

Hampshire County Council

Botley Fields - Biodiversity Enhancement Zone

Landscape and Ecological Management Plan (LEMP)

Reference: 251898-ARP-XX-XX-RP-L-0001

P01 | 21st March 2024

This report takes into account the particular instructions and requirements of our client.
It is not intended for and should not be relied upon by any third party and no
responsibility is undertaken to any third party.

Job number 251898

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Contents

1.	Introduction	1
1.1	Purpose of the report	1
2.	Management Prescriptions	2

1. Introduction

This Landscape and Ecology Management Plan (LEMP) has been prepared by Ove Arup and Partners Ltd. (Arup) for Hampshire County Council (HCC) and supports the delivery of the Botley Fields – Biodiversity Enhancement Zone located northeast of Winchester Street, Botley. The LEMP and has been developed to provide details to the relevant landowner and responsible land management contractor for the future management of the habitats to ensure opportunities to optimise habitats for their biodiversity value are maximised.

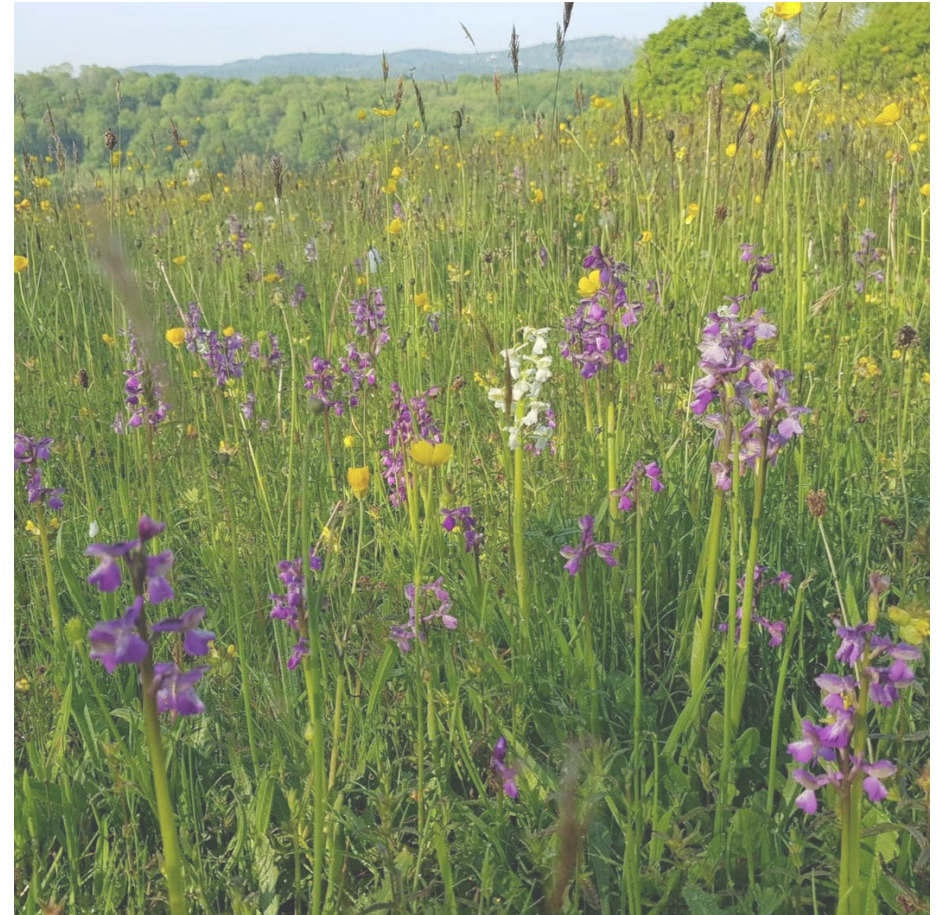
1.1 Purpose of the report

The LEMP will accompany the landscape proposals shown in the Landscape General Arrangement (see Drawing 251898-ARP-XX-XX-DR-L-0001 & 0002) and Planting Schedule and Outline Landscape Specification (251898-ARP-XX-XX-DR-L-0003), as well as more detailed landscape drawings 251898-ARP-XX-XX-DR-L-0004). It will outline the principles which will ensure the efficacy of the proposed landscape and ecological enhancement measure.

The post construction aftercare maintenance and rectification period will be 2 years from the completion of the works and will be the responsibility of the delivery contractor. The specification for the 2-year aftercare maintenance works are detailed in the landscape specification accompanying the main contract.

Following this, the ongoing management in accordance with the prescriptions set out in this document will cover a period of year 3 to year 30 post-construction. The management should continue beyond year 30, but will need reviewing against how the habitats are functioning, climate and against best practice for habitat restoration at that time.

This LEMP will remain adaptive during the 30-year period to allow for adaptive management and remedial actions to be taken and agreed with HCC and the LPA, to ensure the delivery of the mitigation and compensation habitats.



2. Management Prescriptions

No	ITEM	OBJECTIVE	MANAGEMENT PRESCRIPTIONS	FREQUENCY
PROPOSED SOFT LANDSCAPE ELEMENTS				
1	Proposed Trees 28no.	Maintain in safe condition and promote healthy growth and to achieve good form and longevity.	Ensure new trees are regularly watered during extended periods of dry weather (for at least the first three years). Check that stakes and cross bars are firm and secure and that ties/strips are holding the tree firm without damaging it. Remove stakes and ties once tree has established.	Inspect twice during growing season and once during winter annually for the extent of the maintenance period. Conduct maintenance as required to ensure vigorous healthy growth and establishment
			Maintain weed free a minimum 500mm radius mulch area around each tree. Ensure mulch is contained within the circle and kept at between 50-75mm depth. Larger mulch areas are to be used if deemed beneficial to the tree.	
			Thin woodland, by tree removal, at Year 5 or before if necessary to reduce competition for space. Remove an even mix of species or remove species to restore a healthy balanced mix.	Once at Year 5
			On-going, post – establishment, inspections to be conducted annually from Year 5 onwards. Control excessively invasive growth or replanting, as necessary until canopy is closed and provides adequate shading.	Annually

No	ITEM	OBJECTIVE	MANAGEMENT PRESCRIPTIONS	FREQUENCY
2	Shrub Mix – SM1 230m2	Areas of shrub should be managed for the diversity of shrub plants, to benefit wildlife.	Conduct regular inspections of the planting. Water to maintain healthy growth, particularly in times of low rainfall in summer (at least the two years of the aftercare and following first year of the management period). Remove spiral guards and tube shelters after 5 years or as necessary to ensure plants are not constricted. Prior to the end of the year's defects liability period record dead plants and replace them at the beginning of the next planting season.	Every 3 months or as necessary to ensure plants thrive and establish over the first 5 years
			Thin woodland, by tree removal, at Year 5 or before if necessary to reduce competition for space. Remove an even mix of species or remove species to restore a healthy balanced mix.	Once at Year 5
			On-going post –establishment inspections to be conducted annually from Year 5 onwards. Control excessively invasive growth or replanting, as necessary.	Annually
3	Hedgerows – HR1 74lm	Maintain in safe condition and promote healthy growth and to achieve good form and longevity.	Conduct regular inspections of the planting. Water as necessary to maintain healthy growth, particularly in times of low rainfall in summer (at least the two years of the aftercare and following first year of the management period). Prior to the end of the year's defects liability period record dead plants and replace them with at the beginning of the next planting season. Hedgerows should be allowed to grow tall and thick so that there are natural overhangs (these concentrate the invertebrates and also provide overhanging branches for potential bats). Hedgerows to be cut removing 200mm of extension growth from top and sides to encourage thick bushy growth.	Inspect twice during growing season and once during winter annually for the first three years. Conduct maintenance as required to ensure vigorous healthy growth and establishment
			For hedgerows that are not thriving or functioning adequately as boundaries, implement reinforcement plant up hedgerows as necessary so no gaps (using rabbit spiral guarded 80-100cm whips	First Year

No	ITEM	OBJECTIVE	MANAGEMENT PRESCRIPTIONS	FREQUENCY
			of appropriate species taken from the proposed native hedgerow planting mix).	
			Immediately after planting gap infill sections, cut the hedgerow stock back by 1/3 height to encourage bushy growth and assist root establishment. All newly planted sections will need fencing to protect them from stock grazing during the establishment phase.	Once, immediately after planting
			On-going post –establishment inspections to be conducted annually. Control excessively invasive growth or replanting, as necessary.	Annually
4	Wetland Meadow Mix PM1 1760m2	Establish a sward which is floristically diverse and attractive to pollinators.	Sward not to be cut within the Scrape areas. Grass to remain uncut until late July/August then cut with handheld tools to a height of 50mm, and the arisings removed to keep nutrient levels low. A second cut should be taken at the end of September, again arisings to be removed. Alternatively, the sward can be grazed during this period to achieve a similar effect. A second cut may be done in late autumn, providing conditions are dry enough to allow clean cuts.	Twice annually.
			Monitor colonisation of seeded grassland by weeds. If required, implement a weed control regime by topping weed plants prior to flowering.	Annually
			Arisings to be piled on site in a suitable location(s) away from main access route to provide habitat for breeding grass snake and breeding slow worm.	As per number of cuts.
5	Marginal Mix – PM2 120m2	Marginal areas should be managed to enhance the diversity of plants and benefit to wildlife.	Conduct regular inspections of the planting. Water to maintain healthy growth, particularly in times of low rainfall during summer (at least the two years of the aftercare and following first year of the management period). Keep planting areas weed free by hand pulling until 100% cover has been achieved. Prior to the end of the defect's liability period record dead plants and replace them at the beginning of the next planting season.	Every 3 months or as necessary to ensure plants thrive and establish over the first 5 years

No	ITEM	OBJECTIVE	MANAGEMENT PRESCRIPTIONS	FREQUENCY
6	Wildflower Mix – PM3 4930m2	Establish a sward which is floristically diverse and attractive to pollinators.	Grass to remain uncut until late July/August then cut with handheld tools to a height of 75-150mm, and the arisings removed to keep nutrient levels low. A second cut should be taken at the end of September, again arisings to be removed. Alternatively, the sward can be grazed during this period to achieve a similar effect.	Twice annually
	Pollinator mix to Wildflower grassland – PM4 215m2	Establish pockets of wildflowers for Bee pollinators and night scented plants wildflowers for Bats	Monitor colonisation of seeded grassland by weeds. If required, implement a weed control regime by topping weed plants prior to flowering.	Annually
			The grassland should be cut on hot summer days when common reptile species are able to move out of the way of machinery limiting the risk of killing or injury.	As above
			Arisings to be piled on site in a suitable location(s) away from main access route to provide habitat for breeding grass snake and breeding slow worm.	As above
7	Strong Grass Seed mix – PM5 3475m2	Establish a sward which is diverse and robust to support vehicular access as a maintenance corridor.	Grass will take 1 full year to reach full strength. It should be able to be cut in the second month of growth. During this time it should be cut to approx. 1/3 of it's height	First Year
			Mow to desired length and pile arisings along with other grass cuts on site.	As required through the growing season (generally March – October) to allow access
8	Scrapes X4no.	Retain areas of open water in permanent water bodies as shown on Drawings 251898-ARP-XX-XX-DR-L-0001 & 0002 to ensure a diverse and valuable	Hand clear encroaching marginal aquatic vegetation and dredge as necessary to maintain seasonal open water and habitat diversity close to the original design depths.	Inspect annually and take action as necessary.

No	ITEM	OBJECTIVE	MANAGEMENT PRESCRIPTIONS	FREQUENCY
		range of habitats for biodiversity.		
9	Log Piles X4no.	Maintain log piles to optimise benefits for invertebrates, reptiles, amphibians and other wildlife.	Log piles should be left undisturbed except for the occasional addition of arisings (dead wood / brash) from the woodland habitat areas see Item No. 2 and No. 3 above.	Initial material to be brought to site from as excess from wider Upland Farm estate. Deadwood from around site to be collected annually.
10	Invasive Non-Native Species (INNS)	Effective survey/monitoring for Himalayan balsam <i>Impatiens glandulifera</i> and other INNS and keeping site free of these species.	Annual survey of the site for Himalayan balsam <i>Impatiens glandulifera</i> and any other INNS listed on Schedule 9, Part I or Part II of S.62 of the Wildlife and Countryside Act 1981 (as amended), The Invasive Alien Species (Enforcement and Permitting) Order 2019 and any other legislation concerning INNS at the time. If identified - appropriate measures for the treatment, control and disposal will need to be implemented in relation to this and any other species The management prescription to eradicate any INNS should follow advice in the Environment Agency publication: Managing invasive non-native plants, April 2010, or the current best practice guidance for INNS in use at the time.	Annually
11	Overall Habitat Monitoring	Implement a programme of on-going habitat monitoring to ensure the successful implementation of this management plan,	In the autumn of the first year, record the number, species, and position of any dead and dying plants. If at any point more than 10 % of the total number of plants has died, replace with matching stock during the next bare-root planting season and repeat the process for the next 5 years or until 100% canopy enclosure has been achieved.	Check every other year and act as required.

No	ITEM	OBJECTIVE	MANAGEMENT PRESCRIPTIONS	FREQUENCY
		optimisation of the habitats for biodiversity and to inform future revisions/amendments to the plan.	Consider the use of fixed-point photography to assist with monitoring change.	Every other year