



ecosupport



Biodiversity & Habitat Management Plan

Barton Peveril College - Art Block

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Client:
Bidwells, on behalf of Barton
Peveril College

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Report	Biodiversity & Habitat Management Plan
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1.0 INTRODUCTION

1.1 Brief

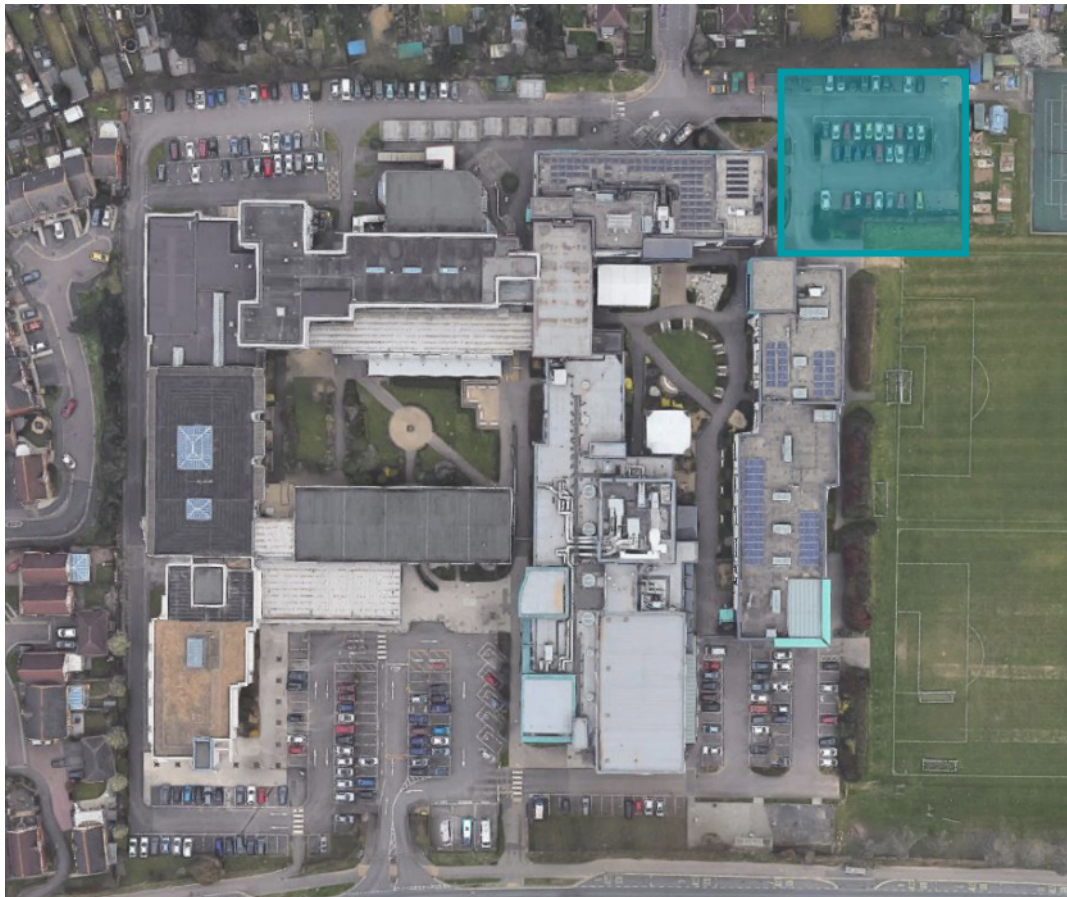
The aim of this Biodiversity and Habitats Management Plan is to detail measures to ensure the delivery and long-term management of recommended mitigation and enhancements measures that will be implemented. The Habitats Management Plan will be adhered to unless otherwise agreed in writing by the local planning authority. This report should be read alongside the Preliminary Ecological Appraisal & Biodiversity Net Gain Assessment report (Ecosupport, 2022).

This Biodiversity and Habitat Management Plan will also address comments provided by Council Ecologist Lisa Malter in a response dated 16/1/23 for this application.

1.2 Site Description & Location

The site is located within the boundary of Barton Peveril College, Chestnut Avenue, Eastleigh, SO50 5ZA (centered on OS grid reference SU 44721 18326) (**Fig 1**). The site is bound to the north by residential dwellings and associated gardens of Cherbourg Road, sport pitches lie to the east and south, with hardstanding and buildings associated with the college to the west. The wider landscape is also of a residentially developed nature due to the site's location within Eastleigh, additionally, Lakeside Country Park and Stoneham Lakes and Golf Course lie to the south.

Figure 1. Boundary of the site (blue line) within Barton Peveril College (Stride Treglown, 2022).



1.3 Proposed Development

It is understood that the current development plans involve erecting a new two-storey block to accommodate the School of Art & Design within the existing car park and adjacent land (**Fig 2**).

Figure 2. The proposed block to accommodate the School of Art & Design within Barton Peveril College (Stride Treglown, 2022).



2.0 LEGISLATION

2.1 The Environment Act (2021)

The Environment Act 2021 is the UK's new legislation for environmental protection in the UK, which includes protection of water quality, clean air, and biodiversity among other key protections. This Act provides the government power to set targets to reach long-term aims relating to the environment, which will be periodically reviewed and updated. This legislation also establishes a new environmental watchdog organisation, the Office for Environmental Protection (OEP), which will hold the government accountable on environmental issues.

Part 6 of The Environment Act relates to nature and biodiversity. This section makes provision for biodiversity net gain to be a condition of planning permission in England and a requirement for nationally significant infrastructure projects. Biodiversity net gain will require maintenance for a period of at least 30 years after the completion of enhancement works to be achieved.

The legislation also includes updates to existing environmental legislation, such as the NERC Act 2006, to strengthen biodiversity enhancement rather than just conservation and includes a requirement for local, or relevant, authorities to publish biodiversity reports. Further, The Environment Act places a requirement on responsible authorities to prepare local nature recovery strategies, which will outline nature conservation sites and priorities and opportunities for recovering or enhancing biodiversity within the local area. Within England, the legislation also provides Natural England with the power to publish 'species conservation strategies' and 'protected site strategies' to identify activities that may affect a species or

site's status and outline their opinions on measures that would be appropriate to avoid, mitigate or compensate any adverse impacts.

2.2 Nesting Birds

All wild birds (resident, visiting and introduced species) in England and Wales and protected under the Wildlife and Countryside Act 1981. Under this piece of legislation, it is an offence to:

- Intentionally kill, injure or take any wild birds
- Intentionally take, damage or destroy the nest of any wild bird while it is being built or in use
- Intentionally take or destroy the eggs of any wild birds
- Have in one's possession or control any wild bird (dead or alive), part of a wild bird or egg unless obtained legally.

It must be demonstrated that developments have made all the reasonable effort to avoid breaking the law through appropriate surveys and the implementation of mitigation measures before undertaking any works that will affect nesting birds.

2.3 Hedgehogs

Hedgehogs are protected under schedule 6 of the Wildlife and Countryside Act 1981. This makes it illegal to kill or capture hedgehogs using certain methods. They are also protected under the Wild Mammals Protection Act 1996 making it illegal to treat hedgehogs with cruelty. Finally, hedgehogs are listed on the Natural Environment and Rural Communities (NERC) Act 2006 Section 41 as a species of principle importance.

2.4 National Planning Policy Framework (NPPF)

Section 15 of the National Planning Policy Framework (NPPF, 2021) 'Conserving and enhancing the natural environment' states that planning policies and decisions should contribute to and enhance the natural environment. They should do this by protecting and enhancing sites of biodiversity and minimising impacts on and providing net gains for biodiversity, including establishing coherent ecological networks.

The plan states to protect and enhance biodiversity plans should identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks. This includes the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them. Plans should identify the protection and recovery of priority species and opportunities for securing measurable net gains for biodiversity.

When determining planning applications, local planning authorities should apply the following principles:

- if significant harm to biodiversity resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

- development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact;
- development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

2.5 Local – Eastleigh Borough Council

The Eastleigh Borough Local Plan 2016 – 2036 has a number of policies relating to ecology with the relevant ones listed below;

'General Approach

1. The Council will work with statutory and voluntary agencies and developers, and will determine planning applications, to:

a. protect, conserve and enhance all:

i. international, national and local nature conservation designations;

and

ii. networks of natural habitats and features, including the Local Ecological Network, Priority Biodiversity Areas and Priority Biodiversity Links, watercourses, wetland complexes, woodland trees, and trees and hedgerows important to biodiversity and local character; and facilitate their adaptation to climate change wherever possible;

b. assist in achieving national, county and local biodiversity targets as set out in Biodiversity Action Plans (BAPs);

c. seek a net gain of biodiversity on all development sites (including sites for redevelopment) through the protection, enhancement and connection of existing and provision of new habitats and features of nature conservation interest compatible with the native biodiversity characteristics of the Borough, having regard to local geodiversity and soils; and

d. contribute to major elements of the PfSH Green Infrastructure Strategy and other strategies for the provision and enhancement of multifunctional green infrastructure including green routes, ecological networks and biodiversity enhancements (see strategic policy S9).

International Designations

2. Development which is likely (either individually or in combination with other developments) to adversely affect the integrity of an international or European nature conservation site will not be permitted subject only to imperative reasons of overriding public interest and securing any necessary compensatory measures in the absence of alternative solutions. A 'project level' Habitat Regulations Assessment will be required where there are likely significant effects or uncertainty. Any mitigation measures required to ensure no adverse impact must be implemented at the appropriate time.

3. The Council will work with PFSH, Natural England, the Environment Agency and other wildlife organisations to develop and implement with developers a strategic approach to the protection and enhancement of international and European sites from the direct and indirect effects of development. Within Eastleigh Borough this will include:

a. implementing:

i. the Solent Recreation Mitigation Strategy (requiring contributions from residential developments within 5.6 kilometres of the Solent Special Protection Area to the Strategy); and

ii. the interim and any future New Forest Recreation Mitigation Strategy if required; or alternative agreed site specific measures to address recreational disturbance;

b. preserving the water quality and flows within the Itchen and Hamble, Southampton Water and Solent;

c. protecting the River Itchen SAC, in particular the maintenance and where appropriate restoration of habitats and qualifying species to favourable conservation status (as defined by article 1 of the Habitats Directive); and

d. seek contributions towards measures set out in the Southern Damselfly Conservation Strategy (or other strategy) specifically to deliver biodiversity net gain.

National and Local Designations

4. Development will not be permitted if it is likely (either individually or in combination with other developments) to have a direct or indirect adverse effect on a Site of Special Scientific Interest (SSSI), Site of Importance for Nature Conservation (SINC) or Local Nature Reserve (LNR) as shown on the policies map (or on a more recent plan provided by the Hampshire Biodiversity Information Centre) unless it can be demonstrated that:

a. there are no alternative solutions;

b. the adverse effects are unavoidable;

c. measures are taken to mitigate or, as a last resort, compensate for the adverse effects;

d. there is an overall biodiversity net gain; and

e. if there are any residual adverse effects which cannot be avoided, mitigated or compensated, the benefits of the development must clearly outweigh the adverse effects on the nature conservation value of the site and any broader impacts on national and local designations.

Priority habitats, protected and priority species and the local ecological network

5. Development will not be permitted if it is likely (either individually or in combination with other developments) to have a direct or indirect adverse effect on priority habitats, protected or priority species, or on the local ecological network unless it can be demonstrated that:

a. there are no alternative solutions;

b. the adverse effects are unavoidable;

c. measures are taken to mitigate or, as a last resort, compensate for the adverse effects;

d. there is an overall biodiversity net gain; and

e. if there are any residual adverse effects, the benefits of the development clearly outweigh the adverse effects on priority habitats, priority and protected species, and the local ecological network.

Irreplaceable habitats

6. Development will not be permitted if it results in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees), unless there are wholly exceptional reasons and a suitable compensation strategy exists.

Buffers

7. Buffers free from development will be provided to designated sites to avoid/mitigate impacts, including recreational impact and impacts on edge habitats, and to maintain dark skies.

Surveys

8. Development will not be permitted unless it can be demonstrated that:

a. there have been thorough habitat and species surveys;

b. the great crested newt strategic survey and strategy have been considered in all developments within 500m of a great crested newt pond; and

c. the strategic bat trapping survey has been considered in all developments within the locality of a woodland or connected habitat networks.'

2.5 Biodiversity Action Plans & UK Post-2010 Biodiversity Framework

The UK Post-2010 Biodiversity Framework (JNCC & DEFRA, 2010) supersedes the UK Biodiversity Action Plan 1992-2012 (UKBAP), setting out goals relating to nature conservation at a UK scale, for example the reduction and reversal in the decline of threatened species and improving the status of biodiversity. The specific habitats and species contained within the UKBAP continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework, and are required to be a material consideration in the planning process under the 2019 NPPF.

3.0 ECOLOGICAL BASELINE

The following details the results from the Preliminary Ecological Appraisal completed by Ecosupport Ltd in 2022.

3.1 Habitats

In general, the site was considered to support habitats of low ecological value. The following habitats were applicable to the site during the most recent survey in November 2022 (approximate spatial extent shown in the UK Habs map appended):

3.1.1 Modified Grassland (g4)

The south-eastern parcel of the site consisted of modified grassland (g4) that extends into the adjacent sport pitches and playing fields. This was classified as being of site value.

3.1.2 Introduced shrub with urban trees (u1 with secondary habitat code 1160)

Multiple parcels of ornamental introduced shrub (secondary habitat code 1160) with scattered young urban trees were located around the site (u1). The majority of introduced shrub consisted of non-native species. This was classified as being of site value.

3.1.3 Hedgerow (h2)

There was a small beech (*Fagus sylvatica*) hedgerow (h2) present forming a boundary between the introduced shrub adjacent to the hardstanding car park and modified grassland. This was classified as being of site value.

3.1.4 Hardstanding (u1b with secondary habitat code 89)

Hardstanding (u1b) was the dominant habitat type on site in the form of a car park (secondary habitat code 89). There were also hardstanding paths at the west of the site leading in-between parcels of introduced shrub. This was classified as being of site value.

3.2 Nesting Birds

The introduced shrub and hedgerow on site provide suitable habitat for breeding and nesting birds on site. Therefore, the site was considered to have **low potential** for breeding and nesting birds.

3.3 Hedgehogs

The north of the site connects into the gardens of nearby residential dwellings which offers connectivity to the introduced shrubs, hedgerow, and modified grassland on site. The site therefore was considered to be of **low potential** for foraging and sheltering hedgehogs.

3.4 Desk Based Search

3.4.1 Designated sites

The River Itchen SAC & SSSI lies approximately 1.89km to the east of the site. The site is also located approximately 3.2km to the northeast of Solent & Southampton Water SPA and Ramsar site.

3.4.2 Protected species records

A total of eight bat EPS Licences were identified within 2km of the site, for the species Common Pipistrelle, Soprano Pipistrelle, and Brown Long-eared bat, with the closest licences approximately 741m south. Additionally, four Dormouse EPS licences were identified within 2km of the site, with all of these along or near the M27. Further research returned a large quantity of Hedgehog records, as well as individual records of Noctule bat.

4.0 CONSTRUCTION PHASE

4.1 Mitigation, Compensation and Enhancements

This chapter addresses the relevant mitigation, compensation and enhancements required to provide appropriate protection to species found within the site. Mitigation refers to measures that can be undertaken to avoid or reduce ecological impacts. Compensation refers to measures taken in order to offset potential significant impacts and finally enhancements contribute towards a net gain for ecology.

4.1.1 Bats

4.1.1.1 Lighting during the construction phase

In order to avoid any disturbance to bats (and other potential nocturnal wildlife) construction works should be limited to daylight hours and should not be undertaken 30 minutes prior to dusk through to dawn. All lighting should be sensitive to the use of the site by nocturnal wildlife, for example by including low-level downward-facing / hooded lights that are sensor-operated where possible.

4.1.1.2 Lighting post construction phase

A document (*Guidance Note 08/18 Bats and Artificial Lighting in the UK*) has been produced via a collaboration between the Institute of Lighting Professionals (ILP) and the Bat Conservation Trust (BCT), which outlines the latest recommendations to minimise the impacts of increased artificial lighting on bats. The key recommendations within this document have been outlined below and will be implemented with a view to ensuring light spill onto the new roosts and flight lines to the woodland are kept at or below 1 Lux.

'Luminaires come in a myriad of different styles, applications and specifications which a lighting professional can help to select. The following should be considered when choosing luminaires:

- *All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used. LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.*
- *A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component.*
- *Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).*
- *Internal luminaires can be recessed where installed in proximity to windows to reduce glare and light spill.*
- *The use of specialist bollard or low-level downward directional luminaires to retain darkness above can be considered. However, this often comes at a cost of unacceptable glare, poor illumination efficiency, a high upward light component and poor facial recognition, and their use should only be as directed by the lighting professional.*
- *Column heights should be carefully considered to minimise light spill.*
- *Only luminaires with an upward light ratio of 0% and with good optical control should*

be used – See ILP Guidance for the Reduction of Obtrusive Light.

- *Luminaires should always be mounted on the horizontal, i.e. no upward tilt.*
- *Any external security lighting should be set on motion-sensors and short (1min) timers.*
- *As a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed (**Fig 3**).*

Figure 3. (a) Shield ‘barn doors’ (b) cowl hood; (c) shield and; (d) external louvre (Images from ILP, 2011).



4.1.2 Breeding and Nesting Birds

In order to avoid disturbance / harm to nesting birds or damage to their nests, all works affecting vegetation (i.e. hedge and shrub removal) will be undertaken outside of the bird nesting season (bird nesting season is typically between March – August, dependent on weather). If this is not possible, any potential nesting sites must be checked by a suitably qualified Ecologist. If an active nest is identified a 5m buffer will be established, within which no works will be able to take place until the Ecologist has confirmed the fledglings have left the area of impact.

4.1.3 Hedgehogs

During construction, any excavations on site will be covered nightly and/or include a suitable escape ramp for the protection of wildlife e.g. Hedgehogs (a suitable escape ramp can be created using wooden planks placed at a 45-degree angle or provision of a sloping end wall). Any temporarily exposed open pipe systems will be covered.

4.1.4 Protection of Retained Trees / Hedgerows

Prior to construction works commencing the retained trees just outside the northern boundary of the site will be protected from damage during the works. Tree protective fencing will protect retained trees from direct impact and from severance or asphyxiation of the roots. Fences must be installed at the distance of the branch spread away from the tree trunk (British

Standard 5837:2012) at a distance half the height of the tree and be of a robust style of fencing such as heras fencing. No vehicles will enter the fencing and no materials will be stored within its limits. All protective fencing must be in place prior to any construction machinery arriving on site, 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 hedgerow areas during construction. A plan showing the approximate location of fencing to be placed is shown in **Fig 4**.

Figure 4. Approximate location of fencing to protect retained trees (Google Earth 2023).



4.1.5 Invasive Species

It is understood that Japanese Rose (*Rosa rugosa*) is present within the introduced shrub within the site. This species is listed on Schedule 9 of the Wildlife and Countryside Act and must not be allowed to spread into the wild. It is expected this will be removed during construction as part of the proposed development. Excavated material of this species must be disposed of at a licensed landfill to ensure to prevent spread.

4.2 Design Consideration & Ecological Enhancements

4.2.1 Birds

To act as biodiversity enhancement, two Swift features will be incorporated into the northwestern and northern elevation of the new block to accommodate the School of Art & Design (**Fig 6**).

If integrated bricks will be used, the 'CJ Wildlife Swift maxi nesting box' (**Fig 5**) with entrance via a CJ Wildlife 'Cambridge Swift full-face brick' will be installed (The Cambridge System is a concept comprising an entrance piece and a nest box embedded in the cavity and inner leaf. It is particularly suited to gable ends at roof-space level). If this model is not suitable for the

building specifications, an alternative swift box, such as an externally-mounted box, will be used, with a minimum internal floor space exceeding 400cm².

Figure 5. A schematic of how the Cambridge full face Swift brick leads into a cavity created by the prior installation of the Swift maxi nesting box. A large externally-mounted box may be alternatively used if more suitable for the building specification.

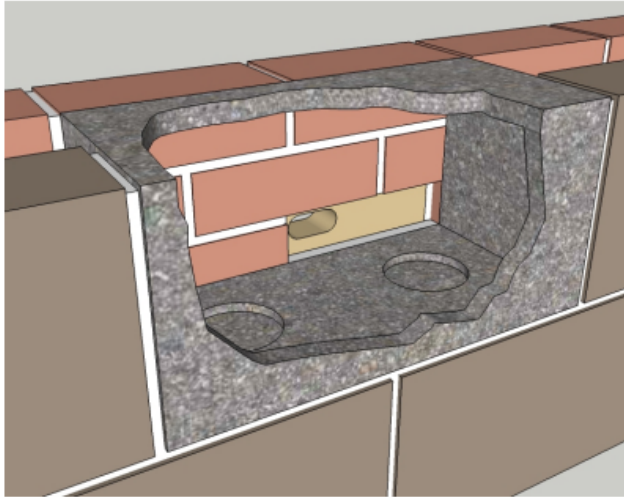
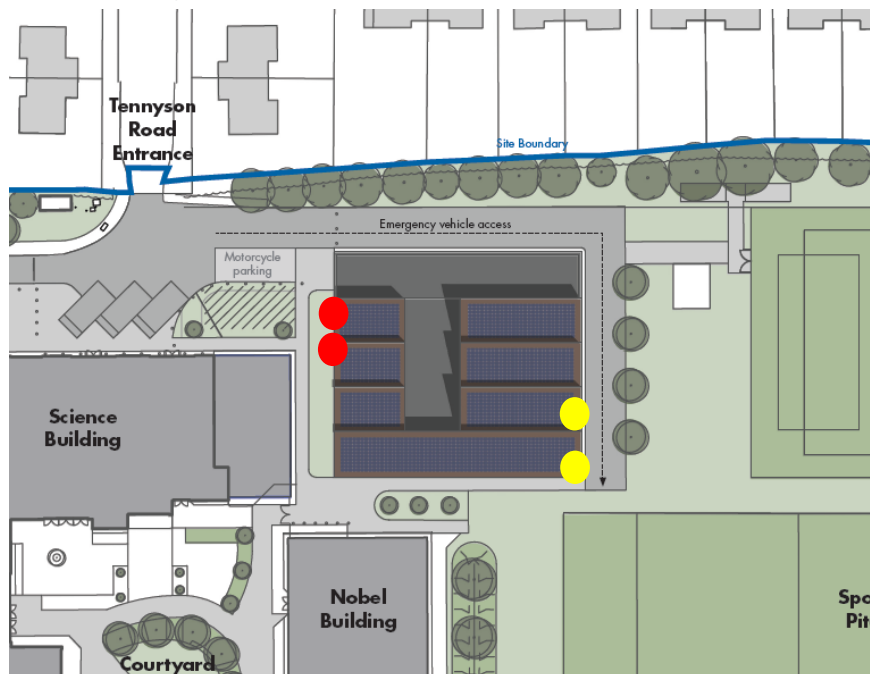


Figure 6. Approximate location of where bat and swift bricks should be installed (red = swift, yellow = bat) (Stride Treglown, 2022).



4.2.2 Bats

To act as biodiversity enhancement, the new block to accommodate the School of Art & Design will also include two bat features at the approximate locations shown in **Fig 6**. If the design is suitable for integrated bat bricks, two Ibstock bat bricks (**Fig 7**) will be integrated within the external brick work. If integrated bricks are not suitable at this location, two

externally mounted boxes such as the Beaumaris Woodstone bat boxes, will be installed (**Fig 7**). They will be placed at least 4m high on the building, or as high as possible, and be located away from windows and external lights.

Figure 7. Ibstock bat brick 'B' (left) which will be integrated into the new block to accommodate the School of Art & Design. Alternatively, an external-mounted box such as the Vivara Pro Beaumaris Woodstone Box (right) can be used



4.3 Safeguarding

The project manager will be responsible for appointing an ECoW prior to works commencing. The ECoW will deliver a toolbox talk to site personnel on the content of the Habitats Management Plan and the ecological constraints/sensitivities within the site. Following this initial briefing, it will be the responsibility of the site manager to provide the ECoW with a plan of works and the responsibility of the ECoW to illustrate any relevant mitigation measures required for each stage of works as per this report.

Please note once occupied, bat boxes are legally protected and can only be disturbed by a licensed Ecologist.

A post-development compliance check by an experienced ecologist will be completed within 3 months of construction ending to ensure integrated bricks have been installed correctly and according to the product guidance, and to check the planting and establishment of newly created habitats will be completed as soon as construction works have ceased. A letter will then be produced to the client and LPA outlining any additional management or safeguarding measures. Any dead or diseased trees will be recommended for replacement, and any incorrectly installed integrated bricks will need to be re-installed or replaced (under guidance of a suitably experienced/licenced ecologist).

Please note once occupied, bat boxes are legally protected and can only be disturbed by a licensed Ecologist

5.0 OPERATIONAL PHASE HABITAT MANAGEMENT

This chapter covers the recommended management, maintenance and monitoring of enhancement measures once the construction works have been completed. This is designed to ensure the effectiveness of mitigation measures during the operational phase of the development and to adjust recommendations as appropriate.

5.1 Species-rich Modified Grassland Planting

5.1.1 Preparation

On completion of construction works, all landscaped areas will be rotavated in preparation for future planting. This will not only prepare the ground to provide a good seed bed but will also remove any emerging undesirable ruderal vegetation (including Nettle and Bramble) to prevent competition with the new planting. Once the soil has been rotavated to a sufficient depth, the surface should be raked to produce a fine, firm surface free of obstructions.

5.1.2 Seed Planting

All landscaped areas of the development will be sown with the EM1, or a similar native seed mixture should EM1 not be available. This seed mixture includes but is not limited to Common Bent (*Agrostis capillaris*), Crested Dogstail (*Cynosurus cristatus*), Slender-creeping Red-rescue (*Festuca rubra*), Yarrow (*Achillea millefolium*), Common Knapweed (*Centaurea nigra*), Oxeye Daisy (*Leucanthemum vulgare*), Ribwort Plantain (*Plantago lanceolata*) and Salad Burnet (*Poterium sanguisorba*). The sowing of these seeds will be completed either during the spring or the autumn when the temperatures are warm and the ground is dry. The seed must be surface sown at an even distribution at 4g/m² throughout the entire landscaped area.

5.1.3 First Year Management/Monitoring

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. Any invasive species should also be removed.

5.1.4 Years 2-10 Management/Monitoring

A traditional meadow management will be adopted after the first year to allow the development of the grassland mixture and the flowering of herbaceous species to provide maximum benefit to local wildlife. To maintain maximum diversity and flowering interest the buffer will be managed in sections at different times from late June to the end of August to a height of 50mm. Varying the mowing times from year to year is the best way to maintain a diverse balanced sward. All arisings should be left for 1-7 days to shed seeds and then raked and removed from site. The re-growth should then be strimmed again as required to maintain a height of 40-60mm through to late autumn/winter as required.

The modified grassland area should be mown regularly but no shorter than 25mm in height with all cuttings collected and removed from site. To encourage flowering, it is recommended that the mowing regime should be relaxed to no more than 1 cut once every 4 weeks from late June to permit flowering of the wildflowers.

5.2 Tree & Shrub Planting

5.2.1 Type/Species Composition

Ten trees will be planted as per the appended planting plan. The species composition will comprise four Field Maple (*Acer campestre*), two Sweet Cherry (*Prunus avium*), two Bird Cherry (*Prunus padum*), and two Blackthorn (*Prunus spinosa*).

In addition a number of native shrubs comprising Dogwood (*Cornus sanguinea*), Holly (*Ilex aquifolium*) and Guelder-Rose (*Viburnum opulus*) will be planted as small shrubs.

5.2.2 Planting Guide

Planting locations will be completed as per the planting plan (**Appendix B**). The trees and shrubs will be planted to the same level as they were in their pots or the mark left from the soil at the nursey. The trees will be planted alongside stakes (inserted into the soil at a minimum depth of 60cm) to prevent uprooting by strong winds. These will remain in place for at least 2 years.

5.2.3 Monitoring

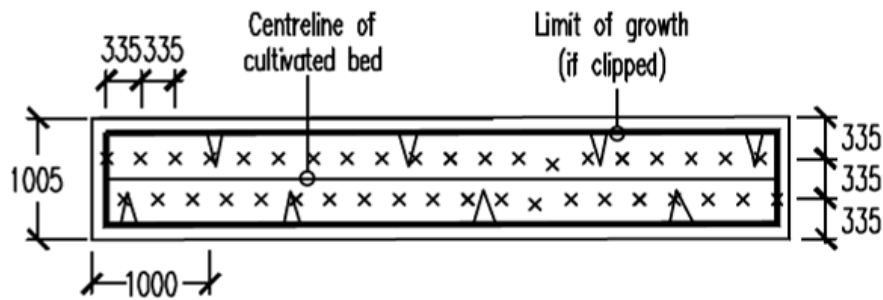
During periods of hot, dry weather, all newly planted trees and shrubs will be regularly watered to prevent desiccation throughout the 10-year monitoring period. Any trees that die during the monitoring period will be replaced like-for-like.

5.3 Hedgerow planting

5.3.1 Planting

Two sections of species rich native hedgerow will be planted along the eastern site boundary and western elevation of the building. These will total in 38.6m of new hedgerow with an expected 212 individual plants, with species mixed throughout. It will be double planted as per **Fig 9** with five individual plants per metre. The species mix will comprise:

- 20% Hawthorn (*Crataegus monogyna*)
- 10% Elder (*Sambucus nigra*)
- 10% Holly (*Ilex aquifolium*)
- 10% Blackthorn (*Prunus spinosa*)
- 10% Spindle (*Euonymus europaeus*)
- 15% Hazel (*Corylus avellana*)
- 10% Field Maple (*Acer campestre*)
- 5% Dogwood (*Cornus sanguinea*)
- 5% Guelder-Rose (*Viburnum opulus*)
- 5% Dogrose (*Rosa canina*)

Figure 9. Double planted hedgerow

The best time to plant is late autumn but it is recommended to avoid freezing temperatures or heat. Rootgrow or Bonemeal will be applied to the new plants to encourage healthy root growth and rabbit guards will be used to ensure protection of the new plants from browsing. The rabbit guards will be biodegradable, if possible, to prevent potential spread of plastic into the surrounding environment if they come loose.

5.3.2 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., n.d.) document outlines two important factors in how hedgerows are managed that affect resident mammal populations (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.

Once established, the more favourable approach to managing hedgerows for the benefits of wildlife 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 is typically recommended to be done on a 3-year cycle and allowed to develop into a dense, bushy structures. The hedgerows should be allowed to grow densely and at a minimum height of 1.5 to 2 metres.
- It is recommended that not all hedgerows should be cut in any one year, so some heavy fruiting hedges are always present.
- Management works will involve cutting using hand tools
- If the size of the hedgerow needs to be reduced, cut only one side at a time. It is understood that due to the location of the hedge within a school there is a requirement to maintain the walkways for health and safety and that more frequent management may be required on occasion if the hedgerow encroaches into this area.

In this case, management will stray from the 3-year cycle management, the advice of an ecologist will be sought.

The following timing will ensure long term survival of the newly planted hedgerow:

- **Planting:** Hedgerow planting will be carried out in Year 1
- **Years 1-10:** Annual inspections will be made for five years following planting. Any gaps that are identified will be planted with new saplings of the species within the hedge in October.
- **Years 1-2:** Weed species and naturally colonising saplings will be removed from the base of the hedgerow in October.
- **Years 3-4:** Management of the newly planted hedgerow will only commence once hedgerow shrubs reach 1.5 metres in height which is anticipated to be no sooner than three years after planting. The hedgerow will be trimmed back 10 cm using hand tools in years 3 and 5 during the winter, to avoid the bird nesting season. The newly created hedgerow will be managed by rotational trimming whereby only one side of the hedgerow is trimmed in any one year.
- **Year 5-10:** The rabbit guards will be removed from the established hedgerow plants to ensure the hedgerow does not develop gaps at the bottom. The success of the management regime will be assessed, and the timing or frequency of cutting will be adapted where necessary going forward.

6.0 CONCLUSION

This document has been prepared to bring together all the existing ecological information for Barton Peveril College with the aim of addressing all of the ecological constraints identified and to provide opportunities for enhancement that are consistent with the aims of national and local planning policy. It is considered that should all aspects of this document be implemented, adequate mitigation can be achieved to minimise impacts to existing population of protected and notable species, and a net gain in the site's biodiversity value will be achieved.

7.0 REFERENCES

Barr, C.J., Britt, C.P., Sparks, T, H., & Churchward, J.M., (n.d.). Hedgerow Management and Wildlife, a Review of Research on the Effects of Hedgerow Management and Adjacent Land on Biodiversity

Bright, P., & MacPherson, D., (2002). Hedgerow Management, Dormice and Biodiversity. *English Nature Research Report No 454*.

Eastleigh Borough Council (2009) 'Eastleigh Borough Local Plan: Review (2001-2011): Saved Policies (2009)' Eastleigh Borough Council, Eastleigh.

Ecosupport Ltd (2022) *Barton Peveril College* Preliminary Ecological Appraisal & Biodiversity Net Gain Assessment.

Emorsgate Seeds (2023). EM1 – General Purpose Meadow Mixture. Available at: <https://wildseed.co.uk/product/mixtures/complete-mixtures/general-purpose-meadow-mixtures/basic-general-purpose-meadow-mixture/>

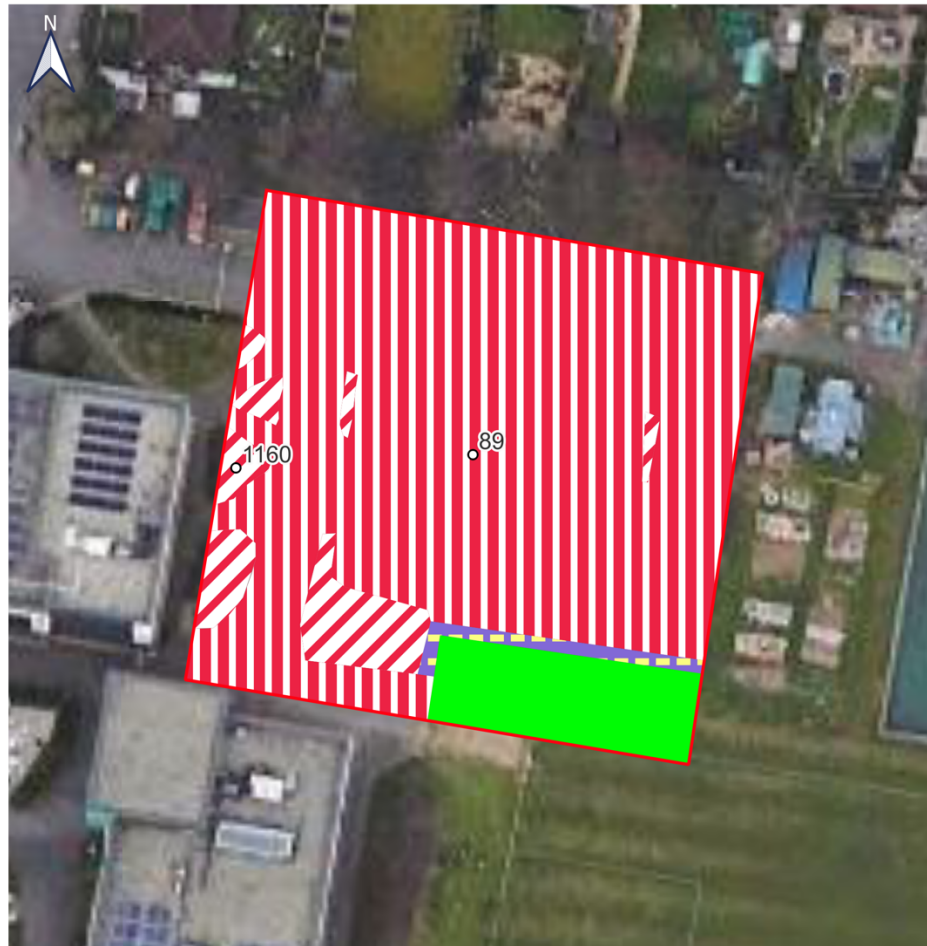
HMSO (1981). *The Wildlife & Countryside Act 1981*. HMSO, London.

HMSO (1996). *The Wild Mammals (Protection) Act 1996*. HMSO, London.

HMSO (2006). *Natural Environment and Rural Communities Act 2006*. HMSO, London

Ministry of Housing Communities & Local Government (2019) *National Planning Policy Framework*. HMSO, London

APPENDIX A – HABITAT MAP



Legend

- Site Boundary
- Modified grassland (g4)
- Hedgerow (h2)
- Built-up areas and gardens (u1)
Secondary Code(s):
1160 - Introduced shrubs
- Developed land, sealed surface (u1b)
Secondary Code(s):
89 - Car park



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Map	UK Habs Map
Site	Barton Peveril College
Client	Bidwells on behalf of Barton Peveril College
Date	24/01/23

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Plant Schedule

Stock	Quantity / Size	Size	Bought / Location	Counted
Trees				
4	Axon camptocarpus	10-20 Gals	4x standard (extra heavy) close stem 200'	WB Counted
2	Phoenix acule	10-20 Gals	2x standard (extra heavy) close stem 200'	WB Counted
2	Phoenix palm	10-20 Gals	2x standard (extra heavy) close stem 200'	WB Counted
2	Phoenix appala	10-20 Gals	2x standard (extra heavy) close stem 200'	WB Counted
10				
Shrubs				
30	Cordia allamanda	3L		C 3x12
23	Ilex aspidifolia	3L	30-40	C 3x12
25	Viburnum opulus	3L	20-30	C 3x12
78				
Native Hedge Planting				
% mix				
Native hedge 16' @ 200' center, 2 staggered rows - Random - 16' x 212 plants				
42	Crotona retorta	20%	80-100cm Transplant (seed raised), 1+1	B 4500's
21	Sambucus nigra	10%	80-100cm Branched 3 leaders 1+1	B 4500's
21	Ilex aspidifolia	10%	80-100cm 3L Leader with lateral	C 4500's
21	Phoenix appala	10%	80-100cm Transplant (seed raised), 1+1	B 4500's
21	Eucalyptus marginata	10%	80-100cm Branched 3 leaders 1+1	B 4500's
21	Corylia avellana	10%	80-100cm Branched 3 leaders 1+1	B 4500's
21	Axon camptocarpus	10%	80-100cm Transplant (seed raised), 1+1	B 4500's
11	Axon camptocarpus	5%	80-100cm Branched 3 leaders 1+1	B 4500's
11	Wisteria sinensis	5%	80-100cm Branched 3 leaders 1+1	B 4500's
11	Rosa carolina	5%	80-100cm Branched 3 leaders 1+1	B 4500's
78				
Seeding				
Counted	Supply and install Erosiongrade Basic General Purpose Meadow Mixtures - ESF - April			
Counted				

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(It is not scale from this drawing, except for planning purposes only. All dimensions/levels to be checked). (R) Design LTD accept no liability for any expense loss or damage of whatsoever nature and/or consequence arising from any variation made in this drawing or in the execution of the work to which it relates, which has not been referred to them and their price approval obtained.

LEGEND	
	Existing tree / vegetation to be retained (as shown on survey)
	Existing planting to be retained
	Proposed radial tree 20-25cm
	Proposed radial tree
	Proposed planting bed
	Proposed meadow grass
	Proposed permeable vehicular surfacing for emergency access only
	Proposed paving to match existing in student parking to form apportioned entrance to buildings
	Existing pavement materials to be retained where possible
	Street margin
	New buffer to match existing

General landscaping
Existing levels to be preserved around retained existing trees and vegetation. Existing trees and vegetation to be retained are to be protected in accordance with B55837 during construction. All landscape works to be undertaken by competent personnel with appropriate training and equipment.

Topsoil
Topsoil to be handled (i.e. excavated and/or imported, stored, spread, cultivated) in accordance with method agreed in writing by Landscape Architect prior to work commencing. Allocation to be as determined by analysis. If poor drainage is suspected in existing soil surface, these should be broken up prior to planting, turning and seeding to a depth of 300mm to remove likelihood of compaction and damage to new planting and turf. Where topsoil is to be imported, soil medium parameters to be within the following:

Soil texture:	sand 20-75%
	silt 5-60%
	clay 5-30%
Maximum stone size in any direction:	50mm
pH:	5.5 - 7.8
Electrical conductivity:	100-400 μ S/cm
Organic matter:	> 4%
Nitrogen:	> 0.2%
Phosphorus:	> 26 mg/l
Potassium:	> 240 mg/l
Magnesium:	> 60 mg/l

Imported topsoil to be a good quality (can be 50282 or manufactured) topsoil. All topsoil areas shall be thoroughly cultivated by hand or suitable machine to the full depth of the topsoil layer, incorporating any weeds/roots as specified and/or as indicated by analysis and in accordance with 50282. Hand cultivated shall be carried out to achieve the required finish on areas where machine cultivation is impossible or adjacent to kerbs, manholes and footpath junctions etc. Surplus plant material, rubbish and surface stores having any dimension greater than 25 mm shall be collected and removed from the site. Grassing required to be swarded and re-sowed if suitable as per specification. Topsoil to be stored in heaps, maximum of 6m in height, providing soil is reasonably dry and stable during drying and handling – using a front excavator. To protect from soil wet weather (which final height is achieved, an excavator should grade the sides and top of stockpile to a firm surface).

Fertilizer/Compost
Approved (peat free) composts to PAS100 and fertilizers to be added during cultivation as required to full depth of growing medium.

Plant Handling

Plants delivered to the nursery, and during transit up to delivery, shall be in accordance with 'Plant Handling', the booklet published by the Committee for Plant Supply and Establishment (CPSE). The contractor shall comply with clauses 1 & 2 of the booklet, which are obtained from the Horticulture Training Authority, 19 High Street, Thame, Oxfordshire, OX9 1EQ. It will refer to the receipt, unloading and temporary storage of plants. General plant stock to conform to BS 2626, advanced trees to BS 5238, BS 5245, and planting to BS 5261. Plants shall be free from diseases and pests and shall be free from BS 5939 (1-4 specification of Nursery Stock). All planting operations to be in general compliance with BS4548: 1989 (Code of Practice for general landscape operations (excluding hard surfaces)). Carry out all planting while soil and weather conditions are favourable.

Planting

- Do not plant during periods of frost or strong winds. Plant only during the following periods
- December and conifer trees: late October to late March
- Deciduous and broad leaf trees: late October to late March

Planting shall be carried out during the day. At any time if ground and weather conditions are favourable. Ensure that adequate and weed control is provided.

Notes: *See separate sheet.*

Planting of plants to be approved by Landscape Architect before work commences. Ensure that plant beds are neatly defined, and free from adjacent paved areas. All ornamental planting areas to be mulched with 75mm (settled) dark mulch. Sample of mulch to be approved by Landscape Architect. Topsoil depth to be 300mm for planting and 150 mm for lawn.

Trees:

Trees shown on plan to be planted with species as labelled or similar approved. All trees to be planted in pits 1m x 1m deep backfilled with 300mm depth 80% clean topsoil and 20% approved green compost to PAV10 and 100 gms granular fertilizer, over 400mm washed medium coarse grade sand bed to base of pit. Water-in heavily after planting and surface mulch 75mm depth. Unless noted above as requiring underground puying, all trees to be double staked and tied and secured against damage single stake. Sample of staking for each species to be approved. Any necessary tree works are to be carried out in accordance with the following:

Straw Berseem & Ground Cover Planting
All plants to be planted in cultivated planting beds at densities shown in plant schedule, in pits of min. size 0.3m x 0.3m deep so as to accommodate full root spread, backfilled with 80% clean topsoil and 20% approved green compost to P and 20 g/m² granular fertilizer. All straw beds to be in min. 3000mm good quality, well prepared topsoil and to be mulch 75mm depth approved bark mulch after planting.

Turfing and seeding shall be carried out only during appropriate seasons and while soil and weather conditions are suitable for the relevant operations. Only machinery and tools suitable for the site conditions and the work to be carried out shall be used. Hand tools shall be used around trees, plants and in confined spaces where it is impractical to use machinery. The soil must be weed free prior to turfing and seeding. Contact herbicide as specified should be applied to all areas of weed growth 4 weeks prior to turfing and seeding.

(woven etc.) approved suitable hessian) should be applied as a spot treatment. Turf shall be laid on and seed sown on prepared, leveled soil (minimum 150mm depth) in the zones indicated on the drawings in accordance with BS 6248 1995. All grass areas to be approved hedges quality turf for external areas and lawn turf for internal garden areas, or equivalent (see Ecological Planting Lawn Mixture or equivalent seeds at 4g/m² and in accordance with manufacturers' recommendations).

Native Species to be Sown:

Plants are to be seeded to ground. Plant spacing to be double staggered rows at 450mm centre. Planting trench to be minimum 30cm wide x 500mm depth as well as accommodate full seed sowing, backfilled with 80% topsoil and 20% approved compost to 100mm and 20 zone granular fertilizer can 200mm depth; washed medium coarse grade sand used. All native hedge planting should be sown in the bases with Ecological Hedge/Lawn Mixture C or equivalent at a rate of 4g/m² and to manufacturers requirements. Seed to be sown in autumn or spring but can be sown at other times with sufficient watering to ensure germination. Seedling emergence to be monitored and replaced if required. Seedlings to be removed by August 30 to protect seed growth. Meadow planting is best managed in zones to produce the best biodiversity with areas left uncultivated.

Willflower Meadow Seeding
Kill off any existing vegetation by spraying off with proprietary herbicide and allow time to elapse as recommended by the manufacturer before commencing any cultivation works. If time permits, a "false seed bed" is to be established, by allowing the graded meadow areas to colonise with weeds from the existing soil seed bank following initial cultivation (rotation) and an additional 100mm of seed bed is to be added to the existing seed bed. The seed bed is to be established by using a seed drill to seed the seed bed and to grade to a uniform and even grade at the correct finished level and to remove all minor mounds and ridges. All stones and debris greater than 50mm in size to be removed and disposed of offsite. Willflower seeded areas are to consist of min. 50% Willflower mixed (free from weeds) mixed (50:50) over existing site subsoil layer. No imported topsoil should be used in the formation of willflower meadows. Final preparation of the seeded areas shall be carried out so as to ensure the seed is well incorporated into the soil.

To create a bare till surface suitable for seeding, no pre-seeding treatment shall be applied. Minimum seeding is to be completed in Spring (early March to late June) or if not feasible in Autumn (early August to October). Where sowing rates are specified and seeding is to be carried out by hand-broadcasting, the contractor should seed evenly with a fine, dry seed to bulk up the sowing mixture. Seeding by this method should only be undertaken on calm days with no wind. After seeding, areas are to be hand rolled and lightly rolled. The contractor shall take the necessary precautions to ensure all grass areas are protected throughout the establishment period, with the use of chestnut pole fencing where appropriate. The contractor shall ensure that all seeded areas are watered fully at the time of installation to the full cultivated depth, and that sufficient subsequent watering is carried out to ensure healthy establishment of the grass sward.

Establishment maintenance for all planting for 5 years from Practical Completion (first year to be carried out by installing contractor) to include weed control, watering and replacement of failures to original specification in the planting season following failure. All plant material to receive annual pruning and groundcover to be trained and edged with minimum 2 times per annum.

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PROJECT:	BARTON PEVERIL
TITLE:	PLANTING PLAN

CLIENT: BIDWELLS	
SCALE: 1:200@A1	DATE: 07/02/2023
JOB NO: 3055	DWG NO: 3055-PP-3000
STATUS: PLANNING	REV: -