CHRISTOPHER REED

DENNE MEADOW FARM, DENNE ROAD, HORSHAM,
WEST SUSSEX, RH12 1JR

Biodiversity Net Gain

April 2025

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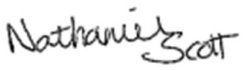
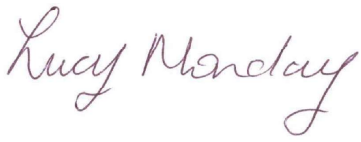
Environmental Assessment Services Ltd

REPORT DATA SHEET

Requirement	Data
Report Reference	650a/GB/DenneMdwsFrm/BNG
Date	November 2024 (Updated April 2025)
Client	Christopher Reed
Report type	Biodiversity Net Gain
Purpose	Submission to Planning
Revisions	17/04/2025: Use of the Landscape Mitigation Strategy Plan PJC.1414.00 Rev D dated 03/02/2025 produced by PJC to update the Proposed Habitat Map and BNG metric.
Prepared by	Nathaniel Scott BSc(Hons), MSc  Signed
Approved and updated by	Lucy Monday BSc (Hons) ACIEEM  Signed

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SUMMARY OF AMENDMENTS:

1. Alteration of proposed sealed surface:
    - The previous proposed habitat mapping and metric calculation included an arm of hard standing which extended into the garden. This has been removed resulting in a reduction in developed land: sealed surface from 0.51 ha to 0.48 ha.

2. Replacement of some Vegetated Garden area with Other Neutral Grassland:
    - The area of formal garden planting (lawn and planted bed) has been reduced and replaced with meadow planting to be managed in accordance with the Landscape Mitigation Strategy. The meadow planting area has been recalculated as other neutral grassland with a target condition of 'poor' – although a better condition is likely to be achieved, this is not necessary to achieve more than 10% net gain.

3. The proposed pond has been downgraded from Priority to non-priority.

The above alterations have resulted in a net gain of 28.39% and the trading rules (previously failed due to a loss of other neutral grassland), have now been passed as a result of the replacement of Vegetated Garden with Other Neutral Grassland.

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1. BACKGROUND

1.1 Environmental Assessment Services Ltd have been appointed to carry out a Biodiversity Net Gain (BNG) assessment for submission to Horsham District Council in regard to the current planning application for the proposed redevelopment at Denne Meadows Farm, Horsham.

1.2 The site (as existing) comprises an area of hardstanding with two residential dwellings, together with a number of detached outbuildings including a garage, office building, barns, and sheds. The wider site includes access and grounds to the north, east and southeast which include areas of traditional orchard, amenity grassland (lawn), and wooded ornamental garden.

1.3 The proposed redevelopment of the site will include the removal of the existing residential buildings together with the detached outbuildings to allow for the provision of a two-storey, single residential dwelling together with an annex and pitched-roofed agricultural style barn.

1.4 This assessment has been prepared generally in accordance with the CIEEM EcIA guidelines, as applicable, as recognised by the British Standard on Biodiversity BS42020:2013, The Statutory Biodiversity Metric Users Guide (Defra Feb 2024) and The UK Habitat Classification (Version 2).

2. METHOD

2.1 The BNG assessment was undertaken as follows:

a) Review of previous ecological reports for the site including the Preliminary Ecological Appraisal (PEA) prepared for Christopher Reed, by EAS Ltd, in November 2023.

b) Identification of existing habitats and linear features on site, using the *UKHab* definitions, during the site walkover assessment conducted 21 August 2024.

c) Assessment of habitat and linear feature Conditions using the Biodiversity Metric Condition Sheets, where appropriate.

d) Calculation of Biodiversity Units for pre- and post-development scenarios, following Defra's Statutory Biodiversity Metric User Guide.

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e) Determination of strategic significance of the site through review of the Horsham District Council Local Plan and statutory and non-statutory sites (EA Magic Map).

2.2 Evidence to support the completed biodiversity metric (excel spread sheet), and the pre- and post-development habitat mapping (submitted in conjunction with this report) is presented herewith.

3. HABITAT ASSESSMENT

3.1 Existing Habitats

3.1.1 Developed Land; Sealed Surface (u1b)

Developed land is defined as: *Soil surface sealed with impervious material as a result of urban development and infrastructure construction.* Buildings (u1b5) have been included within this definition for this assessment.

The existing access, residential dwellings, and detached outbuildings have a combined footprint of 5091.18 m^2

This habitat is not allocated a condition type and is recorded within the metric as Condition: N/A – Other.

3.1.2 Vegetated Garden

Vegetated garden is defined as: *Garden that is principally vegetated, for example with large areas of grass and flower beds*.

An area of garden lawn is situated to the south and southeast of the residential dwellings. The lawn has an area of 4240.77 m^2 and is 'managed and maintained to a relatively short sward (typical garden lawn). A number of evergreen ornamental trees are found within the lawn area.

This habitat is not allocated a condition type and is recorded within the metric as Condition: N/A – Other.

3.1.3 Traditional Orchard (g27)

Traditional orchard is defined as: *Open-grown fruit trees within herbaceous vegetation. The defining feature is habitat structure, rather than vegetation type, topography or soils. Traditional orchards are structurally and ecologically similar to wood-pasture and parkland, with open-grown trees set in herbaceous vegetation, but they are generally distinguished from these Priority Habitat complexes by the following characteristics; The species composition of the trees, these being primarily in the Rosaceae family; the usually denser arrangement of the trees; the small scale of individual habitat patches; and the wider dispersion and greater frequency of occurrence of habitat patches in the countryside.*

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The site contains a fenced orchard which is situated to the south of the residential dwellings. The total footprint of the orchard is 1069.66 m^2.

Following assessment of its condition, the orchard is considered to be in 'moderate' condition. A moderate condition is achieved when 4-5 criteria are met or if 6-7 criteria are met but the two essential criteria are failed. In this case, five of the criteria are met:

i. Criterion C: *Less than 5% of fruit trees are smothered by scrub. Small patches of dense scrub and or scattered scrub growing between trees can be beneficial to biodiversity, however, these occupy less than 10% of ground cover.*

ii. Criterion D: *There is evidence of formative or restorative pruning to maintain longevity of trees.*

iii. Criterion E: *At least 95% of the trees are free from damage caused by humans or animals, for example browsing, bark stripping, or rubbing on non-adjusted ties.*

iv. Criterion F: *Grassland is not overgrazed, poaching is not evident around the trees, with no more than 10% of trees poached under the canopy.*

v. Criterion H: *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 10% ground cover.*

In this case, the following three criteria are failed:

i. Criterion A (Essential for achieving Good condition): *Presence of ancient or veteran trees.*

ii. Criterion B (Essential for achieving Good condition): *Presence of deadwood in or on trees, or on the ground: at least 20% of mature trees have deadwood associated with them.*

iii. Species richness of the grassland is equivalent to a medium, high, or very high distinctiveness grassland.

3.1.4 Other Woodland; Mixed (w1h) / Plantation (h~29)

Other woodland; mixed is defined as: *A mixture of broadleaved and coniferous trees in which neither make up 80% of the tree cover.*

Plantation is defined as: *Obviously planted trees that are predominantly even-aged, of uniform density and similar forms, normally occurring in rows.* **Wooded ornamental gardens** and arboretum collections are included within this habitat.

Within the northeast of the site is an area of planting undertaken by the former owner of the site which comprises a mixture of deciduous and ornamental evergreen species. All specimens present appeared to be a similar age-class of uniformed density with a species poor understorey. This area of planting appears to be of ornamental value rather than a crop. Deciduous species present include silver birch,

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small-leaved lime, alder, and horse-chestnut. Signs of horse-chestnut leaf miner were identified. In this case, due to its ornamental value this habitat has been further identified as Plantation (secondary code h~29) which includes wooded ornamental gardens.

This area of mixed ornamental wooded garden (classified as 'Other Woodland) has an area of 1395.35 m^2. Under the woodland Condition assessment the parcel has been determined to be in 'Poor' condition. A poor condition is achieved when a habitat achieved a score of < 26. In this case, the parcel achieved a score of 21.

3.1.5 Other Neutral Grassland

Other neutral grassland is defined as: *A neutral grassland that does not meet the definitions of either Lowland Meadow (g3a) or Upland Hay Meadow (g3b) AND meets at least three of the four criteria:*

i. >20% cover of broadleaved herbs and sedges;

ii. >8 species per m^2 (including forbs, grasses, sedges and rushes, and excluding bryophytes;

iii. ≥1 grass species that is not generally sown for intensive agricultural production (ie. Rye-grasses Lolium spp., Timothy Phleum pratense, Cocks-foot Dactylis glomerata, Meadow fescue Festuca pratensis) is at least abundant;

iv. Cover of Rye-grasses Lolium spp. and White Clover Trifolium repens, where present is <30%.

Within the northeast of the site, within the defined red line boundary, is an area of other neutral grassland which forms part of a larger area of grassland that extends to the east of the site. The section included within the red line boundary has a total area of 1118.85 m^2.

The grassland was determined to be in a 'moderate' condition. To achieve a good condition five to six of the criteria must be passed including the two essential criterion. In this case, five criteria are passed but the second essential criterion (F) is not passed at his time:

Passed Criterion:

i. Criterion A (Essential): *This 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.*

ii. Criterion B: *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 insects, birds, and small mammals to live and breed.*

iii. Criterion C: *Cover of bare ground is between 1% and 5%, including localised area, for example, rabbit warrens.*

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iv. Criterion D: *Cover of bracken Pteridium aquilinum is less than 20% and cover of scrub (including bramble Rubus fruticosus agg.) is less than 5%.*

v. Criterion E: *Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of the total area. If any invasive non-native plant species are present, this criterion is automatically failed.*

Failed Criterion

vi. Criterion F (Essential): *There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type.*

3.2 Existing Linear Features

3.2.1 Ditch (r50)

Defined as: *an artificial standing-water or dry ditch linear feature that is <5m and that is about ≥20 times longer than it is wide.*

Within the southeast of the site is a low-lying area which is connected to a drainage ditch which runs to the north of the red-line boundary. No water was present at the time of the site walkover. It is considered that this area is only likely to carry water during peak rainfall events and may therefore hold water seasonally. This linear feature is 93.92 m in length and has associated wetland planting including Juncus spp. along the fringes.

This habitat is considered to be in 'poor' condition. A poor condition is achieved when 5 of less criteria are passed. In this case, the following 5 criteria are passed:

i. Criteria C: *There is less than 10% cover of filamentous algae and or duckweed Lemna spp. (these are signs of eutrophication).*

ii. Criteria D: *A fringe of aquatic marginal vegetation is present along more than 75 % of the ditch.*

iii. Criteria E: *Physical damage is evident along less than 5% of the ditch, with examples of damage including: excessive poaching, damage from machinery use or storage, or any other damaging management activities.*

iv. Criteria G: *Less than 10% of the ditch is heavily shaded.*

v. Criteria I: *There is an absence of non-native plant and animal species.*

Failed:

vi. Criteria A: *The ditch is good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.* The ditch is fed by a pond outside of the redline boundary for the site, the water within the pond was notably turbid when observed and did not appear to be of good water quality.

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vii. Criteria B: *A range of emergent, submergent and floating-leaved plants are present.* Ditch unable to support submergent plants as it is dry for much of the year.

viii. Criteria F: *Sufficient water levels are maintained.* This ditch is dry for much of the year.

3.3 Proposed Habitats

This includes all retained and created habitats on site calculated based on 'Site Block Plan As Proposed' (PL.002), 'Ground Floor As Proposed' (PL.004), and 'First Floor As Proposed' (PL.005) prepared by Gould Baxter and dated March 2024.

3.3.1 Developed Land; sealed surface (u1b)

Developed land is defined as: *Soil surface sealed with impervious material as a result of urban development and infrastructure construction.* Buildings (u1b5) have been included within this definition for this assessment.

The proposed redevelopment of the site is to include the removal of the existing residential dwellings and detached outbuildings to provide for a large residential dwelling, annex and agricultural style barn. Other alterations to the access and other hard landscaping within the site will occur under the current scheme. Post development there will be a total of 4863.00 m^2 of sealed surfacing (this figure excludes all proposed areas of green roof on the proposed buildings and proposed planters within the hard landscaping areas).

This habitat is not allocated a condition type and is recorded within the metric as Condition: N/A – Other.

3.3.2 Other Green Roof (u1b5~89)

Other green roofs are defined as: *Green roofs, including wildflower turfs and Sedum blankets, that are neither biodiverse or intensive.*

It is proposed to include a total of 13 separate areas of green roof (refer to PL.005 'First Floor As Proposed') which will have a combined footprint of 533.2 m^2.

This habitat is not allocated a condition type and is recorded within the metric as Condition: N/A – Other.

3.3.3 Ground Level Planters (u1~185)

Ground level planters are defined as: *plants in pots or other planters at ground level.*

The proposed development will include a total of nine contained planting areas within the area of proposed sealed surface. Please refer to PL.004 'Ground Floor As Proposed' which will have a cumulative area of 170 m^2.

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This habitat is not allocated a condition type and is recorded within the metric as Condition: N/A – Other.

3.3.4 Vegetated Garden

The proposed garden landscape scheme has been revised to reduce the area of formal lawn and planting beds, and increase the area of other neutral grassland similar to that present within the wider site. The area of Vegetated Garden has now been reduced to 950 m^2.

3.3.5 Traditional Orchard (g27)

The orchard present within the site is to be managed as a traditional orchard in order to enhance this habitat. The total area of the habitat will remain unchanged (1069.66 m^2).

The existing orchard condition is in 'Moderate' condition as the two essential criteria, i.e. the presence of ancient / veteran trees and deadwood, are not passed. However, with time and good management, it is considered that the orchard may mature into 'Good' condition.

3.3.6 Other Woodland; Mixed (w1h) / Plantation (h29)

The mixed woodland plantation (wooded ornamental garden) within the site is to remain unchanged and unaffected by the proposed development with the entire area (1395.35 m^2) being retained.

The target condition used in the metric post development under the current scheme is for the retained woodland / plantation to remain in 'Poor' condition. The condition is limited by the type of woodland, i.e. plantation (wooded ornamental garden) which includes a high percentage of non-native species and lacks a typical woodland ground flora and age structure, which limited the potential of the habitat to achieve a higher woodland condition.

3.3.7 Other Neutral Grassland

An area (755.62 m^2) of the existing neutral grassland will be lost to provide for the proposed pond. The proposed pond will have a marginal area of retained neutral grassland which will result in the retention of a total area of 363.23 m^2 of the existing habitat. In addition to this, and to compensate for the loss of grassland within the new pond area, part of the Vegetated Garden area has been reduced to provide an additional area of 2900 m^2 of Other Neutral Grassland.

The target condition for the retained neutral grassland is moderate, as existing, and the target condition for the new Other Neutral Grassland area is 'poor', although a higher condition is likely to be achieved under the proposed landscape mitigation strategy. The site lies on clay soil, likely to be nutrient rich, supporting dominant common forbs and likely to limit species diversity.

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3.3.8 Pond (Non-Priority Habitat)

Ponds (priority habitat) are defined as: *Permanent and seasonal standing water bodies that are <2 ha in extent.*

It is proposed to create a pond within the eastern area of the site within the existing other neutral grassland habitat as described within Section 3.1.5 of this report. The proposed pond will be 755.62 m^2 in size.

This proposed feature is to have a 'good' target condition. In order to achieve a good condition, at least seven of the nine designated criteria for this habitat type must be passed. It is believed that there is sufficient scope for the following eight criteria to be met:

i. Criterion A: *The pond is good water quality, with clear water (low turbidity), indicating no obvious signs of pollution.*

ii. Criterion C: *Less than 10% of the water surface is covered with duckweed Lemna spp. or filamentous algae.*

iii. Criterion D: *The pond is not artificially connected to other waterbodies, such as agricultural ditches or artificial pipework.*

iv. Criterion E: *Pond water levels can fluctuate naturally throughout the year. No obvious artificial dams, pumps or pipework.*

v. Criterion F: *There is an absence of non-native plant and animal species.*

vi. Criterion G: *The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native assemblage at low densities.*

vii. Criterion H: *Emergent, submerged or floating plants (excluding duckweed) cover at least 50% of the pond area which is less than 3 m deep.*

viii. Criterion I: *The pond surface is no more than 50% shaded by adjacent trees and scrub.*

3.4 Proposed Linear Features

3.4.1 Ditch (r50)

It is proposed to enhance the existing ditch from 'poor' to 'moderate' condition in order to secure the required 10% net gain for linear features.

It is proposed to achieve this by improving the water quality discharged into the ditch. This may be achieved by preventing runoff from the barn, where sheep are housed, directly entering the pond which discharges to the ditch.

3.4.2 No additional new linear features are proposed.

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4. RESULTS

4.2 Site as Existing

As detailed above, the site consists of areas of developed land (sealed surface) together with areas of vegetated garden, traditional orchard, wooded ornamental garden and other neutral grassland. There is also a short section of drainage ditch (the shallow head of the ditch) within the site. The existing habitat areas and linear features together with their associated habitat and watercourse units are given in Table 1 and Table 2 below, respectively.

Table 1: Habitats as Existing

Habitat Classification	Size (hectares)	Habitat Units
Developed Land: Sealed Surface u1b (including buildings u1b5)	0.51	0.00
Vegetated Garden	0.42	0.85
Traditional Orchard g27	0.11	1.28
Other Woodland; Mixed w1h/Plantation h~29	0.14	0.56
Other Neutral Grassland	0.11	0.90
Total	**1.30**	**3.58**

Table 2 : On-site Watercourse Baseline

Water Course Type	Length (km)	Water Course Units
Ditch (poor condition)	0.09	0.38
Total	**0.09**	**0.38**

4.2 Site as Proposed

The proposed development will result in a decrease in the total area of developed land (Sealed Surface) within the site, together with a significant decrease in the total area of Vegetated Garden, and increase in he area of Other Neutral Grassland.

The traditional orchard, woodland and drainage ditch are to be retained. The orchard is to be managed to achieve a Good condition over time, and the water quality entering the pond is to be protected/improved to achieve a Good condition. The woodland is to remain unchanged under the current scheme.

Habitat areas and linear features together with the units associated with the features are given in Table 3 and table 4 below, respectively.

Table 3: Habitats as Proposed

Habitat Classification	Size (hectares)	Habitat Units
Developed Land: Sealed Surface -u1b (including buildings u1b5)	0.48	0.00
Other Green Roof u1b5~89	0.053	0.1
Ground Level Planters u1~185	0.017	0.04
Vegetated Garden (retained)	0.09	0.19
Traditional Orchard g27 (enhanced)	0.11	1.58
Other Woodland; Mixed w1h/ Plantation h~29 (retained)	0.14	0.56
Other Neutral Grassland (retained)	0.036	0.29
Other Neutral Grassland (Created)	0.29	1.09
Pond (non-priority)	0.076	0.76
Total	**1.29**	**4.61**

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Table 4: On-site Watercourse Enhancement

Water Course Type	Length (km)	Water Course Units
Ditch (moderate condition)	0.09	0.70
Total	**0.09**	**0.70**

4.7 Biodiversity Unit Calculations

Table 5: Biodiversity Habitat Unit Calculations

Parameter	Habitat units
Baseline units	3.58
On-site post intervention	4.61
On-site net change	+ 1.02
Total Net Change	28.39 %

Table 6: Biodiversity Watercourse Unit Calculations

Parameter	Habitat units
Baseline Watercourse units	0.38
On-site post intervention watercourse units	0.70
On-site net change	+ 0.33
Total Net Change	86.72%

4.8 Trading Summaries

4.8.1 The trading summary indicates the required compensation for the loss of habitats of differing distinctiveness. In this case, the trading summary indicates that the rule for

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all groups has been met. No further habitat creation on/off site will be required in this case.

4.9 Ecological Functionality

4.9.1 The site, as proposed, should be assessed, alongside the biodiversity net gain assessment, for the ecological functionality to ensure the scheme incorporates the most appropriate measures to enhance and preserve biodiversity on site and benefits for the wider area.

4.9.2 The site, as existing, is considered to be of moderately high ecological value with the potential to support some notable, rare and protected species recorded within the area (please refer to the PEA - EAS Ltd, November 2023).

4.9.3 The scheme, as proposed, will retain much of the existing habitats within the site, but will also include the addition of a new pond and the replacement of low value lawn with meadow planting considered likely to be of significant ecological gain. The overall ecological value and functionality of the site post development is likely to be greater / better than existing.

4.10 Achieving Biodiversity Net Gain

4.10.1 The current scheme will achieve the required 10% biodiversity net gain for habitats and watercourses on site where enhancement of the existing habitats can be delivered. No additional habitat creation, beyond that currently proposed, is required on or off site.

4.10.2 Water quality is to be improved within the ditch on site by controlling run off from the barn area into the pond which discharges into the drainage ditch. This may be achieved by clearing and planting the area between the barn and the pond, and ensuring waste from the barn is moved to an area that will not impact the water quality of the pond.

4.10.3 The traditional orchard is to be managed in accordance with current best practice guidelines for the management of this type of habitat. Natural England have produced a series of guidance documents which should be followed. The fruit trees are to be managed in order that they age healthily, and sheep are to be used to graze the understorey grassland to encourage a varied sward height and rich flora, beneficial for invertebrates, amphibians, reptiles and other species.

4.10.4 It is considered that there is sufficient scope for the above enhancements to be implemented within the wider site and utilised to deliver the required 10% net gain in relation to the proposed development and to ensure all trading summaries are satisfied.

4.10.5 Additional enhancement that may be delivered across the wider site may also include the following:

i. Woodland planting (approximately 1 ha) within the southwest corner of the wider site associated with Denne Meadow Farm.

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ii. Expansion of the existing traditional orchard within the site.

iii. A walled garden adjacent to the retained traditional orchard, which will increase planting area where the walls are used to support planting.

iv. Hedgerow planting around the borders of the grounds associated with Denne Meadow Farm to increase diversity and enhance connectivity.

5. MANAGEMENT AND MONITORING

5.1 The existing and proposed habitats on site are principally garden habitats associated with the existing and proposed residential use of the site. Where the site continues to be used for a single residential dwelling, and where the habitats on site remain part of this development, they should continue to be managed as existing and as recommended in section 4 above.

5.2 Improvements in management for the benefit of wildlife are to be made, however, no formal monitoring of this is recommended in this case. The tradition orchard should continue to be managed as it currently is, and the quality of this habitat is likely to improve as the orchard continues to mature.

6. CONCLUSIONS

6.1 The biodiversity net gain assessment has been conducted using the Statutory Biodiversity Metric and associated technical documents and guidance and has utilised *UKHab* definitions.

6.2 The site, as existing, has been assessed through a review of ecology reporting (PEA), together with a site visit conducted 21 August 2024 to confirm and map habitat types and condition, where required.

6.3 The redevelopment of the site, as proposed, will retain much of the existing habitats within the site, but will also include the addition of a new pond and the replacement of low value lawn with meadow planting considered likely to be of significant ecological gain. The overall ecological value and functionality of the site post development is likely to be greater / better than existing.

6.4 The current scheme includes the delivery of 10% net gain on site for both habitat areas and linear features where enhancement measures are implemented as recommended within this report. No further habitat creation on/off site is required in addition to that already proposed in this case.

6.5 The trading rules are met by the current proposal, and it is considered that the ecological functionality of the site will be retained and improved with management under the current development plans.

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Appendix A:

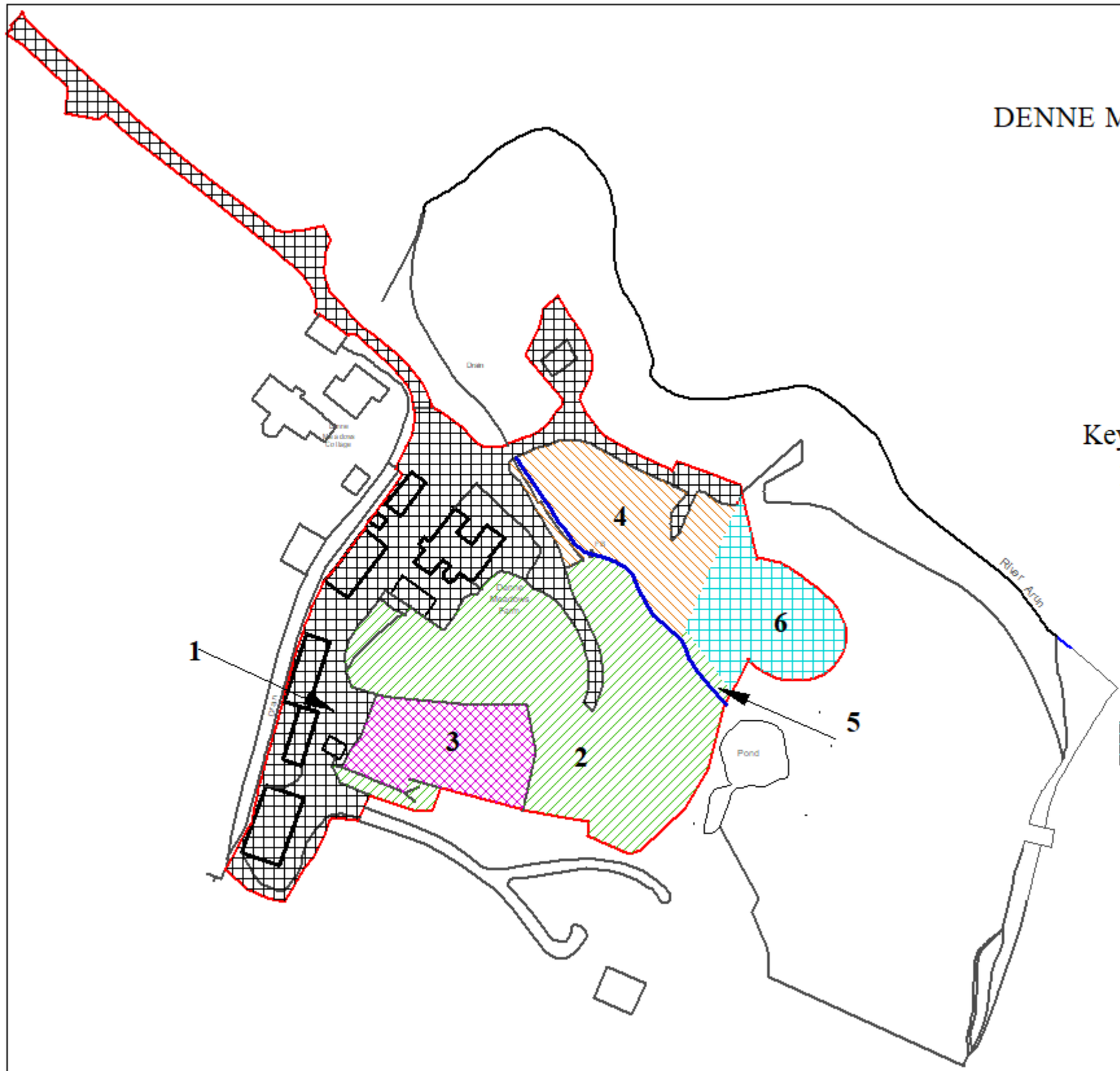
Figure 1 – On-site Baseline Map

Figure 2 – Post Intervention Map

Figure 3 – Post Intervention Map: Proposed Green Roofs

Figure 4 – Post Intervention Map: Proposed Planting Areas

Appendix B:
Supporting Documents
Statutory Metric Condition Sheets



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Biodiversity Net Gain:

Baseline Habitat Map

November 2024

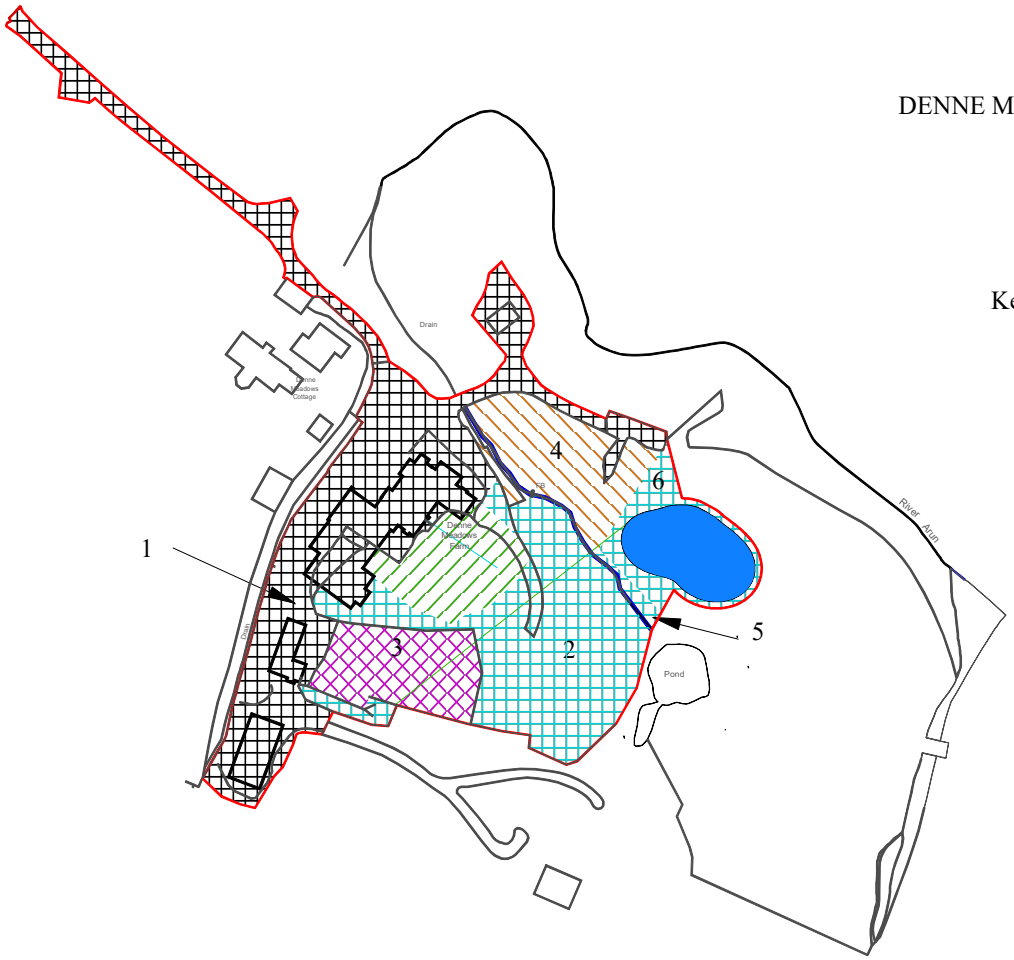
Key:

Habitat Areas -

- Developed Land; Sealed Surface (0.51 ha)
- Vegetated Garden (0.42 ha)
- Traditional Orchard (0.11 ha)
- Other Woodland; Mixed (0.14 ha)
- Other Neutral Grassland (0.11 ha)

Watercourses -

- Ditch (0.094 km)



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Biodiversity Net Gain:

Proposed Habitat Map

November 2024 (Updated April 2025)

Key:

Habitat Areas -

Developed Land; Sealed Surface (0.48 ha)

Vegetated Garden (0.095 ha)

Other Neutral Grassland (0.326 ha)

Traditional Orchard (0.11 ha)

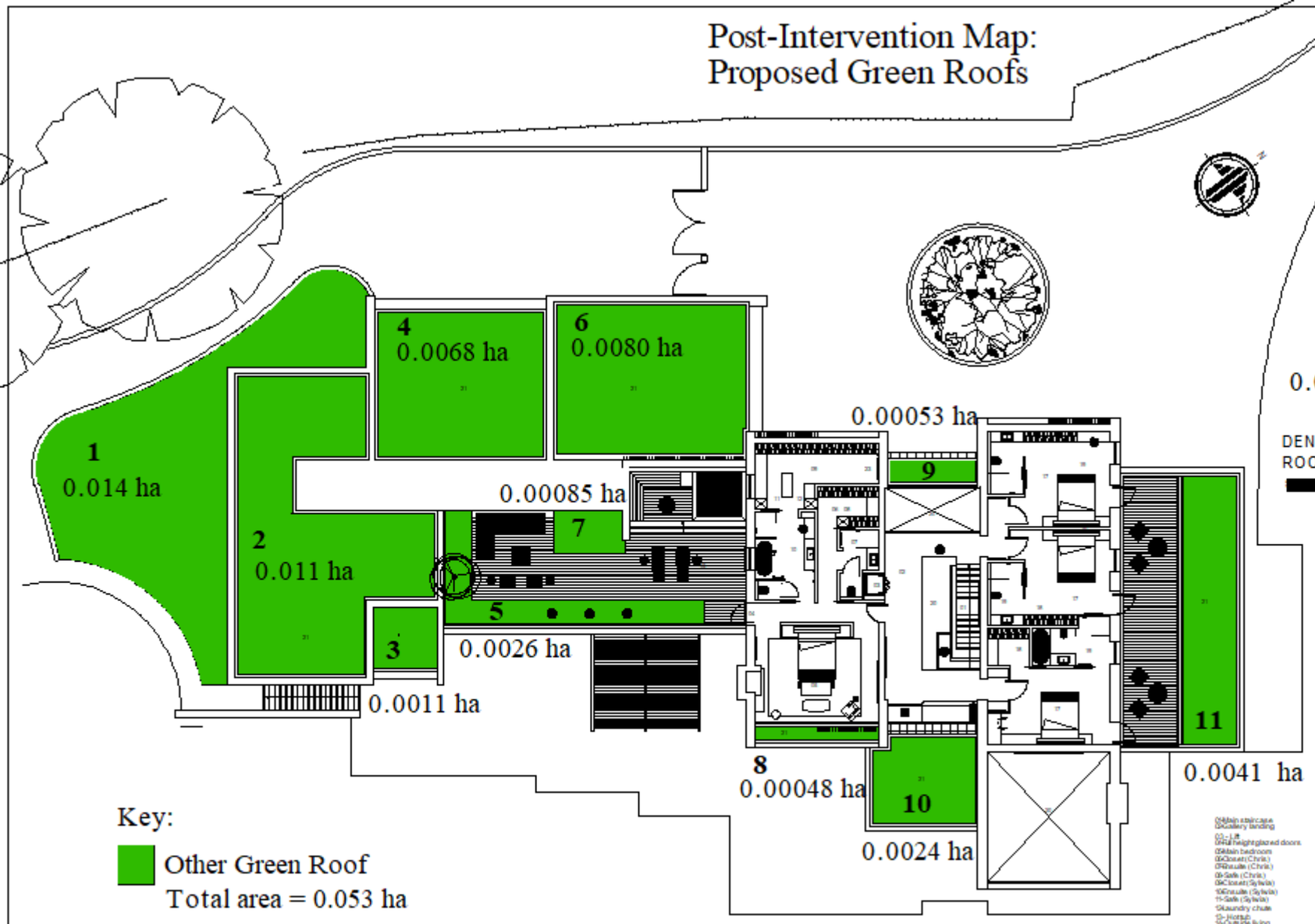
Other Woodland; Mixed (0.14 ha)

Pond (non-priority) (0.076 ha)

Watercourses -

Ditch (0.094 km)

Post-Intervention Map: Proposed Green Roofs

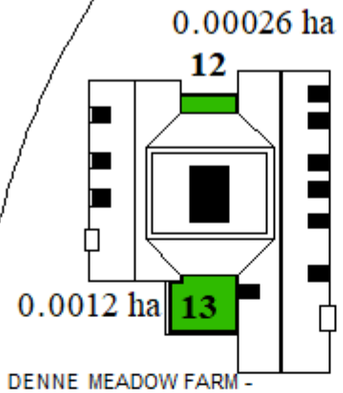


Key:

Other Green Roof
Total area = 0.053 ha

DENNE MEADOW FARM - FIRST FLOOR GENERAL ARRANGEMENT AS PROPOSED

SCALE 1:100 ON AN A1 SHEET



DENNE MEADOW FARM - ROOF PLAN AS PROPOSED

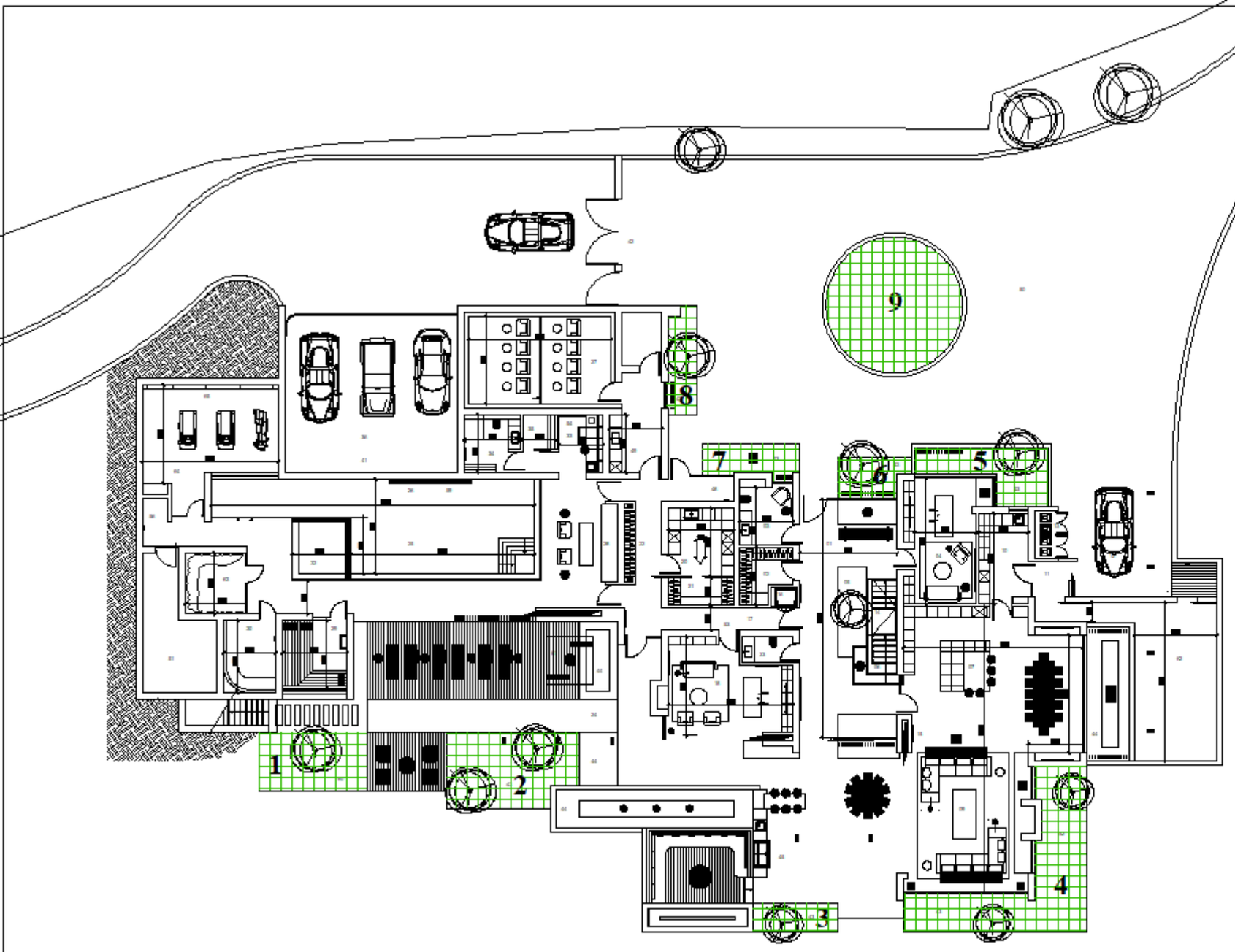
SCALE 1:100 ON AN A1 SHEET

Christopher Reed

DENNE MEADOWS FARM, HORSHAM, WEST SUSSEX, RH12 1JR

Other Green Roof Areas

November 2024



Christopher Reed

DENNE MEADOWS FARM, HORSHAM
WEST SUSSEX, RH12 1JR

Post Intervention Map:
Proposed Planting Areas

November 2024

Key:

Planters
Total area: 0.017 ha

1 = 0.0018 ha

2 = 0.0026 ha

3 = 0.00067 ha

4 = 0.0037 ha

5 = 0.0014 ha

6 = 0.00073 ha

7 = 0.00085 ha

8 = 0.0085 ha

9 = 0.0040 ha

Base plan:

DENNE MEADOW FARM - GROUND FLOOR GENERAL ARRANGEMENT AS PROPOSED
SCALE 1:100 ON AN A1 SHEET

SCALE 1:100 ON AN A1 SHEET

Appendix B:
Supporting Documents
Statutory Metric Condition Sheets

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Condition Sheet: WOODLAND Habitat Type

UK Habitat Classification (UKHab) Habitat Types

Woodland and forest - Lowland beech and yew woodland
Woodland and forest - Lowland mixed deciduous woodland
Woodland and forest - Native pine woodlands
Woodland and forest - Other coniferous woodland
Woodland and forest - Other Scot's pine woodland
Woodland and forest - Other woodland; broadleaved
Woodland and forest - Other woodland; mixed
Woodland and forest - Upland birchwoods
Woodland and forest - Upland mixed ashwoods
Woodland and forest - Upland oakwood
Woodland and forest - Wet woodland

Habitat Description

Within the northeast of the site is an area of planting undertaken by the former owner of the site which comprises a mixture of deciduous and ornamental evergreen species. All specimens present appeared to be a similar age-class of uniformed density with a species poor understorey.

ukhab – UK Habitat Classification

This condition sheet is based on the England Woodland Biodiversity Group (EWBG) Woodland Condition Survey Method, available here:
Woodland Wildlife Toolkit (sylva.org.uk)

IMPORTANT: This biodiversity metric woodland condition assessment must be used to assess woodland being input into the biodiversity metric. The outputs of this condition assessment are not equivalent to, nor are they comparable with the scores from the EWBG condition assessment, because the EWBG assessment has been adapted for the biodiversity metric, including the removal of EWBG Indicator 7 (Proportion of favourable land cover around woodland) and Indicator 14 (Size of woodland), and minor changes to other indicators.

On-site or off-site, site name and location	On-site, Denne Meadows Farm, Denne Road, Horsham RH12 1JR	**Survey date and Surveyor name**	21/08/2024 Nathaniel Scott
Limitations (if applicable)	N/A	**Survey reference (if relating to a wider survey)**	N/A
Grid reference	TQ 17265 29814	**Habitat parcel reference**	4

Condition Assessment Criteria

	Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per indicator	Notes (such as justification)
A	**Age distribution of trees**	Three age-classes[1] present.	Two age-classes[1] present.	One age-class[1] present.	1	
B	**Wild, domestic and feral herbivore damage**	No significant browsing damage evident in woodland[2].	Evidence of significant browsing pressure is present in less than 40% of whole woodland[2].	Evidence of significant browsing pressure is present in 40% or more of whole woodland[2].	3	
C	**Invasive plant species**	No invasive species[3] present in woodland.	Rhododendron *Rhododendron ponticum* or cherry laurel *Prunus laurocerasus* not present, and other invasive species[3] <10% cover.	Rhododendron or cherry laurel present, or other invasive species[3] ≥10% cover.	3	
D	**Number of native tree species**	Five or more native tree or shrub species[4] found across woodland parcel.	Three to four native tree or shrub species[4] found across woodland parcel.	Two or less native tree or shrub species[4] across woodland parcel.	2	
E	**Cover of native tree and shrub species**	>80% of canopy trees and >80% of understory shrubs are native[5].	50 - 80% of canopy trees and 50 - 80% of understory shrubs are native[5].	<50% of canopy trees and <50% of understory shrubs are native[5].	1	

F	**Open space within woodland**	10 - 20% of woodland has areas of temporary open space[6]. Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted[7].	21 - 40% of woodland has areas of temporary open space[6].	<10% or >40% of woodland has areas of temporary open space[6]. But if woodland <10ha has <10% temporary open space, please see Good category[7].	1	
G	**Woodland regeneration**	All three classes present in woodland[8]; trees 4 - 7 cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth.	One or two classes only present in woodland[8].	No classes or coppice regrowth present in woodland[8].	1	
H	**Tree health**	Tree mortality 10% or less, no pests or diseases and no crown dieback[9].	11% to 25% tree mortality and or crown dieback or low-risk pest or disease present[9].	Greater than 25% tree mortality and or any high-risk pest or disease present[9].	2	
I	**Vegetation and ground flora**	Recognisable NVC plant community[10] at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community[10] at ground layer present.	No recognisable woodland NVC plant community[10] at ground layer present.	1	
J	**Woodland vertical structure**	Three or more storeys across all survey plots, or a complex woodland[11].	Two storeys across all survey plots[11].	One or less storey across all survey plots[11].	1	
K	**Veteran trees**	Two or more veteran trees[12] per hectare.	One veteran tree[12] per hectare.	No veteran trees[12] present in woodland.	1	
L	**Amount of deadwood**	50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities[13].	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities[13].	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities[13].	1	
M	**Woodland disturbance**	No nutrient enrichment or damaged ground evident[14].	Less than 1 hectare in total of nutrient enrichment across woodland area, and or less than 20% of woodland area has damaged ground[14].	1 hectare or more of nutrient enrichment, and or 20% or more of woodland area has damaged ground[14].	3	
				Total Score (out of a possible 39)	21	

Condition Assessment Result	Condition Assessment Score	Result Achieved
Total score >32 (33 to 39)	Good (3)	POOR
Total score 26 to 32	Moderate (2)	
Total score <26 (13 to 25)	Poor (1)	

Suggested enhancement interventions to improve condition score

The condition is limited by the type of woodland, i.e. plantation (wooded ornamental garden) which includes a high percentage of non-native species and lacks a typical woodland ground flora and age structure, which limited the potential of the habitat to achieve a higher woodland condition.

Condition Sheet: DITCH Habitat Type			
Habitat Type			
Watercourses - Ditches			
Habitat Description			
See the Statutory Biodiversity Metric User Guide.			
Within the southeast of the site is a low-lying area which is connected to a drainage ditch which runs to the north of the red-line boundary. No water was present at the time of the site walkover. It is considred that this area is only likely to carry water during peak rainfall events and may therefore hold water seasonally.			
On-site or off-site, site name and location	On-site, Denne Meadow Farm, Denne Road, Horsham, RH12 1JR	**Survey date and Surveyor name**	21/08/2024 Nathaniel Scott
Limitations (if applicable)	N/A	**Survey reference (if relating to a wider survey)**	N/A
Grid reference	TQ 17279 29779	**Habitat parcel reference**	5

	Condition Assessment Criteria	**Criterion passed (Yes or No)**	**Notes (such as justification)**
A	The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.	NO	
B	A range of emergent, submerged and floating-leaved plants are present. As a guide >10 species of emergent, floating or submerged plants present in a 20 m ditch length.	NO	
C	There is less than 10% cover of filamentous algae and or duckweed *Lemna* spp. (these are signs of eutrophication).	YES	
D	A fringe of aquatic marginal vegetation is present along more than 75% of the ditch.	YES	
E	Physical damage is evident along less than 5% of the ditch, with examples of damage including: excessive poaching, damage from machinery use or storage, or any other damaging management activities.	YES	
F	Sufficient water levels are maintained - as a guide a minimum summer depth of approximately 50 cm in minor ditches and 1 m in main drains.	NO	
G	Less than 10% of the ditch is heavily shaded.	YES	
H	There is an absence of non-native plant and animal species[1].	YES	
	Number of criteria passed	5	

Condition Assessment Result (out of 8 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**	

Passes 8 criteria	Good (3)	×
Passes 6 or 7 criteria	Moderate (2)	×
Passes 5 or fewer criteria	Poor (1)	✓

Suggested enhancement interventions to improve condition score

Improvement of the quality of the water that is discharged into the ditch. This may be achieved by preventing runoff from the barn, where sheep are housed, directly entering the pond which discharges to the ditch.

Footnotes

Condition Sheet: ORCHARD Habitat Type			
UK Habitat Classification (UKHab) Habitat Type			
Grassland - Traditional orchard			
Habitat Description			
The site contains a fenced orcahrd which is situated to the south of the existing residential dwelling. The orchard has a total footprint of 1069.66 m2.			
ukhab – UK Habitat Classification			
On-site or off-site, site name and location	On-site, Denne Meadow Farm, Denne Road, Horsham, RH12 1JR	**Survey date and Surveyor name**	21/08/2024 Nathaniel Scott
Limitations (if applicable)	N/A	**Survey reference (if relating to a wider survey)**	N/A
Grid reference	TQ 17215 29755	**Habitat parcel reference**	3

	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
A	Presence of ancient[1] and or veteran[1] trees. **Note - this criterion is essential for achieving Good condition.**	NO	
B	Presence of deadwood in or on trees, or on the ground: at least 20% of mature trees have deadwood associated with them. Some examples of deadwood are: standing, attached and fallen trees or limbs; dead stems; branches and branch stubs greater than 10 cm diameter; and internal cavities. The types and distribution of deadwood provide a range of habitats suitable to support a wide assemblage of saproxylic invertebrates. **Note - this criterion is essential for achieving Good condition.**	NO	
C	Less than 5% of fruit trees are smothered by scrub. Small patches of dense scrub and or scattered scrub growing between trees can be beneficial to biodiversity, however these occupy less than 10% of ground cover.	YES	
D	There is evidence of formative and or restorative pruning to maintain longevity of trees.	YES	
E	At least 95% of the trees are free from damage caused by humans or animals, for example browsing, bark stripping or rubbing on non-adjusted ties.	YES	
F	Grassland is not overgrazed, poaching is not evident around the trees, with no more than 10% of trees poached under the canopy.	YES	

G	Species richness of the grassland is equivalent to a medium, high, or very high distinctiveness grassland.	NO	
H	There is an absence of invasive non-native plant species[2] (as listed on Schedule 9 of WCA[3]) and species indicative of suboptimal condition[4] make up less than 10% of ground cover.	YES	
Essential criteria achieved (required for good condition - Yes or No)		NO	
Number of criteria passed		5	

Condition Assessment Result (out of 8 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**
Passes 6- 8 criteria, including essential criteria A and B.	Good (3)	×
Passes 4 or 5 criteria; OR Passes 6 or 7 criteria but fails an essential criterion.	Moderate (2)	✓
Passes 3 or fewer criteria.	Poor (1)	×

Suggested enhancement interventions to improve condition score

Footnotes

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)

UK Habitat Classification (UKHab) Habitat Types

Grassland - Lowland calcareous grassland
Grassland - Lowland dry acid grassland
Grassland - Lowland meadows
Grassland - Other lowland acid grassland
Grassland - Other neutral grassland
Grassland - Tall herb communities (H6430) [Not to be confused with the Tall forbs secondary code – see UKHab guidance for details.]
Grassland - Upland acid grassland
Grassland - Upland calcareous grassland
Grassland - Upland hay meadows
Sparsely vegetated land - Calaminarian grassland

On-site or off-site, site name and location	On-site, Denne Meadow Farm, Denne Road, Horsham, RH12 1JR	**Survey date and Surveyor name**	21/0//2024
Limitations (if applicable)	N/A	**Survey reference (if relating to a wider survey)**	N/A
Grid reference	TQ 17286 29789	**Habitat parcel reference**	6

Habitat Description

Within the northeast of the site is an area of other neutral grassland which forms part of a larger area of grassland that extends to the east of the site.

ukhab – UK Habitat Classification

	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
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 (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description).[1] **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	YES	
B	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 insects, birds and small mammals to live and breed.	YES	
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[2].	YES	
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	YES	

E	Combined cover of species indicative of suboptimal condition[3] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) are present, this criterion is automatically failed.	YES	
Additional Criterion - must be assessed for all non-acid grassland types			
F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	NO	
	Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)	NO	
	Number of criteria passed	5	

Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓
Acid grassland types (Result out of 5 criteria)		
Passes 5 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	
Passes 2 or fewer criteria	Poor (1)	
Non-acid grassland types (Result out of 6 criteria)		
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)	×
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)	✓
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)	×

Suggested enhancement interventions to improve condition score

Notes

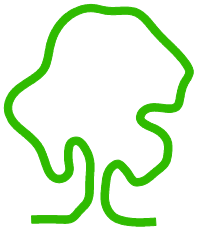
Footnote 1 - Professional judgement should be used alongside the UKHab description.

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.

Footnote 3 - Species indicative of suboptimal condition for this habitat type include: 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* . There may be additional relevant species local to the region and or site.

Footnote 4 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, by applying professional judgement.

Footnote 5 – Wildlife and Countryside Act 1981 (as amended).



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