also be targeted – “the scrub has a well-developed edge with scattered scrub and tall grassland and/or forbs present between the scrub and adjacent habitat”.

Enhancement

- 7.53 The strip of grassland bordering the block of scrub will be allowed to grow tall, creating tall grassland edge habitat. The grassland may be cut once annually in late summer / early autumn but must otherwise be retained in its natural condition.

- 7.54 The western edge of the block of scrub is to be selectively coppiced, creating an edge of less dense scrub, with scattered young growth allowed to establish.

Management

- 7.55 Scrub should be managed through the coppicing or removal of individual bushes as required in order to thin the habitat and maintain structural diversity with varied age classes. The scrub habitat should be managed on a minimum of a 4-year cycle, with no more than one quarter of the scrub removed in any given year, this should take place in September/October to fall outside of the bird nesting season, but prior to the hibernation period when hibernating amphibians, reptiles and hedgehogs may be present.
- 7.56 Any invasive species or species indicative of suboptimal condition (non-native woody species or woodland / hedge ground flora) are to be removed upon identification.
- 7.57 Existing rides and glades through the scrub block are to be maintained through cutting back during the annual cuts.
- 7.58 The western edge of the block is to be continually maintained as lower level and lower density scrub to maintain a graduated edge habitat.
- 7.59 The strip of grassland bordering the western edge of the scrub may be cut once annually in late summer / early autumn but must otherwise be retained in its natural condition.

Monitoring

- 7.60 Monitoring will be undertaken annually for the first five years and once every five years thereafter, during the optimal growing season. The mixed scrub will be assessed against the five targeted condition criteria. Where any criteria are not met, remedial actions or adjustments to the management regime will be implemented.

Native Hedgerow with Trees Associated with Ditch

Condition Targets

- 7.61 The northern section of the native hedgerow with trees associated with ditch that separates the two on-site fields is currently in moderate condition, failing criteria A2, B2, C1, D2, and E1. These result largely from excessive flailing which has removed much of the hedge layer. The hedgerow will be enhanced to good condition through targeting the following criteria in addition to those already achieved:
- A2 – width of >1.5m average along length.
 - B2 – gaps make up <10% of total length and no canopy gaps >5m.
 - C1 – >1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length on at least one side of the hedgerow

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

Enhancement

7.62 New native shrub whips will be planted to widen the hedgerow and fill in gaps.

7.63 Instructions for the native hedgerow planting and initial aftercare are as follows:

- Hedgerow planting should be carried out between November and March, avoiding periods of frost, snow, or waterlogged soil.
- The ground must be cleared of grass or other vegetation and soil loosened prior to planting.
- UK native woody species must be selected to bulk out the hedgerow. These could include hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), field maple (*Acer campestre*), hazel (*Corylus avellana*), dogwood (*Cornus sanguinea*), and/or wild privet (*Ligustrum vulgare*). Native climbing plants such as honeysuckle (*Lonicera periclymenum*) and dog rose (*Rosa canina*) can also be incorporated.
- Shrubs should be planted as a staggered double row to provide a dense hedgerow. Each plant should be spaced 30-50cm apart in each row, with 40-50cm between the two rows.
- Along the existing hedge line, where there are gaps or only a single row of shrubs, dig holes or a trench deep enough to accommodate the root systems of the plants.
- If using bare-root plants, soak the roots in water for 1-2 hours before planting to prevent drying out.
- Place each plant so the base of the stem is at soil level and spread the roots out gently. Fill the holes with soil, firming it down gently.
- Apply a layer of mulch (such as wood chips or well-rotted compost) around the base of the plants to suppress weeds and retain moisture.
- Use spiral guards or fencing to protect young plants from grazing animals.
- Water regularly during the first 2 years, especially in dry spells, to help the plants establish.
- Lightly trim the top of the hedgerow in the first 2 years to encourage bushy growth.

7.64 Condition criterion C1 will be satisfied by the enhancement of grassland and scrub surrounding the hedgerow, as covered within previous sections. The adoption of correct hedgerow management without aggressive flailing will satisfy criterion D2.

Management

7.65 Once established, the hedgerow should be cut every 2-3 years, avoiding nesting bird season and preferably being undertaken in late winter (January or February) after winter berries have finished fruiting. A minimum height and width of 1.5m is to be

maintained, but a height of at least 3m is preferable provided the hedgerow does not become leggy. Should any invasive species be identified, these must be immediately removed.

Monitoring

7.66 Monitoring will be undertaken annually for the first five years and once every five years thereafter, during the optimal growing season. The hedgerow will be assessed against the additional four targeted condition criteria and the five criteria already met. Where any criteria are not met, remedial actions or adjustments to the management regime will be implemented.

Species-Rich Native Hedgerow

Condition Targets

7.67 Several lengths of species-rich native hedgerow will be planted across the site, in moderate condition. The following condition criteria will be targeted:

- A1 – height of >1.5m average along length.
- A2 – width of >1.5m average along length.
- B1 – gap between ground and base of canopy <0.5m for >90% of length
- B2 – gaps make up <10% of total length and no canopy gaps >5m.
- D1 - >90% of the hedgerow and undisturbed ground is free of invasive non-native plant species and recently introduced species.

Creation

7.68 Instructions for the native hedgerow planting and initial aftercare are as follows:

- Hedgerow planting should be carried out between November and March, avoiding periods of frost, snow, or waterlogged soil.
- The ground must be cleared of grass or other vegetation and soil loosened prior to planting.
- UK native woody species must be selected, with at least five species used per 30m length to create a species-rich hedge. These could include hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), field maple (*Acer campestre*), hazel (*Corylus avellana*), dogwood (*Cornus sanguinea*), and/or wild privet (*Ligustrum vulgare*). Native climbing plants such as honeysuckle (*Lonicera periclymenum*) and dog rose (*Rosa canina*) can also be incorporated.
- Shrubs should be planted as a staggered double row to provide a dense hedgerow. Each plant should be spaced 30-50cm apart in each row, with 40-50cm between the two rows.
- Dig holes or a trench deep enough to accommodate the root systems of the plants.
- If using bare-root plants, soak the roots in water for 1-2 hours before planting to prevent drying out.

- Place each plant so the base of the stem is at soil level and spread the roots out gently. Fill the holes with soil, firming it down gently.
- Apply a layer of mulch (such as wood chips or well-rotted compost) around the base of the plants to suppress weeds and retain moisture.
- Use spiral guards or fencing to protect young plants from grazing animals.
- Water regularly during the first 2 years, especially in dry spells, to help the plants establish.
- Lightly trim the top of the hedgerow in the first 2 years to encourage bushy growth.

Management

7.69 Once established, the hedgerow should be cut every 2-3 years, avoiding nesting bird season and preferably being undertaken in late winter (January or February) after winter berries have finished fruiting. A minimum height and width of 1.5m is to be maintained, but a height of at least 3m is preferable providing the hedgerow does not become leggy. Should any invasive species be identified, these must be immediately removed.

Monitoring

7.70 Monitoring will be undertaken annually for the first five years and once every five years thereafter, during the optimal growing season. The hedgerow will be assessed against the five targeted condition criteria. Where any criteria are not met, remedial actions or adjustments to the management regime will be implemented.

8. Wildlife Enhancements

Bats and Birds

- 8.1 To enhance the site for bats and birds known to be present within the local area it is recommended that at least 40 bat boxes and 40 bird boxes be installed within the site. Boxes could be installed on existing retained trees and/or integrated into the new buildings.
- 8.2 Ideally bat boxes would be woodcrete or similar hard-wearing material (rather than the less durable wooden boxes) and should be installed at least 3m above the ground (where safe installation is possible), sheltered from strong winds and exposed to the sun for part of the day (usually south or south-west facing).
- 8.3 Example tree-mounted bat boxes are shown below: Schwegler 1FF bat box (below left, suitable for pipistrelle bats *Pipistrellus sp.*), and a Schwegler 2F bat box (below right, suitable for long-eared bats *Plecotus sp.*), or similar bat boxes.



- 8.4 Example integrated bat boxes are shown below: Integrate Eco Bat Box (below left), Habibat Bat box - Plain for rendering (below centre) and a Schwegler 1WI Summer and Winter bat box (below right) or similar bat boxes.



- 8.5 Tree-hung bird boxes should comprise a mix of traditional '32mm round-holed' (below left: which are suitable for tits, sparrows, redstarts and nuthatches) and open-fronted boxes (below right: these are suitable for pied wagtails, robins and wrens), and also ideally be woodcrete or similar hard-wearing material (rather than the less durable traditional wooden boxes). Boxes should be installed with an aluminium nail or screw to prevent tree damage between 2m and 4m above ground for round-holed and low down, below 2m, well hidden in vegetation for open-fronted boxes, and (unless shaded by buildings or trees) be facing north or east.



- 8.6 Integrated bird boxes should include swift bricks (below left), these should be installed at a minimum of 4m above the ground, north or east facing and with open flight access, or sparrow terraces (below centre), which should be installed in line with vegetation such as trees or hedge lines to allow the birds the use of jumping off points, and be installed a minimum of 3m above the ground on a north or east elevation. Where suitable overhanging eaves are present, house martin cups (below right) may also be suitable.



Reptiles and Amphibians

- 8.7 **To enhance the site for reptiles and amphibians, a hibernaculum and/or log pile could be created on-site.** These would use untreated timber, logs, brash, rubble and/or soil, arranged to provide a range of crevices and voids. On well-draining soils, hibernacula can be partially buried, with a stable base of rubble or hardcore overlain by logs and soil to ensure frost-free refuges suitable for overwintering. Hibernacula should be constructed in moderately shaded, well-drained areas whilst log piles should be constructed in sunny, south-facing locations. Both should be located away from areas of regular disturbance and at the margins of suitable habitat such as rough grassland, scrub edges, or pond margins.

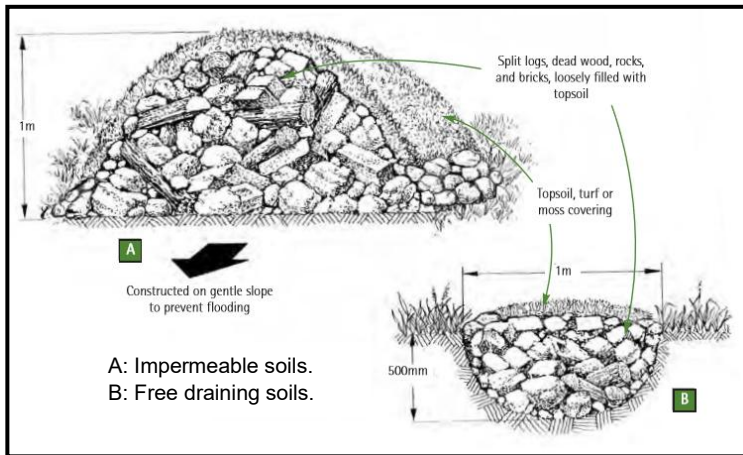
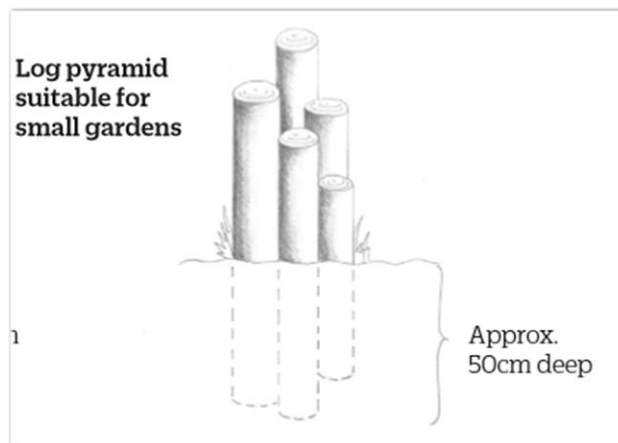


Diagram from Great Crested Newt Conservation Handbook

Stag Beetles

- 8.8 A log stack could be created in a shaded area of the site to provide dead wood habitat features for stag beetles and other saproxylic species.
- 8.9 A suitable log pile comprises a variety of lengths of untreated hard wood at least 5cm in diameter, this should be sighted in partial shade and the wood partially buried to prevent it drying out. See below diagram and picture below from the PTES 'how to build a loggery' factsheet - (<https://ptes.org/get-involved/wildlife-action/help-stag-beetles/>).



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