
Hawkeridge Mill, Heywood

Landscape and Ecology Management Plan

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1. Introduction

1.1 Background

- 1.1.1 This Landscape and Ecology Management Plan (LEMP) details management prescriptions for enhanced and new habitats forming part of Hawkeridge Mill, Mill Lane, Heywood, Westbury, Wiltshire, BA13 4LD (central grid reference: ST 86706 53338).
- 1.1.2 The LEMP is required to address Planning Condition 5 (PL/2025/02641/FUL), which states:

“Prior to any works commencing on site pursuant to the erection of the portal framed barn, a Landscape and Ecology Management Plan (LEMP) shall be submitted to and approved in writing by the Local Planning Authority.

The Plan must be prepared in accordance with the Hawkeridge Mill, Heywood Post Development BNG Habitat Plan and seek to deliver habitats and features to benefit biodiversity as detailed in Section 6.3 of the Biodiversity Net Gain Statement – Statutory Biodiversity Metric (Seasons Ecology, June 2025). The LEMP will include long term objectives and targets, management responsibilities and maintenance schedules for each ecological feature within the development, together with a mechanism for monitoring success of the management prescriptions, incorporating review and necessary adaptive management in order to attain targets.

REASON: To ensure the long-term management of landscape and ecological features retained and created by the development, for the benefit of visual amenity and biodiversity for the lifetime of the scheme.”

1.2 Site and Development Description

- 1.2.1 The site is a small field unit supporting artificial unvegetated unsealed surfaces (a combination of gravel and bare ground), modified grassland, individual trees, a line of trees and (post-development) a new barn. Bitham Brook flows to the north and Priority Habitat Deciduous Woodland lies to the east.

2. Objectives of LEMP

- 2.1.1 This LEMP provides the management prescriptions for enhanced and new habitats, which will be created during and post-construction. The aim of management is to ensure these features establish successfully, to ensure they offer value to wildlife, and to ensure they undergo appropriate maintenance and seasonal checks, whilst minimising disturbance to target species.



3. Features to be Managed

- 3.1.1 The plan at Annex 1 (post-development BNG habitat plan) shows the extent and distribution of habitats to be managed, including enhanced and new habitats. These are described below.

3.2 Enhanced Habitats

- 3.2.1 The line of trees along the site's south-west boundary will be enhanced by the removal of non-native conifer trees and replacement with native species within existing and newly created gaps.
- 3.2.2 16 new trees will be planted, one in the north-west of the site, eight along the south end of the east site boundary and seven fruit trees will be planted in the grassland in the south of the site.
- 3.2.3 Table 1 below provides the planting schedule for new tree planting.

Table 1: Planting Schedule for Line of Trees/Scattered Trees

No	Species	Specification
Line of Trees (south-west boundary)		
1	Field Maple <i>Acer campestre</i>	5L containerized and 60-90cm height. Single-stem form
2	Hawthorn <i>Crataegus monogyna</i>	5L containerized and 60-90cm height. Single-stem form
2	Blackthorn <i>Prunus spinosa</i>	5L containerized and 60-90cm height. Single-stem form
1	English oak <i>Quercus robur</i>	5L containerized and 60-90cm height. Single-stem form
2	Hazel <i>Corylus avellana</i>	5L containerized and 60-90cm height.
1	Holly <i>Ilex aquifolium</i>	5L containerized and 60-90cm height. Single-stem form
2	Elder <i>Sambucus nigra</i>	5L containerized and 60-90cm height. Single-stem form
1	Dogwood <i>Cornus Sanguinea</i>	5L containerized and 60-90cm height.
Scattered Trees (north-west corner, east site boundary, south corner)		
3	English oak <i>Quercus robur</i>	5L containerized and 60-90cm height. Single-stem form
2	Field maple <i>Acer campestre</i>	5L containerized and 60-90cm height. Single-stem form



No	Species	Specification
2	Hawthorn <i>Crataegus monogyna</i>	5L containerized and 60-90cm height. Single-stem form
1	Small-leaved lime <i>Tilia cordata</i>	5L containerized and 60-90cm height. Single-stem form
1	Alder <i>Alnus glutinosa</i>	5L containerized and 60-90cm height. Single-stem form
3	Apple <i>Malus domestica</i> varieties	5L containerized and 60-90cm height. Single-stem form
2	Pear <i>Pyrus communis</i> varieties	5L containerized and 60-90cm height. Single-stem form
2	Cherry <i>Prunus</i> species	5L containerized and 60-90cm height. Single-stem form

- 3.2.4 The channel of Bitham Brook, which flows to the north, will be enhanced by introducing aquatic vegetation, including submerged, floating and emergent vegetation. These will be placed into hessian sacks filled with aquatic soil and tied loosely with biodegradable string so that the stems emerge from the top. The bags will then be placed into the water, ensuring they are not too deep, and then staked into the banks to keep in place.
- 3.2.5 The 5m Ecological Buffer along the south bank of Bitham Brook, maintained during construction, will be continue to maintained in the long-term. Permanent fencing will be erected to protect the Ecological Buffer. Several species of marginal/riparian plants list will be planted along the banks of the Bitham Brook, within the 5m ecological buffer to increase species-diversity.
- 3.2.6 Table 2 below provides the planting schedule for aquatic vegetation within the channel.



Table 2: Planting Schedule for Aquatic Vegetation

Species	No	Specification
Spiked water-milfoil <i>Myriophyllum spicatum</i>	1	Bunch
Rigid hornwort <i>Ceratophyllum demersum</i>	1	Pack of 5
Water violet <i>Hottonia palustris</i>	1	Pack of 5
Water lily <i>Nymphaeaceae</i>	1	3L Aquatic pot
Common water-crowfoot <i>Ranunculus aquatilis</i>	1	Bunch
Frogbit <i>Hydrocharis morsus-ranae</i>	1	Pack of 5
Water-forget-me-not <i>Myosotis scorpiodes</i>	1	1L Aquatic pot
Bogbean <i>Menyanthes trifoliata</i>	3	9cm Potted Plant
Watermint <i>Mentha aquatica</i>	3	9cm Potted Plant
Yellow Iris <i>Iris pseudacorus</i>	3	9cm Potted Plant
Lesser Spearwort <i>Ranunculus flammula</i>	1	1L Aquatic Pot
Marsh Marigold <i>Caltha palustris</i>	1	1L Aquatic Pot
Globeflower <i>Trollius europaeus</i>	3	9cm Potted Plant
Pillwort <i>Pilularia globulifera</i>	1	1L Aquatic Pot
Brooklime <i>Veronica beccabunga</i>	1	1L Aquatic Pot



3.2.7 The modified grassland in the south of the site will be enhanced to Other Neutral Grassland. This will be achieved by sowing with Emorsgate EM3 Special General Purpose Meadow Mix.

3.2.8 Table 3 below provides the composition and proportion of seeds within the seed mix.

Table 3: Emorsgate EM3 Special General Purpose Meadow Mixture Species Composition.

Species	Proportion (%)
<i>Achillea millefolium</i> – Yarrow	0.40%
<i>Agrimonia eupatoria</i> – Agrimony	0.20%
<i>Betonica officinalis</i> – Betony	1.20%
<i>Centaurea nigra</i> – Common knapweed	2.00%
<i>Daucus carota</i> – Wild carrot	1.00%
<i>Echium vulgare</i> – Viper’s-bugloss	0.60%
<i>Filipendula ulmaria</i> – Meadowsweet	0.20%
<i>Galium album</i> – Hedge bedstraw	0.80%
<i>Galium verum</i> – Lady’s bedstraw	0.40%
<i>Geranium pratense</i> – Meadow crane’s-bill	0.40%
<i>Leucanthemum vulgare</i> – Oxeye daisy	1.00%
<i>Malva moschata</i> – Musk mallow	1.00%
<i>Medicago lupulina</i> – Black medick	0.40%
<i>Onobrychis viciifolia</i> – Sainfoin	0.20%
<i>Pastinaca sativa</i> – Wild parsnip	0.20%
<i>Plantago lanceolata</i> – Ribwort plantain	1.40%
<i>Poterium sanguisorba ssp sanguisorba</i> – Salad burnet	0.60%
<i>Primula veris</i> – Cowslip	1.00%
<i>Prunella vulgaris</i> – Selfheal	1.60%
<i>Ranunculus acris</i> – Meadow buttercup	1.60%
<i>Ranunculus bulbosus</i> – Bulbous buttercup	0.60%
<i>Rhinanthus minor</i> – Yellow-rattle	0.40%
<i>Rumex acetosa</i> – Common sorrel	0.40%



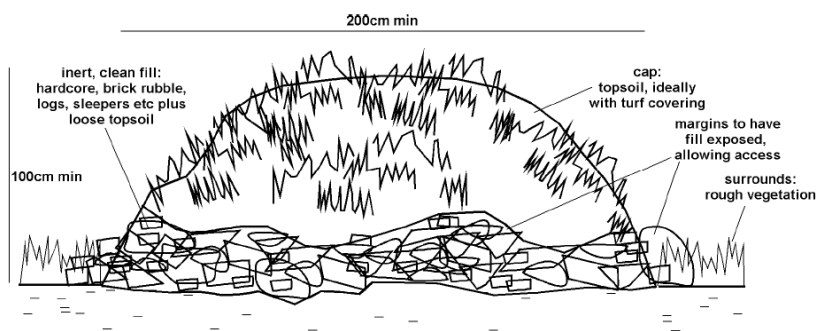
<i>Scabiosa columbaria</i> – Small scabious	0.20%
<i>Silene dioica</i> – Red campion	0.80%
<i>Silene vulgaris</i> – Bladder campion	1.00%
<i>Taraxacum officinale</i> – Dandelion	0.20%
<i>Vicia cracca</i> – Tufted vetch	0.20%
<i>Agrostis capillaris</i> – Common bent	8.00%
<i>Cynosurus cristatus</i> – Crested dog's-tail	28.00%
<i>Festuca rubra</i> – Red fescue	24.00%
<i>Phleum bertolonii</i> – Smaller cat's-tail	4.00%
<i>Poa pratensis</i> – Smooth-stalked meadow-grass	16.00%

3.3 New Habitats – Species Specific Features

3.3.1 New species-specific features will be created across the site. These are listed below along with their specifications:

- Two Low Profile Woodstone bat boxes will be attached to the new barn on the south-facing gable end, at a height of at least 3m. The boxes are self-cleaning to avoid the need for management.
- Two bird nest boxes, one Vivara Pro Seville 32mm Woodstone nest box and one Vivara Pro Seville 28mm Woodstone nest box, will be attached to the new barn, on the north elevation at a height of between 1.5m and 3m.
- One refuge/hibernaculum will be created in the south of the site, see specification below.

Figure 1. Refuge/Hibernaculum Specification (Natural England, 2001)



- Two free-standing insect hotels will be installed in the enhanced other neutral grassland in the south of the site.



4. Management Prescriptions

4.1 Responsibilities

- 4.1.1 The funding and implementation of this LEMP is the responsibility of the landowner, Ms S Lund. Implementation will be carried out with the assistance of external specialists, where appropriate and where specified in this document.

4.2 Aims and Objectives of Management

- 4.2.1 The aims of management are to ensure habitats establish successfully, to ensure that they offer long-term value to wildlife, and to ensure they undergo appropriate maintenance and seasonal checks, whilst minimising disturbance to wildlife.
- 4.2.2 The line of trees will be managed to maximise its value to wildlife through allowing incremental growth in height and width, encouraging density and continuous cover, and providing a valuable food resource for local wildlife.
- 4.2.3 The enhanced grassland (Other Neutral Grassland) will be managed to maintain and promote species diversity and to prevent the encroachment of undesirable species within the sward.
- 4.2.4 Bitham Brook and the Ecological Buffer will be managed to maintain the quality and condition of the watercourse, and to prevent the encroachment of undesirable species within the channel, and on the banks and within the buffer.
- 4.2.5 For the species-specific features, minimal management will be required. The features will require annual checks to ensure they remain in good condition or replaced as required, and bird boxes will require cleaning annually.
- 4.2.6 Management prescriptions are provided in Tables 4-7 below. Table 8 suggests an approach to five-yearly reviews of the Plan.



Table 4: Management Prescriptions – Line of Trees/New Trees

Management/Monitoring	Timing	Frequency
Watering – <i>newly planted trees only</i> . Sufficient water applied as necessary, particularly during Years 1 and 2, and thereafter in drought conditions.	All year	As required during Years 1-2, and thereafter in drought conditions
Weed control – <i>newly planted trees only</i> . An area 1m across will be cleared of vegetation and maintained around new trees until established. Mulches can be effective at suppressing weeds and will be applied to a minimum depth of 100mm.	All year	Annually for first 5 years
Replace dead plants – <i>newly planted trees only</i> . If an older tree dies and it is safe to leave it in place, standing deadwood provides good habitat for birds, bats and invertebrates.	November to March	Years 1 - 10
Remove tree guards when plants are well established – <i>newly planted trees only</i> .	All year	Year 3-5, as appropriate
Monitor trees for any sign of defects or poor health every two years. Report any signs of ill health or damage and take remedial action when required.	October to February	Biannually, until Year 30
Pruning of mature trees should be carried out to promote well balanced, natural canopy, as required. For new trees, this will be undertaken from Year 7 onwards. Arboricultural contractor to be appointed.	October to February	Annually (from Year 7 for new trees)
Fungal bodies and deadwood should be left in-situ where possible, unless it is posing a health and safety risk. If removed it should be placed in areas of grassland at the edge of the site.	October to February	Annually, until Year 30

Table 5: Management Prescriptions – Bitham Brook and Ecological Buffer

Management/Monitoring	Timing	Frequency
Aquatic Planting – The watercourse (Bitham Brook) will be stocked with species listed in Table 2, placed into hessian sacks with aquatic soil and staked to the banks. Several species of plants on the planting list will be planted along the banks of the brook, with species including; water-forget-me-not, water mint, yellow iris, lesser spearwort, marsh-marigold and globeflower.	Autumn/Winter	Year 1
De-silting – If required, de-silting of the watercourse will be undertaken in autumn/winter using a 360° tracked excavator, or a silt trap will be installed in the summer months to prevent silt build-up.	October to February for de-silting works, annually. July/August for installation of a silt trap, annually.	Annually for first 5 years, then until Year 30 as necessary.
Tree/shrub management – Tree/shrub management will be required if there is a significant over-shading across the watercourse. Branches will be cut back in winter with logs stacked near to the bank within the Ecological Buffer to provide refuge habitat for wildlife.	November to February, annually	Annually until Year 30
Aquatic vegetation – Aquatic vegetation will be allowed to colonise naturally across approximately 1/3 of the watercourse and the banks. If there is a slow uptake across specific areas, plants will be sourced from nearby watercourses which have established successfully. At least one-third of the watercourse will be kept clear of marginal and emergent vegetation to leave open water. A fringe of marginal and emergent vegetation will be retained along at least 2/3 of the banks once established. All vegetation removed from the watercourse will be hand sorted and left on the banks for 48 hours, to allow any species time to escape back into the watercourse.	September to November, annually	Annually until Year 30

Invasive or vigorous species – Invasive or vigorous species such as <i>Azolla</i> species, <i>Crassula helmsii</i> and <i>Elodea canadensis</i>, will be removed by hand and disposed of appropriately, should they colonise the watercourse. <i>Typha</i> species will need to be dug out with a spade or carefully with a mechanical excavator. Pondweed will be raked out by hand or using a grapple on a rope. All vegetation removed from the watercourse will be hand sorted and left on the banks for 48 hours, to allow any species time to escape back into the watercourse.	September to November, annually	Annually until Year 30
Protection fencing along the Ecological Buffer will be checked and repairs made where necessary.	All year	Annually until Year 30
Checks and removal of invasive species and manage encroachment of scrub within the Ecological Buffer.	November to February	Annually until Year 30

Table 6: Management Prescriptions – Other Neutral Grassland

Management/Monitoring	Timing	Frequency
In late summer or early autumn, mow or strim existing vegetation across the area to a short sward, creating bare ground. Vigorously rake to ensure at least 50% bare ground. Clippings to be removed.	August to September	Year 1
The grassland areas will then be seeded with Emorsgate EM3 Meadow Mixture. The suggested sowing rate is 4g per m ² . Sowing will be undertaken in the autumn or the spring depending on the construction program. Ground conditions must be good and not repeatedly wet. Do not incorporate or cover the seed, but firm in with a roll, or by treading, to give good seed/soil contact.	September, March or April	Year 1
Any common nettle <i>Urtica dioica</i> , rushes <i>Juncus</i> species, docks <i>Rumex</i> species, and creeping thistle <i>Cirsium arvense</i> will be pulled out, or the flower heads cut off before they set seed.	March to May	Year 1 and 2, then as necessary until Year 30
Leave annual weeds in the ground to protect wildflower seedlings, and cut in mid to late summer, remove arisings and compost.	Early August	Year 1 and 2
Maintain grassland as a short sward by mowing until March of the following year.	August to March	Annually, until Year 30
Dig out by hand any perennial weeds, such as docks.	August to March	Years 1 and 2, then as necessary until Year 30
Manage under a traditional meadow management regime with a main summer hay cut in combination with autumn mowing.	August / October	Annually, from Year 2 to Year 30

No cutting of meadow grassland between spring to late July/August to allow species to flower. After flowering cut for hay to around 50mm.	August	Annually, from Year 2 to Year 30
Leave hay to dry and shed seeds for 3-4 days before removing from the site.	August	Annually, from Year 2 to Year 30
Mow or graze the re-growth through to late autumn/winter to around 50mm height, and again in spring if required.	August to November	Annually, from Year 2 to Year 30
Further consideration: skipping the spring cut if you can see wildflowers growing, varying your cutting time from year to year or cut part of the meadow in July and the rest in later months to allow establishment of new species within the meadow, leaving clippings lying for a week to allow all the seeds to drop before removing, if the grass is growing vigorously over winter an extra cut and collect should be carried out (if the ground is not too wet). In the second year after cutting the meadow, the introduction of yellow-rattle <i>Rhinanthus minor</i> should be considered. This plant grows off grass roots, reducing vigorous grassy growth and creating more space for wildflowers. This should all be undertaken as required.		

Table 7: Management Prescriptions – Species Specific Features

Feature	Management/Monitoring	Timing	Frequency
Bat boxes	Condition check of bat boxes. If replacement is required, seek advice from a Licensed Bat Ecologist before removal.	November to February	Annually
Bird boxes	Ground check condition of nest boxes and repair/replace as necessary.	November to February	Annually
	Remove old nesting material.	November to February	Annually
Refuge/hibernaculum	Condition check: Check for water logging and relocate if required. Add new rubble, logs and topsoil/turf as required to maintain structure.	April to October	Annually
Insect hotels	Check condition of insect hotels and repair/replace as necessary. Leave old insect hotels on the ground for 48 hours to allow any insects to escape.	Anytime	Annually

- 4.2.11 In Year 2, Year 5 and then subsequently once every five years until Year 30, a monitoring walkover survey will be undertaken on site, to evaluate the condition of the habitats at that point in time and if the management plan needs to be adjusted. The monitoring walkover surveys will include a condition assessment of all retained and enhanced habitats on site, as well as collating a species list of each of these habitats to compare with the baseline species lists and species lists obtained in previous/future monitoring walkover surveys.
- 4.2.12 Before the development begins, photos and a species list will be taken of the retained modified grassland and ditch, as well as all habitats to be enhanced, including further modified grassland (to be enhanced to other neutral grassland – g3c), the line of trees (to be enhanced from poor to moderate condition) and the ditch (Bitham Brook – to be enhanced from moderate to good condition). This will show the overall appearance and species composition of the habitat’s pre-development. These photos and species lists, along with the baseline condition assessments obtained in September 2024, can be compared during future monitoring walkover surveys, where special note should be made of any invasive non-native species (INNS) which may have encroached on the habitats. Any INNS will likely require more frequent monitoring or further action to maintain the desired condition of each retained or enhanced habitat. During monitoring walkover surveys, the species lists obtained from the enhanced other neutral grassland will be compared with the species including in the Emorsgate EM3 Special General-Purpose Meadow Mixture, to ensure colonisation of the desired species and the absence of any species that are indicative of sub-optimal conditions, as these species will likely require monitoring or further action to maintain “Moderate” condition.
- 4.2.13 This LEMP will be reviewed in Year 2, Year 5 and then in 5-yearly intervals following this until Year 30, commencing in Year 2 post-construction. Amendments should be made as appropriate; refer to Table 8 below for triggers.

Table 8: Year 2 and Five-yearly Monitoring Reviews

Feature	Trigger	Action	Timing	Frequency
Line of Trees/New Tree Planting	Replacement rate of plants annually exceeds 75% of initial stock*	Replant tree/shrub species, like for like with specimens that have been lost.	November to March	In Year 2, Year 5 then in Five-yearly intervals until Year 30
	Invasive non-native species become present within the line of trees.	Seek advice from invasive species removal specialist and follow their recommended approach for removal.	May to September	
Bitham Brook (Ditch) and Ecological Buffer	Hessian sacks and bank side marginal vegetation fail to establish.	Replant/stake the bank sides and channel with the species listed in Table 2.	September to March	In Year 2, Year 5 then in Five-yearly intervals until Year 30

	Watercourse becomes overshadowed by surrounding shrubs and trees Watercourse becomes over-vegetated with emergent and marginal vegetation blocking the flow of the watercourse, presenting more than 2/3 cover of vegetation across the watercourse. Invasive non-native species become present within the line of trees. Protection fencing along ecological buffer degrades and no longer forms secure boundary.	Branches overhanging the watercourse are to be cut back in winter with logs stacked near to the bank within the Ecological Buffer to provide refuge habitat for wildlife. Vegetation to be hand removed or raked from the watercourse, to ensure only 2/3 of the channel and margins are vegetated. All vegetation removed from the watercourse should be hand sorted and left on the banks for 48 hours, to allow any species time to escape back into the watercourse. Seek advice from invasive species removal specialist and follow their recommended approach for removal. Conduct repairs or replacement of fencing as necessary, to ensure secure boundary is maintained.	November to February September to November May to September All year	
Other Neutral Grassland	Persistent perennial/annual weeds present, more than 5% overall cover and/or bare ground cover exceeding 5%. Low success rate of wildflower species Invasive non-native species become present within the grassland.	Remove weeds by hand and re-sow with Emorsgate EM3, if required during weed removal. Re-sow with Emorsgate EM3 across bare ground areas. Review timing and methods of management e.g. frequency of mowing / hand pulling of weeds. Seek advice from invasive species removal specialist and follow their recommended approach for removal.	May to August, for all.	In Year 2, Year 5 then in Five-yearly intervals until Year 30

Bird boxes	0% uptake of nest boxes (evidenced by absence of nest material recorded annually within nest boxes)	Review locations of nest boxes (seek advice from an Ecologist, if required)	November to February	In Year 2, Year 5 then in Five-yearly intervals until Year 30
*Calculation for replacement rate of plants: Initial no of plants x five years x 75/100 = N (if number of replacement plants over the five year period is > N, then management action is triggered)				

5. Annexes

Annex 1: Habitats/Features for Management

