

Biodiversity Management Plan



Land off New Smithy Avenue, Thurlstone

Newett Homes

Report Ref. ER-4006-03A

Report Reference:	Biodiversity Management Plan Land off New Smithy Avenue, Thurlstone
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Date:	02/11/2022 21/11/2022 MJD Rev. A

Introduction

This Site has been subject to baseline studies which have informed the layout, demonstrating its engagement with the 'mitigation hierarchy'. Design concepts have been drawn up that allow the scheme to deliver biodiversity units through habitat creation and management of new habitat and hedgerow features. This plan is the final biodiversity delivery document, and shows how created habitats can attain the condition scores that were predicted in the Biodiversity Net Gain Assessment.

The Plan is produced in order to discharge Condition 9 of the approved plan which states:

9) Prior to the commencement of development, a Biodiversity Enhancement Management Plan detailing the long-term management of the ecological mitigation in the Biodiversity Net Gain Assessment (ER-4006-02B) and accompanying Biodiversity Metric-4006-01A shall be submitted to and approved in writing by the Local Planning Authority. The development shall thereafter be implemented in accordance with the approved details.

In addition to meeting habitat condition objectives, the plan presents additional measures to enhance the value of the Site for fauna (birds and bats).

The Plan is produced in accordance with Chapter 11 of British Standard 42020. 'Biodiversity Management Plans' (BMPs) are reports which set out how wildlife interests will be enhanced, restored and maintained, a term is referenced in BS42020 Clause D.4.5.

In producing this plan the following sources have been refereed to:

- Preliminary Ecological Appraisal, Brooks Ecological (R-4006-01)
- Biodiversity Net Gain Assessment, Brooks Ecological (ER-4006-02C)
- Biodiversity Metric, Brooks Ecological (ER-4006-01B)
- Detailed Plot Landscaping Proposals, Highstone Design DWG Ref. H22-0015_001D, September 2022.



Figure 1. Extract from Detailed Plot Landscaping Proposals - DWG Ref. H22-0015_001D, September 2022



Figure 2. Post Development habitat and hedge areas used to calculate Biodiversity Units

Aims

The aim of this plan is to maximise delivery of the wildlife potential and condition of habitats on site, creating areas of robust semi-natural landscape and provide enhancements which benefit invertebrates, mammals and birds which may utilise the site.

Objectives

The following sections of the Plan detail management objectives relevant to each habitat or ecological feature. These include management options and monitoring to ensure features achieve their target objectives and target conditions over the course of the management period. The final layout has been assessed under the Defra Metric 2.0 for Biodiversity Net Gain showing the proposed development aims to deliver 2.06 habitat units and 0.87 hedgerow units. An overall work schedule is provided to summarise annual works, monitoring and reporting to the LPA.

Scope of Plan

This plan relates to the whole development as contained within the red line illustrated in Figure 1 and references the habitat areas created through soft landscaping, tree and planting schedules as set out in the Detailed Plot Landscaping Proposals which contributes a portion of Biodiversity Unit delivery within amenity landscaping areas and should be read alongside this plan.

Delivering the Plan

The Developer is responsible for the creation and establishment works for a thirty year period.

The Developer will appoint either a Specialist Ecological Management Company (SEMC) or a company working under the direction of an Ecological Clerk of Works (ECoW) to oversee the delivery of this plan.

The ECoW would be a qualified Ecologist and member of the Chartered Institute of Ecology and Environmental Management, or be otherwise approved by the LPA.

Following the construction phase this plan will be the responsibility of a Site Management Company whence it will be implemented for the duration of the plan.

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Return to results menu

Headline Results		
On-site baseline	Habitat units	4.00
	Hedgerow units	0.30
	River units	0.00
On-site post-intervention (Including habitat retention, creation, enhancement & succession)	Habitat units	2.06
	Hedgerow units	0.87
	River units	0.00
Off-site baseline	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (Including habitat retention, creation, enhancement & succession)	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention/creation)	Habitat units	-1.94
	Hedgerow units	0.57
	River units	0.00
Total net % change (including all on-site & off-site habitat creation + retained habitats)	Habitat units	-48.58%
	Hedgerow units	189.18%
	River units	0.00%

Figure 3. Biodiversity Unit summary from Biodiversity Net Gain Assessment

Mixed Native Hedgerow

Rationale

Creating species-rich linear features which can provide food and shelter resources to birds, small mammals and invertebrates.

Objectives

Habitat: Native Species Rich Hedgerow on southern boundary Reaching a DEFRA condition score of **Moderate** by Year 5.

Specification

Soil Protected *in situ*.

Weeds Maintain a weed free strip under establishing hedge.

Planting From Landscape Plan schedule

Management

Year 1 Keep a 1m strip centered on the hedge free of weed growth using translocated non persistent herbicide. Up to two visits in the growing season.

Year 2 No further weed treatment.

Year 3 Cut 50% of hedge in late winter. Identify any trees that can be left to grow into hedgerow standards. Mark with a flag to prevent cutting. Look to achieve a random scattering of standards averaging at 1 per 40m.

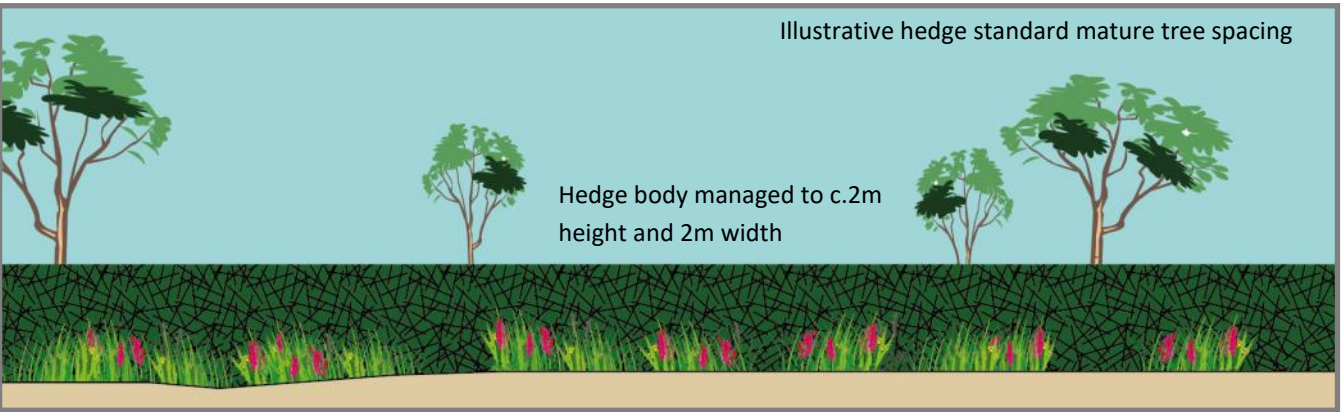
Years 4-10 Cut no more than 90% of each identifiable hedge in late winter (February). Keep flags to prevent cutting until a very obvious standard has developed. Repeat cutting treatment alternating areas cut between years.

Monitoring

ECoW to conduct monitoring visits in to check trajectory to Moderate condition.

Remedial action options

- Increase weed control if undesirable species establish.
- Re-seed and replant locally.
- Vary cutting profile.



Management prescriptions apply to new hedge within the central POS,.
Beech hedging to plot frontages is specified in the landscape plan and not shown .

	Favorable condition attributes	Criteria	Targeted?
A1	Height	>1.5m average along length	No
A2	Width	>1.5m average along length	No
B1	Gap - hedge base	Gap between ground and base of canopy <0.5m for >90% length	Yes
B2	Gap - hedge canopy continuity	Gaps make up <10% of total length and no canopy gaps >5m	Yes
C1	Undisturbed ground and perennial vegetation	>1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length & present on one side of hedge at least	No
C2	Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of area of undisturbed ground	Yes
D1	Invasive and neophyte species	>90% of hedgerow and undisturbed ground is free of invasive non-native and neophyte species	Yes
D2	Current damage	>90% of hedgerow of undisturbed ground is free of damage caused by human activities	No

Native Trees and Mixed Scrub

Rationale

New native tree and shrub planting to increase diversity of woody species present and provide habitat resources for forage, shelter and nesting opportunity.

Objectives

Urban tree: Moderate condition (default for urban trees in Metric 2.0) by year 27.

Mixed Scrub : Reaching a DEFRA condition score of **Moderate** by year 3.

Specification

Urban Trees:

Plant according to landscape specifications and standard tree establishment.

Mixed scrub:

Soil: (retained and protected)

Weeds: treat weeds in new tree and shrub planting stations.

Seeding: N/A

Planting: from landscape plan schedule

Management

Year 1-3 Keep a 0.5m diameter area weed free with herbicide. Check shelters are fitted properly, stakes are firm and ties in place. Hand weed grasses and weeds in tree shelters if present. Replace failures next growing season. Monitor for competitive weed growth away from planting stations. Spray or weed wipe as required to keep cover to less than 10%.

Year 4-5 Monitor for competitive weed growth away from planting stations. Spray or weed wipe as required to keep cover to less than 10%. remove tree guards before year 5.

Year 10 Thin by 30% to remove canopy trees if these are outcompeting scrub, ensuring edges develop diverse age and species structure. Must be ECoW directed. Leave all felled timber in situ to rot down. Selectively seed with native woodland seed at ECoW discretion in locations with suitable soil and light conditions (10-40% ambient daylight in summer).



	Condition Assessment Criteria: Scrub habitat types	Targeted?
1	At least three woody species, with no one species comprising more than 75% of the cover	Yes
2	There is a good age range - a mixture of seedlings, saplings, young shrubs and mature shrubs	No
3	Pernicious weeds and invasive species make up less than 5% of the ground cover	Yes
4	Well-developed edge with un-grazed tall herbs	Yes
5	Many clearings and glades within the scrub	No

Species rich Grassland

Rationale

Creating functional yet flower rich amenity type grassland to attract invertebrates and pollinators. Not intended to replicate priority grassland habitat type.

Objectives

Habitat: Other Neutral Grassland. Reaching a DEFRA condition score of **Moderate** by year 10.

Specification

Preparation No more than 5cm of topsoil will be spread over the subsoil profile. This will be loose tipped and spread with back actor to avoid compaction, and harrowed to a fine tilth ready for seeding.

Seeding Seed with Emorsgate EM2 according to supplier's instructions. If soils have been spread before September, any weed growth that has established in the meantime will be sprayed off with glyphosate and a seedbed be re-prepared. Seed will either be broadcast by hand or by approved lightweight machinery at ca. 40kg/Ha. Following seeding the area will be lightly rolled to incorporate the seed with the growing substrate.

Management

Year 1 Five cuts, collect arisings and remove from Site. Use a weed wipe three times in year 1 to kill off weeds—spear thistle, creeping thistle, broad-leaved dock, clustered dock, wood dock, curled dock, nettle, ragwort, and others according to ECoW recommendations. Operatives must be proven competent in identifying.

Years 2 onwards Cut once per month during the growing season, leave for 5 weeks in June. Arisings may be left to rot *in situ* unless condition is deteriorating.

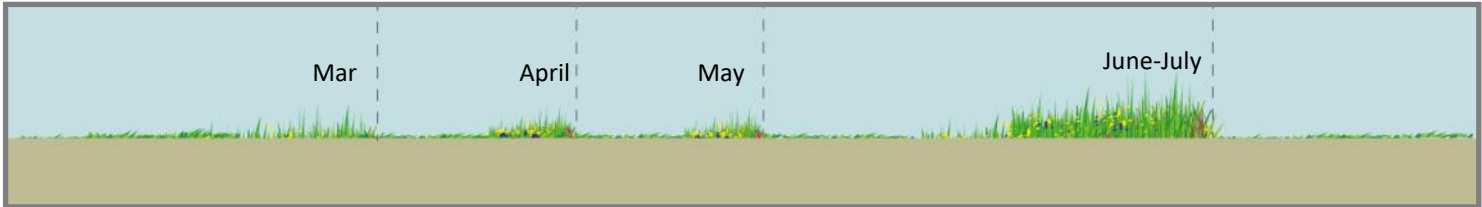
Monitoring

ECoW to conduct monitoring visit in year 2 to record progress to establishment and target condition.

Output ECoW report.

Remedial action options

- Localized weed control or over sowing with wildflower seed.
- Periodic collection of arisings under the instructions of the ECoW.



	Condition Assessment Criteria Grassland habitat type	Targeted?
1	Clearly and easily recognisable as a good example of this type of habitat.	Yes
2	Appearance and composition very closely matches the characteristics for the specific Priority Habitat	N/A
3	Wildflowers, sedges and indicator species for the specific Priority grassland habitat are very clearly and easily visible throughout the sward and occur at high densities in high frequency.	N/A
4	Undesirable species and physical damage is below 5% cover.	Yes
5	Cover of bare ground greater than 10%	No
6	Cover of bracken less than 20% & cover of scrub and bramble less than 5%.	Yes

Nesting Boxes for Birds

Rationale

Ready made nesting boxes will be incorporated into building walls to provide shelter and breeding sites of declining birds such as swifts. Boxes are provided on a ratio of one per property in accordance the British Standard BS:42021 but since swifts are colony species they are best installed in groups of four within end gables in the suggested locations shown.

Swift bricks



Specification

<https://www.nhbs.com/vivara-pro-cambridge-swift-nest-box>

Or equivalent approved by the Ecological Clerk of Works

Location Notes

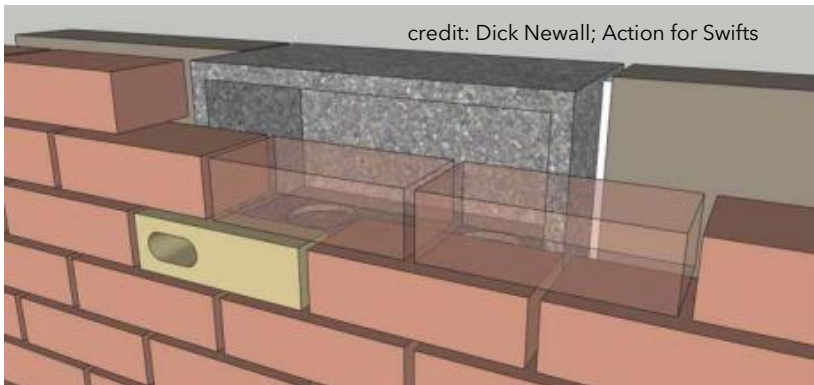
Swift bricks will be positioned as high up on buildings as possible, ideally below the verges of gables.

Boxes will not be positioned above windows, to prevent potential conflict with new homeowners.

South-facing elevations will be avoided, with boxes fixed to north, northeast or northwest facing aspects.

Number 28

When erected? During construction of building



Note all locations and specifications may be varied under agreement with ECoW

Roosting Boxes for Bats

Rationale

Ready made roosting boxes will be incorporated into building walls to provide shelter and breeding sites of declining bats.

Integrated Bat boxes



Specification

<https://www.nhbs.com/ibstock-enclosed-bat-box-c>

Or equivalent approved by an Ecologist

Location Notes

Sited in pairs as high as possible under the eaves with good access to unlit vegetated tree cover.

Number: 8

When erected? During construction.



Note all locations and specifications may be varied under agreement with ECoW

Timeline

Task	ECoW to direct	ECoW to carry out	Year 1	Year 2	Year 3	Year 4	Year 5	6+	10	20	30
Seeding and planting of new species rich grassland			September–November	September–November							
Planting of new hedgerows, shrubs and trees			November–February	November–February							
Manage wildflower grassland (mowing)	Yes (in year 1-2)			April-Sept	April-Sept	April-Sept	April-Sept	April-Sept			
Manage hedgerows (winter cutting)					November–February	November–February	November–February	November–February			
Erect bat and bird boxes			As built	As built							
ECoW verification faunal boxes			As built	As built							
ECoW Monitoring		Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes