



Biodiversity Assessment Management & Monitoring Plan

Land at Denham's Corner

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Report	Biodiversity Net Gain Assessment and Management and Monitoring Plan (MMP)
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1.0 INTRODUCTION

1.1 Background

Ecosupport Ltd. were commissioned by Southern Strategic Land to undertake a Biodiversity Net Gain Assessment at Denham's Corner, Horton Heath and detail the results of this assessment within a Habitat Management and Monitoring Plan.

The purpose of the Biodiversity Net Gain (BNG) assessment is to quantify the biodiversity value of the site prior to its development, and the predicted value post development. This is measured in biodiversity units, calculated according to the habitats present based on their size, distinctiveness and condition. This enables the quantitative calculation of the predicted change in biodiversity value as a result of the proposed development, with the objective of achieving a net gain in biodiversity.

This report will also address how habitats will be enhanced and created to achieve a net gain in biodiversity units and how these habitats will be managed and monitored for at least 30 years. The following points will be covered (DEFRA, 2023a, updated 2024):

- How off-site gains and / or significant on-site enhancements will be managed, taking into account any legal restrictions and requirements
- When and how habitats will be monitored
- When and how monitoring results will be reported
- When and how management proposals will be reviewed
- How habitats will be restored if the management plan is not working

NB This report should be read in conjunction with the associated EcIA Report (Ecosupport Ltd, 2025).

1.2 HMMP

Section 5.0 below outlines the habitat enhancement, retention, management and monitoring required in order that the post-development habitats meet the target conditions. **Tables 5, 6, 7 and 8** outline how these habitats will be managed within the first year and subsequent 30 years, including the time of year these management strategies should be undertaken.

1.3 Site Location and Description

The site comprises of a large parcel of grassland (cut for hay) with areas of marshy grassland and mature woodland (both designated as SINCs) located around the outer parts of the site located at Denham's Corner, Horton Heath, SO32 2BW (centred on OS grid reference SU499163) (**Fig 1**). The southern boundary of the site is marked by Snakemoor Lane, the western boundary by a woodland parcel / residential dwelling and the north and east by further pasture fields. The site is located within a rural section of the city of Southampton.

NB All land within the redline and blueline boundary (Fig 1) is owned by the client. Full details of site ownership will be submitted within the accompanying application form.

Figure 1. Redline boundary of the site (Google Satellite 2024)



1.4 Development Proposals

The proposals entail a residential development of up to 150 dwellings and associated garages, roads, footpaths and private gardens within the redline boundary shown in **Fig 2 below**. A SuDs system will also be implemented.

[illegible]

2.0 METHODOLOGY

The methodology for the assessment follows the Natural England Statutory Biodiversity Metric habitat condition assessment protocols and uses the Statutory Biodiversity Metric calculation tool to calculate biodiversity losses and gains (DEFRA, 2023b, updated 2024).

2.1 Habitat Assessment

Habitats on site pre-development were identified in accordance with the categories specified for a UK Habitats survey using Habitat Definitions Version 2.01 (UKHab Ltd., 2023). This was chosen as an appropriate habitat categorisation system, as it fits within the Statutory Biodiversity Metric calculation. The habitat definitions used were based on those identified during the updated walkover on the 25th September 2024. The Updated EclA should be referred to for information on UKHab habitat classifications on site and plant species recorded.

A condition assessment, in line with the Statutory Biodiversity Metric Technical Annex 1, was carried out on site by Ashley James BSc (Hons) ACIEEM and Katalin Balazs BSc (Hons) MSc on the 25th September 2024. The area of identified habitats is calculated in hectares (ha), ignoring linear features or ditches (the area is measured to the centre line of such features). The length of linear features is measured separately in kilometres (km). The dominant habitat type was selected, according to those defined by UKHab Ltd (2023). Where there was disparity between the UK classification for habitat type and those present within the Statutory Biodiversity Metric calculator tool, this was noted within the condition assessment tables.

2.2 Habitat Distinctiveness

Each habitat was assigned a score for distinctiveness, according to the Statutory Biodiversity Metric calculator tool (DEFRA, 2023b, updated 2024). This ranged from Poor - High for most habitats, or Not Applicable (e.g. Developed Land – Sealed Surface). Using the tool, habitats were assigned a score based on their distinctiveness.

2.3 Habitat Condition

The condition of each habitat was assessed following criteria set out in the Statutory Biodiversity Metric Technical Annex 1 (DEFRA, 2023b, updated 2024), which includes detailed assessment criteria for different habitats. Full results of the condition assessments can be found within **Section 3.0**. The condition of each habitat was assessed individually on site but, where the condition was found to be the same across several parcels, these were grouped together.

2.4 Strategic Significance

Each habitat was assigned a strategic significance in line with the Statutory Biodiversity Metric User Guide (DEFRA, 2023b, updated 2024):

- Formally identified in local strategy
- Location ecologically desirable but not in local strategy
- Area / compensation not in local strategy

2.5 Limitations

While the habitat condition assessment was carried out in late-September during a sub-optimal period for flowering plants, it was considered the majority of species could be identified and further previous 2023 ecological survey work covered the full spring/summer season as part of the EcIA (Ecosupport, 2024), with plant species noted throughout the season and therefore it is not considered this was a significant limitation.

3.0 EXISTING HABITATS AND DEVELOPMENT PROPOSALS

The habitats on site were categorised according to UK Hab Ltd. Habitat Definitions Version 2.01 (2023) as listed below (please refer to the **Baseline Habitats map appended** for information on the locations of these habitats on site):

- Cereal Crops (c1c) (**Fig 3**)
- Modified grassland (g4) (**Fig 4 & 5**)
- Lowland mixed deciduous woodland (w1f) - secondary habitat code (28), ancient woodland site, **PRIORITY HABITAT** (**Fig 6 & 7**) (Updated with proposed boardwalk footpath – **Fig 8**)
- Purple Moor Grass and rush pastures (f2b) - secondary habitat code 25 (coastal floodplain grazing marsh, **PRIORITY HABITAT**) (**Fig 9**)
- Woodland and Forest (w) (secondary code 33, Line of trees) (**Fig 10**)
- Hedgerow (priority habitat) (h2a) (**Fig 11**)
- Artificial unvegetated unsealed surface (u1c) - secondary habitat codes 81 (ruderal) and 600 (ploughed). (**Fig 12 & 13**)
- Bramble Scrub (h3d) (**Fig 14**)
- Individual Trees (**Fig 15**)

Figure 3. View of the cereal crop (taken September 2024).



Figure 4. View of the strip of modified grassland between the cereal crop and southern boundary hedgerow (taken September 2024).



Figure 5. View of the modified grassland between the rush pasture and cereal crop on site (taken September 2024).



Figure 6. View of the lowland mixed deciduous woodland (taken September 2024).



Figure 7. View of woodland pathway (taken September 2024)



Figure 8. View of proposed boardwalk footpath location (Taken, April 2025).



NB A boardwalk footpath is proposed leading in from Botley road into the site, outside of the SINC designation. A walkover to map out the route of least disturbance was undertaken with the council on the 15th April 2025, confirming the location of the footpath was suitable with limited clearance work required (Fig 8). The clearance is limited to a small section of Bramble from the Botley Road.

Figure 9. View of the rush pasture to the SE of the site (taken September 2024).



Figure 10. View of the line of trees (taken September 2024).



Figure 11. View of priority habitat hedgerow along the southern boundary (taken September 2024).



Figure 12. View of the ploughed land on site (taken September 2024)



Figure 13. View of ploughed land on site (taken September 2024)



Figure 14. View of the patch of bramble scrub present along the northern boundary (taken September 2024).



Figure 15. View of one of the individual mature Oak trees along the southern boundary (taken September 2024).



3.1 Baseline Condition Assessment

The following table provides details of the condition assessments undertaken of the non-linear (**Table 1**) habitats present on site with reference to the Statutory Biodiversity Metric Technical Annex 1 (Defra, 2023b, updated 2024).

NB. Certain habitat types were not subject to a condition assessment; artificial unvegetated; unsealed surface, cereal crops and bramble scrub, as these have a predetermined condition of 'Condition Assessment N/A' under current guidance within the Statutory Biodiversity Metric.

Table 1. Existing habitats present on site including details as to their condition and the condition assessment criteria that have been met / failed as per the Statutory Biodiversity Metric Technical Annex 1 (Defra, 2023b, updated 2024).

Habitat Type	Area (ha)	Condition	Condition Assessment Notes	Strategic Significance	Location Notes
Modified Grassland (g4)	1.284	Poor	Essential criteria A was not met as there were not 6-8 vascular plant species were present within 1m ² of the grassland. The species present included; Perennial Rye Grass, Broad Leaved Dock (<i>Rumex obtusifolius</i>), Buttercup Spp, Dandelion (<i>Taraxacum spp</i>), Greater Plantain (<i>Plantago major</i>), Pineapple weed (<i>Matricaria discoidea</i>), White Clover and sporadic Marsh Cudweed (<i>Gnaphalium uliginosum</i>) further eastward. As shown in Fig 4, sward height was consistently low and thereby not varied. There was minimal bare ground and physical damage present and no invasive plant species, nor bracken, nor scrub was present. Specifically, Criteria C, D, E, F, and G were met.	Area/compensation not in local strategy/ no local strategy	Two strips present along the southern and eastern boundaries.
Purple Moor Grass and rush pastures (f2b)	0.241	Moderate	Essential criterion A was not met as water was not visible during the walkover. There were no signs of pollution. Scrub, scattered trees, dead vegetation, nor bare ground was present. Invasive species were not noted. Specifically, Criteria C, D, E, F and G were met.	Location ecologically desirable but not in local strategy	Present to the east of the site.
Lowland Mixed Deciduous Woodland (w1f)	0.258	Moderate	There was no browsing damage nor invasive species found within the woodland and at least five native species were present. Three age classes are featured and open space and tree mortality are both limited. Some damaged ground was noted, although this is limited. Deadwood is present within 25 – 50% of the survey plots, creating spaces for wildlife. There are no veteran trees within the woodland. Specifically: A (3), B (3), C (3), D (3), E (3), F (3), G (2), H (2), I (2), J (2), K (1), L (2), M (2) were met.	Location ecologically desirable but not in local strategy	Present to the west of the site.

Artificial unvegetated unsealed surface (u1c)	1.1	N/A – Other	Pre-determined condition in line with the Statutory Biodiversity Metric	Area compensation not in local strategy/ no local strategy	Along the western boundary.
Individual Trees	0.1529	Good	There were two trees within the redline boundary, both of which are mature Oak (<i>Quercus robur</i>) trees. Both have ecological features and have canopies which stretch over modified grassland. Evidence of damage to tree health was not noted. Specifically, Criteria A, B, C, D, E and F were met.	Location ecologically desirable but not in local strategy.	T1 and T2
Cereal Crops(c1c)	6.41	N/A - Other	Pre-determined condition in line with the Statutory Biodiversity Metric	Area compensation not in local strategy/ no local strategy	Present in the centre of the site.
Bramble Scrub (h3d)	0.027	N/A - Other	Pre-determined condition in line with the Statutory Biodiversity Metric	Area compensation not in local strategy/ no local strategy	Present to the north of the site

Table 2. Existing linear habitats present on site including details as to their condition and the condition assessment criteria that have been met / failed as per the Statutory Biodiversity Metric Technical Annex 1 (Defra, 2023b, updated 2024).

Habitat Type	Area (ha)	Condition	Condition Assessment Notes	Strategic Significance	Location Notes
Native Hedgerow (h2a)	0.093	Good	The hedgerow has a height and width over 1.5m and very few gaps both along the entirety of the hedgerow and between the ground and the hedgerow itself. Although one side of hedgerow has been disturbed by a road, the other side has undisturbed modified grassland and cropland. Evidence of damage was not noted and no invasive species were present on site. Specifically, Criteria A1, A2, B1, B2, C1, C2, D1 and D2 have been met.	Location ecologically desirable but not in local strategy.	Present to the south-east of the site – H1.
Native Hedgerow (h2a)	0.189	Good	The hedgerow has a height and width over 1.5m and very few gaps both along the entirety of the hedgerow and between the ground and the hedgerow itself. Although one side of hedgerow has been disturbed by a road, the other side has undisturbed modified grassland and cropland. Evidence of damage was not noted and no invasive species were present on site. Specifically, Criteria A1, A2, B1, B2, C1, C2, D1 and D2 have been met.	Location ecologically desirable but not in local strategy.	Present to the south-west of the site – H2.
Line of trees	0.38	Good	The tree species present were native and created a continuous canopy. Ecological features were present within some of the trees and there is undisturbed modified grassland to the west of the line and pasture rush to the east, protecting the tree line from nutrient enrichment. The trees were noted to be of good health. Specifically, Criteria A, B, C, D and E were met.	Location ecologically desirable but not in local strategy.	Present to the east of the site – Lt(33).

4.0 PROPOSED CREATED HABITATS & NET GAIN ASSESSMENT

4.1 On-Site Proposals

Following consultation with Southern Strategic Land, in order to minimise the loss of biodiversity on site, the following habitats are being *retained, enhanced and/or created* (please refer to the **Post-Development Layout appended** for information on the locations of these habitats). Tables have been provided as appropriate to indicate the targeted condition for each of the habitat types and which criteria will need to be met, in order to achieve the desired condition.

Section 5.0 details the proposed planting and ongoing management required to ensure the stated condition criteria are met for each habitat type. ***A detailed landscape strategy (including planting and location) has not been prepared at this stage.***

NB. Should planting and management prescriptions need altering slightly when drawing up the detailed landscape strategy, this will first be approved by an ecologist to ensure the recommendations are in line with the Biodiversity Net Gain Assessment.

4.1.1 Habitats

Table 3 indicates those habitats due to be *retained, enhanced and/or created* on site with details provided, where appropriate, as to how the necessary condition criteria will be met.

Table 3. Non-linear habitats to be *retained, enhanced and/or created* on site including details as to the condition assessment criteria that must be met in order to achieve the targeted condition (the necessary planting and management required to achieve the stated condition criteria is detailed in **Section 5.0**).

Habitat Type	Action	Area (ha)	Target Condition	Condition Assessment Notes	Strategic Significance	Location Notes
Purple moor grass and rush pasture (f2b)	Retained	0.241	Moderate	The purple moor grass and rush pasture will be retained and kept in the same condition as it is in currently since it is not to be touched for the development. The development will contribute no pollution to this habitat and there will continue to be no scrub, scattered trees, dead vegetation, nor bare ground. Specifically, Criteria C, D, E, F and G will continue to be met.	Location ecologically desirable but not in local strategy.	Located to the south-east of the site.
Lowland mixed deciduous woodland (w1f)	Enhanced	0.256	Good	The lowland mixed deciduous woodland will be enhanced to good condition. Due to the loss of bramble scrub for the boardwalk footpath, there will be extra deadwood across 50% of the woodland (L3), as well as planting new areas of mixed scrub to account for the shrub layer (J3). At the same time, there will continue to be no damage, nor invasive species present, nor open space and tree mortality. Specifically: A (3), B (3), C (3), D (3), E (3), F (3), G (2), H (2), I (2), J (3), K (1), L (3), M (2) will continue to be met.	Location ecologically desirable but not in local strategy.	Located to the west of the site. Patches 1, 2 and 4 are the approximate location for the 4 new patches of mixed scrub.

Individual Trees	Retained	0.1529	Good	The two mature Oak trees are to be maintained and managed in the same way as they have been previously on site. This means the trees will be maintained in good health, preventing human activities from impacting this and a regular pruning regime will not be undertaken. Specifically, Criteria A, B, C, D, E and F will continue to be met.	Location ecologically desirable but not in local strategy.	T1 and T2
Bramble Scrub (h3d)	Enhanced	0.027	Moderate	The patch of bramble scrub to the north will be enhanced into mixed scrub through additional planting and continuous management to ensure no species dominates. All novel species to be planted will be native and at least three woody species will be included, such as; Common hawthorn (<i>Crataegus monogyna</i>), Common hazel (<i>Corylus avellana</i>), and Dogwood (<i>Cornus sanguinea</i>). Planting and management will ensure glades are present within the scrub for wildlife use and other neutral grassland will be maintained around the mixed scrub. Specifically, Criteria A, C, D and E will be met.	Location ecologically desirable but not in local strategy.	Present along the northern boundary.
Developed land; sealed surface (u1b)	Created	1.015	N/A - Other	No condition assessment required as per the Statutory Biodiversity Metric Technical Annex 1 (Defra, 2023b).	Area/compensation not in local strategy/no local strategy.	Buildings (garages and houses) to be created across the site.
Developed land; sealed surface (u1b)	Created	2.185	N/A - Other	No condition assessment required as per the Statutory Biodiversity Metric Technical Annex 1 (Defra, 2023b).	Area/compensation not in local strategy/no local strategy.	Roads and pathways to be implemented across the site.

Vegetated garden (u1)	Created	1.826	N/A - Other	No condition assessment required as per the Statutory Biodiversity Metric Technical Annex 1 (Defra, 2023b).	Area/compensation not in local strategy/no local strategy.	Private gardens (front and back) associated with each house.
Modified grassland (g4)	Created	1.357	Good	Planting will occur in such a way as to ensure there are 6-8 vascular plant species per m ² , two of these species being a forb such as; Cow parsley (<i>Anthriscus sylvestris</i>), Creeping thistle (<i>Cirsium arvense</i>), White clover (<i>Trifolium repens</i>) or Creeping buttercup (<i>Ranunculus repens</i>). No scrub, nor bracken, nor invasive species will be planted. With the addition of public footpaths, public use should be reduced, minimising physical damage and the creation of bare ground. Specifically, Criteria A, C, D, E, F and G will be met.	Area/compensation not in local strategy/no local strategy.	Grassland proposed between the developed area and the 20m buffer.
Modified grassland (g4)	Created	0.838	Poor	Species that may be planted include: Rye-grasses (<i>Lolium spp.</i>), Cock's-foot (<i>Dactylis glomerata</i>), Yorkshire fog (<i>Holcus lanatus</i>), Creeping buttercup (<i>Ranunculus repens</i>), Dandelion (<i>Taraxacum officinale</i>) and Greater Plantain (<i>Plantago major</i>). Including 3-4 species per m ² is sufficient. No scrub, bracken, nor invasive species will be planted. Specifically, Criteria C, F, and G will be met.	Area/compensation not in local strategy/no local strategy.	Grassland proposed within the developed area.
Other neutral grassland (g3c)	Created	1.315	Good	Planting will be undertaken to ensure 10 vascular plant species are encouraged to grow per m ² . These must be representative of other neutral grassland such as: Perennial Rye-grass (<i>Lolium perenne</i>), Yorkshire fog (<i>Holcus lanatus</i>), Cock's-foot (<i>Dactylis glomerata</i>), Yarrow (<i>Achillea</i>	Location ecologically desirable but not in local strategy.	Present within the 20m buffer along the eastern, northern and western boundaries.

				<i>millefolium</i>), Ribwort Plantain (<i>Plantago lanceolata</i>) and White Clover (<i>Trifolium repens</i>). Bracken will not be planted on site and there will be no bare ground, since there are pathways through the modified grassland and so the public are not encouraged to walk on the other neutral grassland. No invasive plant species will be planted. Specifically, Criteria A, C, D, E and F will be met.		
Individual tree	Created	0.3257	Moderate	All of the tree species planted will be native and will be planted over modified grassland within the development site. Specifically, Criteria A, B and F will be met.	Location ecologically desirable but not in local strategy.	To be created across the entire development.
Sustainable drainage system	Created	0.266	Moderate	The SuDS system will have a high species richness benefiting a variety of wildlife. The plants that can be included are; Arrowhead (<i>Sagittaria Japonica</i>), Acorus (<i>Acorus Gramineus Ogon</i>), Burr Reeds (<i>Sparganium Erectum</i>), Flowering Rush (<i>Butomus Umbellatus</i>), Greater Spearwort (<i>Ranunculus Lingua Grandiflorus</i>), Sweet Rush (<i>Acourus Calamus</i>) and Variegated Scented Rush (<i>Acorus Calamus Variegata</i>). An aquatic seed mix will also be planted such as: EP1F Wild Flowers for Pond Edges for additional variety for wildlife. No invasive species will be planted. Specifically, Criteria B, C, E1 and E2 will be met.	Area/compensation not in local strategy/no local strategy.	Present to the east of the site.

Table 4. Linear habitats to be *retained, enhanced and/or created* on site including details as to the condition assessment criteria that must be met in order to achieve the targeted condition (the necessary planting and management required to achieve the stated condition criteria is detailed in **Section 5.0**).

Habitat Type	Action	Area (ha)	Target Condition	Condition Assessment Notes	Strategic Significance	Location Notes
Native Hedgerow	Retained	0.08	Good	The hedgerow will be maintained in the same way as has been done previously on site to ensure that it remains in good condition. As a result, the hedgerow will continue to have a height and width over 1.5m and gaps will be filled with added planting to maintain continuity both along the entirety of the hedgerow and between the ground and the hedgerow itself. No invasives will be planted and the hedgerow will remain undamaged. The only ground disturbance will be the path to be created, although this will be less than 90% of the length of the hedgerow. Specifically, Criteria A1, A2, B1, B2, C1, C2, D1 and D2 have been met.	Location ecologically desirable but not in local strategy.	Present to the south-east of the site – H1.
Native Hedgerow	Retained	0.189	Good	The hedgerow will be maintained in the same way as has been done previously on site to ensure that it remains in good condition. As a result, the hedgerow will continue to have a height and width over 1.5m and gaps will be filled with native species. No invasives will be planted and the hedgerow will remain undamaged. The only ground disturbance will be the dwellings and path to be created, however they will be at 5m away. Specifically, Criteria A1, A2, B1, B2, C1, C2, D1 and D2 have been met.	Location ecologically desirable but not in local strategy.	Present to the south-west of the site – H2.

Line of trees	Retained	0.38	Good	The line of trees will be retained in the same condition, meaning a continuous canopy will be kept. There will be undisturbed other neutral grassland to the west of the line and pasture rush to the east, protecting the tree line from nutrient enrichment. The trees will remain in good health. Specifically, Criteria A, B, C, D and E will continue to be met.	Location ecologically desirable but not in local strategy.	Present to the east of the site – Lt (33).
Species-rich native hedgerow	Created	0.2	Moderate	New species-rich native hedgerow will be created in line with the Statutory Biodiversity Metric Technical Annex 1 (Defra, 2023b) and will have at least 5 woody native species. The hedgerow will be managed to maintain a width of at least 1.5m, limit horizontal and vertical gappiness, remove invasive species and prevent damage. Specifically, Criteria A2, B1, B2, D1 and D2 will be met.	Location ecologically desirable but not in local strategy.	Location chosen at a later time.

4.2 Metric Calculation

Following the incorporation of the above measures into the DEFRA Statutory Biodiversity Metric, **on site there is a net gain of 41.12% in habitats (or 10.35 habitat units) and a net gain of 31.75% in linear habitats (or 1.39 hedgerow units) and the trading rules are satisfied (Fig 16).** Therefore, it is considered that no further measures are required.

Figure 16. Screenshot of the 'headline results' output from the BNG assessment undertaken for the site using the DEFRA Statutory Biodiversity Metric.

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	10.35
	Hedgerow units	1.39
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	41.12%
	Hedgerow units	31.75%
	Watercourse units	0.00%
Trading rules satisfied?	Yes ✓	

4.3 Applying the Biodiversity Gain Hierarchy

The biodiversity gain hierarchy outlines the following priority actions when achieving a net gain on site:

- avoiding adverse effects of the development on onsite habitat with a habitat distinctiveness score, applied in the biodiversity metric, equal to or higher than six;
- so far as those adverse effects cannot be avoided, mitigating those effects;
- so far as those adverse effects cannot be mitigated, habitat enhancement of onsite habitat;
- so far as there cannot be that enhancement, creation of onsite habitat;
- so far as there cannot be that creation, the availability of registered offsite biodiversity gain;
- so far as that offsite habitat enhancement cannot be secured, purchasing biodiversity credits.

Avoid: The habitats of highest value have, where possible, been retained. For this site, the habitats of the highest value are lowland mixed deciduous woodland and purple moor grass and rush pastures, both of which have been fully retained. The mature Oak trees, with ecological features present, have also been retained. Thereby, the habitats most likely to be used by wildlife will be maintained in the same condition to continue to encourage foraging and nesting behaviour. In addition, the majority of the linear features have been retained. These linear features are important for a variety of species, creating a corridor for bats to commute and forage over and nesting and foraging locations for a variety of bird species for example.

Mitigate: To mitigate for the loss of modified grassland on site, other neutral grassland, in addition to modified grassland will be created on site. This provides greater foraging and commuting opportunities for wildlife across the site, even post-development. In addition, the bramble scrub on site has been proposed to be enhanced into mixed scrub, increasing the species richness and thereby the ecological value of the habitat, since it will be of use to a wider variety of species. Furthermore, individual trees are to be created on site, providing further protective, foraging and nesting spaces.

Offset: Following the linear and non-linear habitat retentions, enhancements and creations, a 10% biodiversity net gain has been reached and as shown, the Biodiversity Gain Hierarchy has been followed when addressing the BNG requirements for this site.

5.0 HABITAT MANAGEMENT

Due to this being an outline application, a detailed landscape scheme is not yet available and, therefore, the below sections provide general recommendations with regard to the management of the habitats on site. The information within the below sections will be used to inform the landscape strategy at the detailed stage to ensure it remains consistent with the Biodiversity Net Gain assessment.

5.1 Protection of Retained Habitats

All of the habitats to be retained or enhanced will be protected from damage during the works. The large mature trees that are present along the southern boundary will be protected using standard arboricultural tree protection measures which include protection of the canopy and prevention of root compaction.

No vehicles will enter the protective ring fencing and no materials will be stored within their circumference. All protective fencing must be in place prior to any construction machinery arriving on site and before any works on site get underway, and will remain in place until all work is completed. This will minimise the level of disturbance within the ecological buffer zones during the works and ensure the habitats and any wildlife species that may be using them are protected.

5.2 Retention of Purple Moor Grass and Rush Pasture

The purple moor grass and rush pasture on site will be retained in the current condition. Therefore, it will be ensured that the development does not cause pollution to the wetland, allowing the water quality to remain high. There must be no planting within this area, nor any mechanical disturbance. This will ensure the habitat will remain without scattered trees, scrub, bare ground and invasive species. If scrub or invasive species were to colonise within the habitat, these will be removed manually, ensuring no disturbance to the pasture itself.

5.3 Enhancement of Lowland Mixed Deciduous Woodland

The lowland mixed deciduous woodland to the west of the site will be enhanced due to the loss of bramble scrub for the proposed boardwalk footpath along with further management. The enhancements will involve improving specific criteria J – Woodland vertical structure (shrub layer) and L – Amount of deadwood.

5.3.1 Woodland vertical structure – shrub layer

To compensate and create more shrub layer throughout the woodland, new mixed scrub will be created. There will be a total of 20sqm of mixed scrub planted in four patches throughout the woodland. The creation and management of the newly created mixed scrub can be seen in the **section 5.5** below.

5.3.2 Deadwood

All deadwood created as a result of woodland management, such as coppicing and the removal of unsafe trees will be kept on site to create log piles within the woodland. The logs used to form these piles will be 20cm in diameter, or wider. Where grass and brash are cut back on site through management, these cuttings should also be added onto the log pile in order to increase its value for wildlife use.

5.3.3 Weed and Invasive species Management

Weed removal will be required as necessary to ensure no nutrient depletion of woodland species as a result of weed growth. Bramble and nettles will be common weeds to be maintained.

Currently, no invasive species have been noted to be present within the woodland. However, any that colonise on the site in future years must be removed to prevent them outcompeting native species. Invasive species can be cut back, ensuring the cuttings are removed from the site and glyphosate can be used as a treatment to prevent further growth. If bare ground is created as a result of this treatment, it must be encouraged to regenerate.

5.3.4 Coppicing

A rotational coppicing scheme will be implemented in order to manage the hazel and understorey shrubs most optimally. Once young trees have grown to an appropriate size, they will be cut to ground level rotationally with the purpose of promoting their growth. This means that only 30% of Hazel will be coppiced every 3 years to allow a varied woodland structure, in terms of both age and vertical structure, to be maintained. Each tree should be coppiced every 6-10 years through this rotation, ensuring woodland connectivity is kept. This scheme enhances the woodlands ecological value, creating opportunities for wildlife foraging and nesting. Coppicing should only be undertaken in the winter months (November to March), ensuring no disturbance to nesting birds. Since no dormice were found to be on site, hibernating dormice are less of a concern during management.

5.3.5 Thinning

Thinning will occur as necessary to maintain a canopy target of 75%. This target is set to ensure the understorey gains sufficient light to flourish, which is important as the woodland understorey provides further ecological niches and thereby benefits for wildlife. Thinning locations will be based upon a botanical survey, which allows areas of specific botanical interest to be noted. This survey will be completed every five years, in case it becomes beneficial to change the location.

5.3.6 Natural Regeneration

Tree and shrub species should be established by natural regeneration where possible e.g., by creating space for new regeneration around existing specimens of the desired trees and shrub species. Ash regeneration could be an important part of the mix, it should not be cut out or destroyed and would benefit from being protected. Deer management is especially critical for the success of natural regeneration.

5.4 Retained Individual Trees

The two mature Oak trees along the southern boundary will be retained in good condition. If either of these trees are removed, die or become seriously damaged or defective during the 30-year monitoring period, they shall be replaced like for like (with another Oak tree) in the next planting season. No human activities should impact the health of these species.

5.5 Bramble scrub Enhancement to Mixed Scrub

The section of bramble scrub to the north of the site will be enhanced to mixed scrub.

5.5.1 Proposed Planting

The species recommended to be planted in order to achieve this enhancement includes: Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Holly (*Ilex aquifolium*), and climbers such as, Dog Rose (*Rosa canina*) or Guelder Rose (*Viburnum opulus*). The scrub planting will be at a density of 1 per linear metre.

It is optimal to plant in late autumn, when temperatures are optimal. The novel scrub plants being added will be planted with large spacing to avoid creating dense clusters. The scrub will become denser and more connected as it grows up.

5.5.2 Management

Management will be undertaken annually (as needed) to maintain a suitable matrix between the other neutral grassland and the scrub. Such management can be achieved by manual cutting as well as mechanical clearance in winter months, this mainly being needed to prevent overgrowth.

Watering will occur as is necessary during the first growing season. Weeding will be undertaken upon initial planting and thinning will occur every five years. Bramble overgrowth will be managed, ensuring its density is kept at 15% among the entire patch. Scrub will be limited to a total site coverage not exceeding 10% of the total area of the site and in blocks not exceeding 10 x 10m. Should any such vegetation die or its density become sparse, additional planting will be undertaken, replacing like-for-like. This will ensure connectivity is kept. All management must occur outside of the nesting bird season (February – August) inclusive (Natural England, 2015).

5.6 Created Poor Condition Modified grassland

5.6.1 Proposed Planting

This type of habitat will be created throughout the developed area and will be managed as necessary. Recommended species planting of grass species may include Perennial Rye-grass (*Lolium perenne*), Common Bent (*Agrostis capillaris*), False Oat-grass (*Arrhenatherum elatius*), Yorkshire-fog (*Holcus lanatus*), Rough Meadow-grass (*Poa trivialis*) and Cock's-foot (*Dactylis glomerata*). Herb planting may include Yarrow (*Achillea millefolium*), Ribwort Plantain (*Plantago lanceolata*) and Creeping Thistle (*Cirsium arvense*). Prior to sowing, the ground will be prepared as directed by the seed mix manufacturer. This generally entails removing weeds and ploughing or digging to bury surface vegetation, raking to produce a tilth and rolling or treading to firm the surface.

Targeted scrub, bracken and invasive plant removal should also be carried out, as needed, to prevent encroachment into the grassland.

5.7 Created Good Condition Modified Grassland

5.7.1 Proposed Planting

It is recommended that the areas with good condition modified grassland are sown with Emorsgate EL1 – Flowering Lawn Mixture or similar. This seed mixture includes but is not limited to Common Knapweed (*Centaurea nigra*), Birdsfoot Trefoil (*Lotus corniculatus*), Ribwort Plantain (*Plantago lanceolata*), Cowslip (*Primula veris*), Meadow Buttercup (*Ranunculus acris*), Tufted Vetch (*Vicia cracca*), Common Bent (*Agrostis capillaris*), Crested Dogstail (*Cynosurus cristatus*) and White Clover

(*Trifolium repens*). Recommended species planting of grass species for this habitat may also include Rye grasses (*Lolium* spp.), Timothy (*Phleum pratense*), Yorkshire-fog (*Holcus lanatus*), and Cock'sfoot (*Dactylis glomerata*). Grass cover is usually over 75% for this habitat type. Broadleaved species may include Dandelion (*Taraxacum officinale*), Creeping Buttercup (*Ranunculus repens*) and Greater Plantain (*Plantago major*).

Sowing should occur on soil that has been cleared of weeds and has been both ploughed and rolled to ensure a firm surface. Sowing must be done in the autumn, or spring, providing there are sufficient levels of warmth and moisture. The seed will be surface sown by hand or using machinery and must be surface sown at an even distribution throughout the entire landscaped area. It is optimal to divide the seed and sow it in overlapping sections and firm the soil by treading following sowing.

5.7.2 Management

During the first year the landscaped areas must be regularly maintained to a height of 40- 60mm every 3-4 weeks during the growing season to prevent the establishment of weeds. All arisings must be taken from site to prevent the addition of too many nutrients into the soil. If necessary, glyphosate-based weed killer can be used to spot treat any areas with dense patches of Nettles or Bramble.

Once the seed is established after the first year, a management regime will be adopted to allow the flowering of herbaceous species to provide maximum benefit to local wildlife. Mowing should occur between March and October, but is to be relaxed from late June for 4 – 8 weeks. However, regular mowing is expected within this habitat area which will cause sward height structure to vary throughout the management periods, cutting no lower than 25-40mm. All arisings should be collected and moved from the site to prevent the addition of too many nutrients into the soil.

Targeted scrub, bracken and invasive plant removal should also be carried out, as needed, to prevent encroachment into the grassland.

5.8 Created Other Neutral Grassland

5.8.1 Proposed Planting

There are several areas of other neutral grassland being created across the site. It is recommended these areas are either planted with a native seed mix such as the Emorsgate EM2 Standard General Purpose Meadow Mixture (or similar) which includes 15% native wildflower species and 85% slow growing grasses. This mix includes species such as Yarrow (*Achillea millefolium*), Agrimony (*Agrimonia eupatoria*), Common Knapweed (*Centurea nigra*), Wild Carrot (*Daucus carota*), Common Sorrel (*Rumex acetosa*), Lady's Bedstraw (*Galium verum*), Field Scabious (*Knautia arvensis*), Oxeye Daisy (*Leucanthemum vulgare*), Musk Mallow (*Malva moschata*), Ribwort Plantain (*Plantago lanceolata*), Salad Burnet (*Poterium sanguisorba ssp sanguisorba*), Cowslip (*Primula veris*), Meadow Buttercup (*Ranunculus acris*), Yellow Rattle (*Rhinanthus minor*), Common Bent (*Agrostis capillaris*), Crested Dogstail (*Cynosurus cristatus*), Red Fescue (*Festuca rubra*), Smaller Cat's-tail (*Phleum bertolonii*), Smooth-stalked Meadow-grass (*Poa pratensis*).

5.8.2 Management

Wildflower areas do not require any additional watering or fertilizer. Cutting a meadow and removing the clippings retains low nutrient levels in the soil and suppresses coarse grasses which would otherwise out-compete the wildflowers. It is recommended the wildflower grassland undergoes two annual cuts. The growth should be cut back to a height of 50-75mm. The cut grass should be dried on site. Cuttings should be left in situ for approximately one week, after this the arisings are to be removed from site.

First year management: Perennial species take at least a full year to establish. For newly sown areas the first summer will be dominated by annual weeds arising from the soil seed bank and by grass growth. This should be controlled by mowing throughout the first year to minimise competition and weed seed production.

Management Once Established: During the second year it is recommended that the wildflower areas are left to flower and will be cut in mid-summer. Mowing in spring until mid-June brings a premature end to the flowers and can compromise nesting birds, which do not fledge until late July, insects and other wildlife. If some mowing has to take place at this time, sections should be cut at different dates to prolong the overall flowering season and give wildlife a chance to move. The second annual cut should be undertaken during late Autumn.

Grassland which is consistently cut late in the season, in August and September, year on year reduces species diversity as late cutting gives more time for coarse grasses and other dominant plants to grow unchecked. To maintain maximum diversity and flowering interest the buffer should be managed in sections at different times from late June to the end of August. Varying the mowing times from year to year is the best way to maintain a diverse balanced sward.

5.9 Created Individual Trees

5.9.1 Proposed Planting

Several tree species that are recommended to plant within the developed area can include Field Maple (*Acer campestre*), European Hornbeam (*Carpinus betulus*), Hawthorn (*Crataegus monogyna*), Small-Leaved Lime (*Tilia cordata*) and Rowan (*Sorbus aucuparia*). Planting of these species will occur in the late autumn of the first year, when temperatures are optimal. In order to encourage healthy root growth, Rootgrow will be implemented. Mycorrhizal treatment to the tree roots can also be undertaken during planting. This is particularly beneficial as it increases tree tolerance, resulting in a higher likelihood of long-term establishment and survival.

5.9.2 Management

Annual health assessments will be carried out of each tree to ensure they are of good condition and that there are no health concerns. This will be carried out by a suitably experienced arborist during late winter – early spring. A monitoring report will be produced by the arborist and sent to the LPA outlining the results of these assessments and any recommendations as a result. For the beginning 2-3 years, weeds will be removed as required 1m around the tree. Bark mulch is a useful addition to suppress weed growth. Between years 3-5, in October, light pruning will occur, ensuring healthy

growth forms are developed by each tree. Trees that die, become damaged or are removed must be replaced like-for-like in the next planting season.

5.10 Created SuDS

5.10.1 Proposed Planting

Two SuDS will be created within the good condition modified grassland to the east of the site. A wetland seed mix will be used to seed the basin and margins of the system and planting of some of the following species will be done to ensure the wetland area becomes well established; Greater Pond-sedge (*Carex riparia*), Sharp-flowered Rush (*Juncus acutiflorus*), Meadow Foxtail (*Alopecurus pratensis*), Marsh Foxtail (*Alopecurus geniculatus*), Creeping Bent (*Agrostis stolonifera*), Rough Meadow-grass (*Poa trivialis*), Marsh-marigold (*Caltha palustris*), Yellow Iris (*Iris pseudacorus*), Ragged-robin (*Silene flos-cuculi*), Cuckooflower (*Cardamine pratensis*), Water Mint (*Mentha aquatica*), Greater Birds-foot-trefoil (*Lotus pedunculatus*), Meadowsweet (*Filipendula ulmaria*).

The SuDS margin will be shallow, ensuring there are sloping edges which allow for a shallow water environment at less than 1:5 (12°) and ideally less than 1:20 (3°) (Freshwater Habitats 2013). The maximum depth should be 0.9m approximately, however this depth should vary across the two SuDS, which can be allowed through shelf creation.

5.10.2 Management

If blanket weed begins to cover the SuDS, it will be pulled out carefully to be removed. Thinning out of dominant plants will occur, however, ensuring only one third, and no more, is cleared per year. Any cleared plants must be left along the edge of the SuDS for several days, allowing wildlife to return to the water. Management must occur between late September and October to ensure no detriment to frog spawn, newts and common toads. This is because at this time, tadpoles would have left the SuDS and amphibians will not be in hibernation. Due to the hibernation period, disturbance must not occur in mid-winter. Manual cutting will be carried out to prevent scrub overgrowth around the SuDS.

5.11 Retained Native Hedgerow

The majority of the hedgerow along the southern boundary will be retained. In order to ensure the hedgerow remains healthy and in good condition, the following management regime should be followed.

The *Hedgerow Management and Wildlife* (Barr et al., undated) document outlines three important factors in how hedgerows are managed that affect resident mammal population (and have therefore formed the basis of the recommendations in this section):

1. The type and amount of food available within the hedgerow. Favourable conditions being a large invertebrate population or prolific annual seed and berry crop.
2. The vegetation structure and composition of the hedgerow. For instance, a dense, herb- rich basal layer or a continuous line of hedgerow trees is preferred by several species.

3. The continuity and connectivity of the hedge within the landscape. For instance, a hedgerow that connects patches of small farm woodlands will have greater value as a corridor for the dispersal of mammals.

The more favourable approach to managing hedgerows for the benefits of small mammals is to encourage minimal interference and thereby to ensure cutting is carried out after autumn fruiting (preferably in late winter). The key points of the management prescriptions will therefore be as follows (adopting recommendations as outlined within Bright and MacPherson 2002):

- Cutting will be done on a 3-year cycle (part of the hedges on site cut during the first year, another part of the hedges cut during the second year and no cutting occurring during the third year), to provide sustained foraging opportunities across the site every active season. The hedgerow will be encouraged to develop into a tall, dense, bushy structure and maintained at a height of 3 – (preferably 4) meters.
- At least 30% of the hedge should be left to grow for at least 7 – 10 years.
- Flails should not be used if possible, meaning management works will likely involve cutting using hand tools.
- Coppicing or laying should be used to manage any of the hedgerows on site which become gappy or sparse.
- If the size of the hedgerow needs to be reduced, avoid cutting the top and cut one side.

5.11.1 Monitoring

The hedgerow will be monitored during the first, third and fifth year. This will be carried out by a suitably experienced ecologist during late winter – early spring of each year. These monitoring visits will assess the general health of the hedgerows and determine if any remedial action is required (some of which are outlined below such as replacement planting or altering the frequency of cuts).

5.11.2 Replacement

Any plants that are removed, die or become seriously damaged or defective during the 10-year monitoring period of planting shall be replaced like for like in the next planting season.

If hedgerows become very thin, coppicing of selected plants / laying of short lengths of hedgerow may be required and will be beneficial to promote dense regrowth. Such works must be undertaken during the period October – February, to avoid the breeding bird season.

5.12 Retained Line of trees

The line of trees present along the eastern boundary will be retained in the same condition it is currently in. It is important that a 6m strip is left undisturbed within the site boundary. This is to be created as other neutral grassland and thereby should not be damaged, nor disturbed, only managed as is necessary as outlined above. There should be no disturbance to the line of trees by human activity, ensuring the trees remain in healthy condition. If a tree was to die or become damaged, it should be replaced, like-for-like.

5.13 Created Hedgerow

A total of 0.2km species rich native hedgerow will be planted throughout the site that will consist of at least 5 woody native species. These will lie outside of private gardens and will be readily accessed for management from adjoining public open spaces. Shrubs will be planted at a density of “7 per linear metre at 0,3cm offsets in double staggered rows” (Pegasus Group Ltd., 2024). Recommended species should include predominantly Hazel (*Corylus avellana*), Hawthorn (*Crataegus monogyna*) and Holly (*Ilex aquifolium*) in addition to a mix of shrub and tree species including:

- Blackthorn (*Prunus spinosa*)
- Pedunculate Oak (*Quercus robur*)
- Silver Birch (*Betula pendula*)
- Rowan (*Sorbus aucuparia*)
- Wild Cherry (*Prunus avium*)
- Dog rose (*Rosa canina*),
- Butcher's-broom (*Ruscus aculeatus*)
- Honeysuckle (*Lonicera periclymenum*).

5.13.1 Management

To enable a successful outcome, future management of the retained and planted hedgerows will require on going management works. This will include monitoring, prescriptive tasks and implementation of necessary works. Elements of this future management are detailed below. The *Hedgerow Management and Wildlife* (Barr et al., undated) document outlines three important factors in how hedgerows are managed that affect resident mammal population (and have therefore formed the basis of the recommendations in this section):

4. The type and amount of food available within the hedgerow. Favourable conditions being a large invertebrate population or prolific annual seed and berry crop.
5. The vegetation structure and composition of the hedgerow. For instance, a dense, herb- rich basal layer or a continuous line of hedgerow trees is preferred by several species.
6. The continuity and connectivity of the hedge within the landscape. For instance, a hedgerow that connects patches of small farm woodlands will have greater value as a corridor for the dispersal of mammals.

In more formal locations, hedges may need to be maintained more regularly than is stated above and this is permitted provided that the condition criteria set out in **Table 4** are achieved as described.

Targeted removal of invasive species will be carried out as necessary.

5.13.2 Monitoring

Annual monitoring will take place of the newly planted trees / hedge areas for the first 3 years, with bi-annual monitoring between 4-30 years. The existing hedgerows / tree lines will be monitored during the first, third and fifth year. This will be carried out by a suitably experienced ecologist during late winter – early spring of each year. These monitoring visits will assess the general health of the hedgerows and determine if any remedial action is required (some of which are outlined below such as replacement planting or altering the frequency of cuts).

5.13.3 Replacement

Any plants that are removed, die or become seriously damaged or defective during the 30-year monitoring period of planting shall be replaced like for like in the next planting season.

If hedgerows become very thin, coppicing of selected plants / laying of short lengths of hedgerow may be required and will be beneficial to promote vigorous, dense regrowth. Such works must be undertaken during the period October – February to avoid the breeding bird season.

5.13.4 Hedge Trimming Regime

The more favourable approach to managing hedgerows for the benefits of small mammals is to encourage minimal interference and ensure when there is any cutting, it does so after autumn fruiting (so late winter is preferable). The key points of the management prescriptions will therefore be as follows (adopting recommendations as outlined within Bright and MacPherson 2002):

- Cutting will be done on a 3-year cycle (part of the hedges on site cut during the first year, another part of the hedges cut during second year and no cutting during the third year), to provide sustained foraging opportunities across the site every active season. Hedgerows will be allowed to develop into a tall, dense, bushy structures and maintained at a height of 3 – (preferably 4) meters.
- A proportion of hedges (at least 30%) should be left to grow for at least 7 – 10 years.
- Not all hedgerows should be cut in any one year, so some heavy fruiting hedges are always present.
- Flails should not be used if possible, meaning management works will likely involve cutting using hand tools
- Coppicing or laying should be used to manage any of the hedgerows on site which become gappy or spars
- If the size of the hedgerow needs to be reduced, avoid cutting the top and cut one side.

5.14 Compliance Check

A compliance visit will be completed by a suitably qualified ecologist once the construction phase of the development has been completed. The check will be conducted annually for the first 5 years post-completion, and every 5-years thereafter until year 30. The compliance check will be carried out during a suitable time of year and in suitable weather conditions. The ecologist will check the condition of all of the habitats on site to assess if they have been achieved and make an assessment if any recommended changes are required to management.

On completion of the visit, a Biodiversity Net Gain (BNG) monitoring report will be compiled, including the following:

- Assessment of habitats against the objectives defined in this management plan
- Any presence of target species noted during the compliance check
- Date stamped photographic evidence taken from fixed monitoring points, of which will be the central point of each land parcel per habitat type as listed in **Section 4.0**, during the first compliance check after the construction phase

- Detailed site notes including a condition assessment for each habitat type listed in **Section 4.0** (where appropriate) using the condition criteria within the Technical Annex 1 (DEFRA, 2023b, updated 2024).
- Detailed specific recommendations on management actions to promote growth and establishment of target species / habitats including timescales for undertaking actions (if required) and marked site plans to show the actions
- Management of the above recommended actions must be carried out in the next phase and report of any details
- Each BNG monitoring report will be written up in accordance with the BNG Habitat Monitoring Report template provided by Natural England (2023) and will be sent to the LPA.

5.15 Safeguarding

The developer and project manager will be responsible for briefing all site personnel of the ecological sensitivities of the site and implementing the habitat enhancement, creation and management measures outlined within **Sections 4.0 & 5.0**. If any protected species are encountered during the construction works, it will be the responsibility of the project manager to cease works and immediately contact an ecologist for advice.

5.16 Post-Construction Habitat Creation

Table 5 below depicts the indicative timings associated with the habitat creation and enhancements to be undertaken after all construction works on site have been completed. This is considered to be year 1 of the management plan. For those activities that can be undertaken at any time of year, the earliest possible time is recommended.

5.17 Management Responsibilities

Southern Strategic Land will assume responsibility for the management and maintenance of the newly created and enhanced habitats. When required, responsibility will include ensuring all management works are completed and qualified ecologists, arborists or landscape managers are contracted, etc. If the land is to be transferred, the new landlords shall bear responsibility for the management and maintenance of habitats within their curtilage. If not, the responsibility shall remain with Southern Strategic Land. All management works as described above will need to be secured by a Section 106 agreement for the site that will legally oblige Southern Strategic Land or other agreed party to carry out the works. An annual management timeline of all habitats has been provided in **Table 5, 6, 7 and 8** and management works should continue in perpetuity.

A formal review process will be implemented when objectives and management recommendations are not reached / roles and responsibilities are not fulfilled as agreed. The details of this formal review process are as below:

- A suitably qualified ecologist will visit the site to conduct the compliance check (detailed in **Section 5.13**).
- The compliance check will include the write up and submission of a BNG Habitat Monitoring report
- The ecologist will review the success for BNG that the previous recommendations or management actions have for the target species / habitats
- The project manager is contacted by the ecologist and is informed of the recommendations

- or management actions which have not been fulfilled to identify what or who is responsible
- The BNG Habitat Monitoring report will include a section addressing any raised issues identified during the compliance check
- The BNG Habitat Monitoring report is submitted to the LPA for review and comment

Table 5. Schedule of habitat *retention, enhancement and/or creation* works to be carried out in first year (as per **Sections 4.0 and 5.0**).

General Activity	Specific Activity	Dates / Timing	Description
Habitat Retention (Section 5.1)	Installation of Heras fencing for protection	Anytime	Heras fencing to be erected along the boundaries to protect the large mature trees, the bramble, the moor grass and pasture and the lowland mixed deciduous woodland to be retained. This will prevent any damage to these habitats during the works.
Habitat Retention Purple Moor Grass and Rush Pasture (Sections 5.2)	Year 1 Management	Routinely as required	Manually removing overgrown scrub or invasive species that colonise the area.
Habitat Retention Lowland mixed deciduous woodland (Section 5.3)	Planting	Late Autumn ideally, in suitable weather	- Planting of tree / shrub species (species typical of lowland mixed deciduous woodland) - Mycorrhizal treatment of tree roots should be undertaken at time of planting - Planting of woodland understorey where deemed necessary
	Removal of invasive species	ASAP	Following consultation with an invasive species specialist.
	Weed management	Routinely where required	- To ensure a successful establishment of the newly planted woodland, all trees must have a 1-metre exclusion zone whereby weeds are routinely removed for the first 2 – 3 years. Additionally, all trees must have tree guards installed to act as a form of protection from extreme weather or excessive foraging from wildlife. - During weed removal, tree guards should also be routinely checked to ensure they are maintained in good condition and are firmly positioned within the soil. If the guards begin to split, they must be removed and disposed of responsibly.

	Botanical survey	April – September	It is considered likely a botanical survey will identify areas of highest botanical value and this will influence the location of thinning. The recommended botanical survey should be undertaken during the optimum survey season during the first year of woodland management to identify areas of botanical interest. It is recommended this is repeated every five years.
Habitat Retention Individual Trees (Section 5.4)	Year 1 Management	As required	- Replace the trees like-for-like if either becomes damaged or dies. - Ensure no disturbance to the trees by human activity.
Habitat Enhancement Bramble Scrub (Section 5.5)	Planting	Late Autumn	- Species recommended to be planted include: Hawthorn, Blackthorn, Holly, Dog Rose and Guelder Rose. - Planting should be at a density of 1 per linear metre and each plant separate to avoid dense clustering.
	Year 1 Management	February - August	- Manual cutting or mechanical clearance (in winter) to maintain a matrix between the scrub and other neutral grassland. - Weed following initial planting. - Replace like-for-like if vegetation dies or becomes sparse.
Habitat Creation Poor Condition Modified Grassland (Section 5.6)	Planting	Autumn or Spring	The chosen seed mixture will be sown on firm soil, cleared of weeds.
	Management	As required	Scrub, bracken and invasive plant species to be removed when necessary.
Habitat Creation Good Condition Modified Grassland (Section 5.7)	Planting	Late Autumn or Spring	Establish EL1 – Flowering Lawn Mixture (or similar).
	Year 1 Management	As required	- Regularly maintain to a height of 40-60mm every 3-4 weeks to prevent weed establishment. - Ensure all arisings are removed from the site.

			• Glyphosate-based weed killer can be used if the density permits it. • Scrub, bracken and invasive plant species to be removed when necessary.
Habitat Creation Other Neutral Grassland (Section 5.7)	Planting	Late Autumn	• Establish EM2 Standard General Purpose Meadow Mixture (or similar).
	Year 1 Management	As required	• Maintain to a height of 50-75mm with regular cuts • The cut should be dried on site and removed after one week
Habitat Creation Individual Trees (Section 5.8)	Planting	Late Autumn of first year	• Recommended species to be planted include; Field Maple, European Hornbeam, Hawthorn, Small-Leaved Lime and Rowan. • Rootgrow and mycorrhizal treatment will aid healthy root growth.
	Year 1 Management	As required	• Annual health assessments to ensure no remedial action is required. • Replace any trees that die or become damaged like-for-like.
Habitat Creation SuDS (Section 5.9)	Planting	Late Autumn	• Establish the wetland seed mix. Ensure there are sloping edges and shelves to ensure an appropriate depth is maintained.
	Year 1 Management	Late September and October	• Pull out any blanket weed carefully. • Thin dominant plants as required. • Ensure cleared plants are left by the SuD for several days before removing.

Table 6. Schedule of habitat *retention, enhancement and/or creation* works to be carried out in first year (as per **Sections 4.0 and 5.0**).

General Activity	Specific Activity	Dates / Timing	Description
Habitat Creation Species-rich Native Hedgerow (Section 5.10)	Planting	Late Autumn	- Plant with at least 5 woody native species. - Plant at a density of 7 per linear metre at 0.3cm offsets in double staggered rows.
	Year 1 Management	Late September – October	- Begin 3 year cutting cycle in which a portion of the hedges on site are cut in the first year, another portion in the second year and no cutting in the third year. - Use hand tools and avoid the use of flails.
	Year 1 Monitoring	Late Winter – Early Spring	- Hedgerows will be inspected by a suitably experienced ecologist to assess the general health of the hedgerow. - Remedial action will be taken as necessary. - Any plants that are removed, die or become seriously damaged will be replaced like-for-like in the next planting season.
Habitat Retention Native Hedgerow (Section 5.11)	Planting	Late Autumn	Infill any small gaps in the hedgerow with native shrub species.
	Year 1 Management	Late September – October	- Begin 3 year cutting cycle in which a portion of the hedges on site are cut in the first year, another portion in the second year and no cutting in the third year. - Use hand tools and avoid the use of flails.
Habitat Retention Line of Trees (Sections 5.12)	Management	Routinely as required	- Ensure the 6m strip along the edge does not become disturbed. - Ensure no disturbance as a result of human activity. - Replace any trees to become damaged or to die like-for-like.

5.18 Years 2 – 30 Management / Monitoring Table

Once the initial works covering the first year of management / monitoring have been completed as outlined in **Tables 5 and 6**, the longer-term management objectives for the ecological features on site will need to be implemented (which have been outlined in detail in the above sections). **Tables 7 and 8** below provides an overview of the actions required and the timings of when they should be complete (covering years 2– 30 post construction)

Table 7. Schedule of monitoring and management in Years 2 – 30 for all habitats (as per **Sections 4.0 and 5.0**)

General Activity	Specific Activity	Dates / Timing	Description
Habitat Retention Purple Moor Grass and Rush Pasture (Sections 5.2)	Management	Routinely as required	Manually removing overgrown scrub or invasive species that colonise the area.
Habitat Retention Lowland mixed deciduous woodland (Section 5.3)	Weed management	Routinely where required	- To ensure a successful establishment of the newly planted woodland, all trees must have a 1-metre exclusion zone whereby weeds are routinely removed for the first 2 – 3 years. Additionally, all trees must have tree guards installed to act as a form of protection from extreme weather or excessive foraging from wildlife. - During weed removal, tree guards should also be routinely checked to ensure they are maintained in good condition and are firmly positioned within the soil. If the guards begin to split, they must be removed and disposed of responsibly.
	Hazel coppicing scheme	Every 3 years Rotationally every 6 – 10 years	Any Hazel will be managed on a rotational coppicing scheme. This involves cutting young trees down to ground level to promote new growth and prevent over-shading. This will be rotationally implemented, with only a small portion approximately 30% of Hazel coppiced every 3 years during winter months (November to March), but only once the Hazel has grown to a size that will be beneficial and appropriate. Coppice management is best carried out on a rotation of approximately every 6-10 years for each tree, with timing staggered for plants to ensure there is continued connectivity at any given time.

	Bat roost potential assessment prior to thinning	Anytime	- The target trees to be removed are those showing signs of disease or poor growth; The specific target trees and areas of woodland will be determined by the supervising ecologist or arborist. - Please note, all mature trees will need to be surveyed for PRFs that may be suitable for roosting bats. If any trees have PRFs, it is recommended they are retained if possible and alternative trees are selected for thinning.
	Removal of invasive species	Once a year check, removal ASAP	Removal of invasive species if identified on site
	Thinning	Anytime, every 5 years	Woodland will be thinned (i.e., trees removed) to benefit retained trees and promote regeneration. The optimal canopy target is 75% cover, which allows greater development of the understory to create a more diverse woodland. Selective thinning will be carried out every five years to maintain a canopy target of 75% cover.
Habitat Retention Individual Trees (Section 5.4)	Management	As required	- Replace the trees like-for-like if either becomes damaged or dies. - Ensure no disturbance to the trees by human activity.
Habitat Enhancement Bramble Scrub (Section 5.5)	Management	February - August	- Manual cutting or mechanical clearance (in winter) to maintain a matrix between the scrub and other neutral grassland. - Weed following initial planting. - Thinning will occur every five years. - Limit bramble growth to ensure it only covers 15% of the entire patch. - Replace like-for-like if vegetation dies or becomes sparse.
Habitat Creation Poor Condition Modified Grassland (Section 5.6)	Management	March - October	As required

Habitat Creation Good Condition Modified Grassland (Section 5.7)	Management	March - October	• Glyphosate-based weed killer can be used if the density permits it. • Regular mowing, although more relaxed from late June for 4-8 weeks. • Cut no lower than 25-40mm. • Ensure all arisings are removed from the site. • Scrub, bracken and invasive plant species to be removed when necessary.
Habitat Creation Other Neutral Grassland (Section 5.7)	Management	July - September	• Two annual cuts, one in late July and the other late Autumn. • Different sections should be mowed at different times and these timings should be varied between years to maintain diversity.
Habitat Creation Individual Trees (Section 5.8)	Management	As required	• Annual health assessments to ensure no remedial action is required. • For 2-3 years, weeds will be removed 1m around the tree. • Light pruning will occur between 3 and 5 years in October • Replace any trees that die or become damaged like-for-like.
Habitat Creation SuDs (Section 5.9)	Management	Late September and October	• Pull out any blanket weed carefully. • Thin dominant plants as required. • Ensure cleared plants are left by the SuD for several days before removing.

Table 8. Schedule of habitat *retention, enhancement and/or creation* works to be carried out in Years 2 – 30 for all linear habitats (as per **Sections 4.0 and 5.0**).

General Activity	Specific Activity	Dates / Timing	Description
Habitat Creation Species-rich Native Hedgerow (Section 5.11)	Years 2-30 Management	Late September – October	- Continue the 3 year cutting cycle. - A proportion of hedges (at least 30%) should wherever possible be left to grow for 7-10 years. - Maintain a height of 3-4m wherever possible. - Use hand tools and avoid the use of flails. - Use coppicing or laying to fill gaps. - If hedgerow size needs to be reduced (e.g. in more formal areas), avoid cutting the top and cut only one side.
	Monitoring	Late Winter – Early Spring Annually in Years 1-3 Bi-annually in Years 4-30	Suitably qualified ecologist will assess the health of the hedgerow and recommend any necessary remedial action
	Replacement Planting	Late Autumn ideally, in suitable weather (for planting) Late September – October (for coppicing / laying)	- Removed, dead or damaged specimens will be replaced like for like in the next planting season. - Coppicing / laying will be used to gap up / thicken any thin hedgerows.

6.0 CONCLUSION

A Biodiversity Net Gain Assessment was carried out by Ecosupport Ltd at 'Denham's Corner' in Horton Heath with regards to the proposal to create up to 150 dwellings with associated private gardens, garages, roads and footpaths. This concluded that there is a net gain of 41.12% for habitats and a 31.75% for linear habitats. This net gain follows the retention, enhancements and creations of habitats on site, which provide further foraging, commuting and nesting habitats for wildlife, increasing the site's ecological value. Lowland mixed deciduous woodland, purple moor grass and rush pasture and individual trees within the redline boundary have been retained. Other neutral grassland, modified grassland and individual trees have been created. Bramble scrub has been enhanced into mixed scrub. The Biodiversity Gain Hierarchy has been closely followed, allowing a 10% biodiversity net gain to be achieved. The manner in which the habitats should be managed is detailed within this report, this including how frequently and at what time of year this should be carried out.

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7.0 REFERENCES

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APPENDIX - Pre and Post Development Habitats Map



Legend

- Site boundary
- Wider site boundary
- Modified grassland (g4)
- Cereal crops (c1c7)
- Artificial unvegetated, unsealed surface (u1c)
Secondary codes:
- 600 ploughed
- Rush pasture (f2b)
- Bramble scrub (h3d)
- Lowland mixed deciduous woodland (w1f)



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Map	Pre-Development Habs Map
Site	Land at Denham's Corner
Client	Southern Strategic Land
Date	03/06/2025

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Legend

- Site boundary
- Wider site boundary
- Other neutral grassland (g3c)
- Modified grassland (g4) of good condition
- Modified grassland (g4) of poor condition
- Rush pasture (f2b)
- Built-up areas and gardens u1
- Mixed scrub (h3h)
- Developed land; sealed surface u1b
- Buildings u1b5
- Lowland mixed deciduous woodland (w1f)
- with 4 patches of mixed scrub
- Boardwalk
- Sustainable drainage system (secondary code: 84)
- Line of trees (secondary code: 33): Lt(33)
- Native hedgerow (h2a): H1 and H2
- Created Species-rich native hedgerow (h2a)
- Retained trees: T1 and T2
- Created trees (80No)



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