

CAPEL MANOR COLLEGE

Ecological Management Plan

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REPORT

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1 INTRODUCTION

1.1 Purpose and scope of this report

1.1.1 The redevelopment of the Site at Capel Manor College comprising the “*Partial redevelopment of site including the demolition of seven existing buildings; erection of two new College buildings; landscaping and associated works*” was granted pursuant to full planning permission (ref. 21/05812/FULL1) on the 19th of May 2023.

1.1.2 Condition 14 of the planning permission requires that:

“Prior to the commencement of above-ground works, a long-term management plan for the ecological mitigation and enhancements shown on drawing ref: ECO01385/1 shall be submitted to and approved in writing by the Local Planning Authority. The enhancements shall be implemented prior to first use of the buildings, and monitored and managed in accordance with the approved plan”.

1.1.3 This report aims to address Condition 14 and has been prepared on behalf of Fusion Project Management. It sets out the general principles and quality standards required for short and long-term biodiversity management of all of the habitats relating to the development of Capel Manor College.

1.1.4 The report details the biodiversity aims and objectives for the habitats at the Site during the operation of the college. It sets out the proposed management actions/specifications which are designed to achieve these objectives. The report also outlines targets which will assess the outcomes of the habitat creation and inform ongoing management.

1.1.5 The report should be read in conjunction with the following documents and plans:

- Preliminary Ecological Appraisal (RPS, 2022^c);
- Construction Management and Logistics Plan (Fusion, 2021);
- RPS Ecological Mitigation and Enhancement Plan (RPS, 2022^b);
- RPS Biodiversity Net Gain Assessment Letter Report (RPS, 2022^a);
- Hortus Collective Planting Plan – Drawing (CMC-MOT-L201);
- External Lighting Proposals (MG Partnership, 2021);
- Arboricultural Impact Assessment (AIA) and Arboricultural Method Statement (AMS) (RPS, 2021^a).

1.2 The Site and Wider Context

1.2.1 The Site is located at Capel Manor College, Mottingham Lane, London, SE12 9AW. The Site is approximately 0.9 ha in size. The National Grid coordinates for the centre of the site are TQ 41184 73234.

1.2.2 The Site comprises a number of habitats including hardstanding, buildings, woodland, semi-improved neutral grassland, improved grassland, scrub and ruderal vegetation. These are described in detail in the Preliminary Ecological Appraisal (RPS, 2022^c). The Mottingham Nature Reserve and River Quaggy Site of Importance for Nature Conservation (SINC) lies within the site boundary.

1.3 Legislation

1.1.1 Certain habitats and species are subject to protection as laid out in the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulation 2010. The following are of particular relevance to this assessment:

Bats

- 1.1.2 All British bat species are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981, as updated by the Countryside and Rights of Way Act 2000.
- 1.1.3 All British bats are also included on Schedule 2 of The Conservation of Habitats and Species Regulations (Amendment) (EU Exit) 2019 as European Protected Species. It is an offence to:
- intentionally or recklessly kill, injure or capture bats;
 - deliberately or recklessly disturb bats (whether in a roost or not); and
 - damage, destroy or obstruct access to bat roosts.
- 1.1.4 A roost is defined as 'any structure or place which [a bat] uses for shelter or protection'. As bats tend to reuse the same roosts, legal opinion is that a roost is protected whether or not bats are present at the time of survey.
- 1.1.5 A licence will therefore be required by those who carry out any operation that would otherwise result in offences being committed.
- 1.1.6 The following bat species are listed as being of principal importance for the conservation of biodiversity in England, (commonly referred to as UKBAP Priority species): Barbastelle *Barbastella barbastellus*, Bechstein's *Myotis bechsteinii*, noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared *Plecotus auritus*, greater horseshoe *Rhinolophus ferrumequinum*, and lesser horseshoe *Rhinolophus hipposideros*.

Birds

- 1.1.7 All birds, their nests and eggs are afforded protection under the Wildlife and Countryside Act 1981, as updated by the Countryside and Rights of Way Act 2000. It is an offence to:
- intentionally kill, injure or take any wild bird;
 - intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; and
 - intentionally take or destroy the egg of any wild bird.
- 1.1.8 Schedule 1 birds cannot be intentionally or recklessly disturbed when nesting and there are increased penalties for doing so. Licences can be issued to visit the nests of such birds for conservation, scientific or photographic purposes but not to allow disturbance during development even in circumstances where that development is fully authorised by consents such as a valid planning permission.

Reptiles

- 1.1.9 The more commonly occurring UK reptile species (adder *Vipera berus*, grass snake *Natrix helvetica*, common lizard *Zootoca vivipara* and slow worm *Anguis fragilis*) are protected through part of Section 9(1 and 5) of the Wildlife & Countryside Act 1981 (as amended). This prohibits:
- Intentional or reckless injuring or killing;
 - Selling, offering or exposing for sale, or having in possession or transporting for the purpose of sale, any live or dead wild animal or any part of, or anything derived from such an animal; or
 - Publishing or causing to be published any advertisement likely to be understood as conveying buying or selling, or intending to buy or sell, any of those things.

2 ECOLOGICAL BACKGROUND

2.1.1 The Site was subject to a Preliminary Ecological Appraisal (PEA) in 2021 and a Biodiversity Net Gain Assessment in 2022. The Mottingham Nature Reserve and River Quaggy SINC is located adjacent to the northern boundary of the Site, close to the access route.

2.2 Habitats

2.2.1 On-site habitats are described in detail in the Preliminary Ecological Appraisal.

2.2.2 In summary, the largest area of grassland is frequently mown amenity grassland. Additionally, a large section of the Site was currently utilised as a grazing paddock and classifies as short grazed improved grassland. These habitats have limited biodiversity value in the context of the Site.

2.2.3 To the east of the Site is a large area of semi-improved neutral grassland with a higher diversity of grass species and a greater abundance of herb species.

2.2.4 The Site is set within a mixed woodland with a good age range and included species such as English yew *Taxus baccata*, elder *Sambucus nigra*, and oak *Quercus sp.*, with an understorey of bramble *Rubus fruticosus*, holly *Ilex sp.*, ivy *Hedera sp.*, Crocus *sp.* and bluebell *Hyacinthoides sp.*

2.2.5 An area of dense scrub was present in the centre of the Site consisting of bramble and blackthorn *Prunus spinosa*.

2.3 Species

2.3.1 The Site is considered suitable for supporting the following protected species and therefore appropriate mitigation and/or enhancements will be included within this Ecological Management Plan (EMP):

Roosting bats

2.3.2 The mixed and broadleaved woodland that borders the Site and forms part of the Mottingham Nature Reserve and River Quaggy SINC contains a number of trees that have the potential to support roosting bats. None of these trees will be felled as part of the current proposals. A sensitive lighting plan will be implemented as part of the scheme to protect the context the trees.

2.3.3 None of the buildings across the Site had any roosts present during the 2021 Phase 2 surveys.

Foraging and commuting bats

2.3.4 The PEA identified the woodland, grassland and scrub mosaic on Site as having value for both commuting and foraging bats. Phase 2 surveys identified a low number of commuting and foraging bats along the borders of the Site, close to the woodland. Four species of bat were recorded on site during the 2021 surveys. A Sensitive Lighting Plan has been designed to maintain foraging or commuting routes as dark corridors for bats.

European Hedgehog

2.3.5 The Site has been identified as having potential for supporting European hedgehogs. In the absence of species protection measures, individual hedgehogs could be harmed during Site clearance. Therefore controls are detailed in this report to avoid impacts during and after construction work.

2.3.6 Additional enhancements are recommended to increase the value of the Site for hedgehogs.

Breeding birds

- 2.3.7 The woodland and scrub on Site is likely to be used by a range of bird species, including for breeding (RPS, 2021c). As such, appropriate mitigation has been provided in Section 3 of this report to protect breeding birds during construction and to provide enhancement for common garden bird species.

Common and widespread reptiles

- 2.3.8 The presence/likely absence reptile surveys indicated absence of reptiles on Site at the time of survey (RPS, 2022b), although the desk study section of the PEA indicated the wider area had records of common lizard *Zootoca vivipara* approximately 1 km from Site. The scrub, woodland and grassland areas on Site all have the potential to support reptiles. The Ecological Mitigation and Enhancement Plan has been devised to retain and increase the available habitat for reptile species. Enhancement measures are provided in the next section of this report.

Invertebrates

- 2.3.9 It is likely that the Site supports a diverse range of invertebrate species within the woodland and neutral grassland habitat. The age classes of the trees present surrounding the Site provide ecological niches for a range of invertebrates. Furthermore, invertebrates will be important in supporting the vertebrate fauna of the Site including bats, reptiles and hedgehogs. The habitat enhancements and sensitive lighting design for the Site are likely to avoid adverse effects in invertebrates.

3 ECOLOGICAL MANAGEMENT PLAN OVERVIEW AND GENERAL PRINCIPLES

- 3.1.1 This EMP has been developed in combination with the Ecological Mitigation and Enhancement Plan, (*drawing ref: ECO01385/1*) to ensure maximum and effective biodiversity gains within the Site boundary (RPS, 2022b). The broad design objectives for biodiversity are as follows;
- 3.1.2 To protect, manage and enhance the nature conservation value of the Site, ensuring the development achieves its biodiversity net gain targets. The findings of the phase 2 surveys conducted in 2022 has informed the ecological objectives.
- 3.1.3 With the Site being in close proximity to the Mottingham and River Quaggy SINC, consideration has been made in this EMP to enhance the Site to benefit the wider landscape and nature conservation area.
- 3.1.4 The management plan will need to remain in place for a minimum of 30 years to ensure the long-term management of the mitigation and enhancements for biodiversity.

3.2 Habitats

- 3.2.1 The maintenance and management prescriptions will cover the following habitats:
- Existing, retained and planted woodland and trees;
 - Existing enhanced neutral grassland
 - Native hedgerow (planted);
 - Native shrub planting;
 - Bulb and ornamental planting;
 - New neutral grassland;
 - Rain garden;
 - Sedum Green roof.
- 3.2.2 These habitats comprise the elements of the Biodiversity Net Gain (BNG) assessment and the future condition is defined in the metric.

3.3 Ecological Management Plan Review

- 3.3.1 This EMP has been prepared on the basis of current knowledge of Site conditions and project requirements. In the early years of the development's lifespan, fine tuning of management requirements may be needed to respond to unforeseen events, variations in Site conditions and plant stock. It is also likely that over the lifespan of the development, new landscape management criteria will be identified and recognised 'best practice' methodologies will change in response to new research and landscape management products.
- 3.3.2 Therefore, the EMP should be reviewed at five yearly intervals to ensure that management and maintenance operations continue to reflect the short to medium term Site requirements and long-term management aims.

3.4 Environmental Issues

3.4.1 Overall, good practice guidelines should be followed pre-construction, during and post-construction. The detailed Construction and Logistics Plan (Fusion, 2021) should be adhered to, and advice followed. Additional recommendations include;

- All green waste should be recycled.
- Herbicide use should not be used on Site unless necessary and when used it should be kept to a minimum.
- General maintenance and litter picking should be conducted throughout the year to keep the Site tidy and free of refuse.
- No management works to the trees across the Site should be carried out during bird nesting season where it could cause disturbance. Management work required during the bird nesting season should undergo a pre-works check by a competent ecologist to confirm presence/absence. Work should then be carried out within 24hours of the confirmation of absence of nesting birds.

3.4.2 The lighting plan provided is sensitive to the wider environment and maintains dark corridors around the Site and minimises light spill onto the SINC areas around the Site.

3.5 Frequency of maintenance visits

3.5.1 The client will be ultimately responsible for the upkeep and maintenance of the habitats on site and will need to visit the site as many times as is necessary to keep the whole development in good order. Visits between March and November are to allow for grass and wildflower cutting, general maintenance of trees and scrub areas, litter picking etc. as specified. Visits from December - February are to allow for general maintenance of trees and areas of scrub, coppicing, litter picking, grass cutting if required, etc. as specified. A full breakdown is provided in Table 4.5.

4 LANDSCAPE MANAGEMENT

4.1 Introduction

4.1.1 The EMP sub-divides the proposed habitats under the development plans and applies management prescriptions to each of the habitats on Site. The location of the management parcels are shown in Figure 1. The main aims are:

- To maintain the current nature conservation of the Site;
- To enhance the baseline habitats within the Site boundary;
- Strengthen the habitat connections with the surrounding landscape;
- Create new habitats for key species; and
- Ensure effective management of the habitats on Site to increase nature conservation value.

4.1.2 The planting plan for the landscaping scheme within the Site has been designed to enhance, protect and retain existing landscape features. Within the plan, 15 trees will be subject to removal for access. The planting plan has mitigated this loss by planting more than double the removed number of trees.

4.1.3 For the purposes of management and maintenance of the landscape planted habitats (Hortus Collective, 2021) there are three main broad habitat groups (as shown on planting plans):

- Tree, hedge and shrub planting with mainly native planting using species typically found in the area;
- Creation of neutral grassland meadow; and
- Biodiverse rain garden, sedum mat green roof.

4.1.4 General measures for all habitat provision include;

- Promote wildlife value and species diversity;
- Promote health growth and establishment of all plants, trees, grass and ornamental planting;
- Ensure long-term commitment to replacement of defective plant material;
- Ensure consistent control of invasive weeds; and
- Ensure the development of optimum plant form, shape and planting density.

4.1.5 A full breakdown of maintenance visits and the timings are shown in Table 4.5. These are designed to enable works to be carried out in optimal times for each of the applicable habitats while avoiding impacts to protected species through sensitive timing.

4.2 Habitats

Grassland Areas

4.2.1 General good practice should be followed for the management of grassland areas (i.e., avoiding management during periods of prolonged heavy rain or high temperatures).

Neutral Grassland

4.2.2 The area to the north of the Site comprising amenity grassland with low ecological value, will be sown with a high diversity species mix with the aim to create a neutral grassland with high grass

species diversity and frequent wildflower. The area is currently shaded by scattered trees to the north and will be sown with a hedgerow ground flora seed mix.

4.2.3 The grassland will require management from sowing until mature and annual inspections in order to fulfil its biodiversity net gain objectives. This will need to be carried out over the lifetime of this EMP so that the value of the grassland is maintained in the long term. If the value of the habitat is found to be decreasing, through inspections, the management regime will be reviewed. The overall objective for this habitat is;

- Implementing a management regime that will enhance the existing grassland and enable the successful sowing and establishment of a neutral grassland with a good diversity of both grass and wildflower species for the lifetime of the EMP. This will need to be implemented over the lifetime of the EMP, with inspections annually to ensure value is maintained.

4.2.4 The above objective can be achieved through the following measures:

- Removal of arising saplings from the woodland to prevent encroachment from the newly planted trees and hedgerows and from the bordering woodland.
- Herbicide spot treatment or hand removal of undesirable species such as broadleaved dock *Rumex obtusifolius*, curled dock *Rumex crispus*, ragwort *Senecio jacobaea*, creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare* and common nettle *Urtica dioica*;
- Implementation of an annual cutting regime;
- No application of either organic or inorganic fertilisers, fungicide or insecticide; and
- No disturbance of the ground by ploughing, re-levelling or reseeding the grassland, except where the species-specific mix was used originally.

4.2.5 The neutral grassland will be managed under an annual cutting regime to ensure that the diversity of species remains high, and one species doesn't become dominant in the sward. This should be undertaken between July and September once seed heads have fallen.

4.2.6 Additionally, during the first year growing season, an additional optional cut should be taken to no less than 50 mm above ground level in the spring to create a more competitive sward. This will help to reduce the more dominant, faster-growing species from out-competing the slower-growing grasses and wildflowers that are present in the seed mix.

4.2.7 During the second year growing season a spring cut should be undertaken for the same reason listed above, followed by a late hay cut to be undertaken between July and September. Arisings should be left on the ground for two days to allow seeds to disperse prior to their subsequent removal off Site or to be suitably composted.

4.2.8 Areas where sowing may have failed should be made good during the establishment period and additional sowing mix should be used following scarification of the soil as necessary. The same sowing mixture should be used.

Bulb Planting

4.2.9 The aim of the bulb planting in the grassland areas is to enhance visual amenity, increase floral diversity for invertebrates and ensure the areas are maintained. Objectives to achieve this aim are as follows;

- Remove dead flowers/leaves/stalks from bulbs after at least 6 weeks to prevent loss of vigour through defoliation and removal of all green waste off Site or compost.
- Reaffirm areas of bulb planting if they are disturbed/destroyed.

- Grass within the bulb planting areas should be strimmed/cut so that the bulbs are not overshadowed. This should be undertaken in line with the cutting regime detailed above for neutral grassland and undertaken between July and September once grass seed heads have fallen.

Existing Woodland, Trees and Hedgerows

- 4.2.10 The management objectives are to maintain the visual amenity, ecological interest, and health and longevity of the following:
- The existing trees and the surrounding woodland, in order to promote ecological diversity,
 - The newly planted trees scattered throughout the development; and
 - The planted hedgerow along the north and western aspects of the development.
- 4.2.11 **NB:** All inspections and tree work to be carried out, will be undertaken by qualified arboriculturists, and tree surgery works to be as advised by BS3998:2010, BS 3998: Recommendations for tree work, and BS 7370-4: Grounds maintenance - Recommendations for maintenance of soft landscape.
- 4.2.12 Prior to and during construction the processes outlined in the Construction and Logistics Plan (Fusion, 2021) should be adhered to. This is especially in reference to the Tree Protection Plan (JSL3974) where there are measures implemented to reduce and eliminate negative effects on the root systems of the numerous mature trees on Site.

Woodland and Individual Trees

- 4.2.13 Annually the woodland, newly planted trees and hedgerows should all be inspected for disease, deadwood and storm damage. Where necessary, this should be treated with tree surgery being carried out accordingly.
- 4.2.14 Arisings from storm damage or from required tree surgery should be cut into small lengths (max. 150 mm diameter) and stacked in piles approximately 1.0 m x 1.0 m x 0.75 m height or used in the construction of hibernacula in locations set out in the Ecological Mitigation and Enhancement Plan.
- 4.2.15 Fresh arisings should be used to replenish log piles on Site (see invertebrate section). Arisings can be mulched and used on the ornamental garden area on site. Otherwise, these will need to be taken off Site to a local green waste recycling centre.

Hedgerows

- 4.2.16 Hedgerows on Site are to be planted along the northern border and encompassing the car park in the west of the Site. It will contain nine woody species that will comprise a native species-rich hedgerow once mature. The management of the hedgerows are as follows;
- Management of hedgerows close to and adjoining footpaths which are likely to cause an obstruction if growth is left unchecked should be cut back annually, outside of bird nesting season (March to August inclusive) with all arisings taken off Site.
 - All other areas where there is no need for access should be cut every two to three years to allow flowering and fruiting and to allow the hedge to amass a dense structure that will provide habitat for a range of species.
 - Remove all dead, dying or damaged shrubs outside of bird nesting season (March to August inclusive) with any arisings taken off Site.
 - Replant and shore up any individual shrubs that have been disturbed by pedestrians or adverse weather to ensure longevity.

- Check the condition of the guys, stakes, ties and shelters and replace any broken or missing items until the shrubs are mature enough to survive independently. Adjust the measures as appropriate to allow for growth and prevent damage to the individual shrubs.
- Inspect periodically for pests and disease damage and implement remedial measures for their control or eradication.

Rain Garden

- 4.2.17 The rain garden will be installed to the west of the Welcome Block and will be planted with wet meadow wildflower species suitable for the substrate type.
- 4.2.18 The management objectives are as follows;
- To enhance biodiversity through the maintenance of features of wildlife value in the sustainable drainage feature;
 - Maintain self-sustaining habitats in rain gardens using the run-off from nearby buildings;
 - Enhance visual amenity.
- 4.2.19 The dead leaves, flowers and arisings should be removed from the rain garden during the autumn once seeds have been released. The arisings should then be removed and composted or taken off Site.
- 4.2.20 Weeding should be conducted regularly during the first two years of establishment, when excess nutrients may enter the rain garden and encourage undesirable species to grow. This should be conducted in spring and summer and all weeds removed by hand.
- 4.2.21 During extreme weather excess sediments will run off from the surrounding area and should be removed using hand tools. Also, during long, dry spells additional watering to keep the soil moist will be required.
- 4.2.22 Any dead or diseased plants should be removed and replaced.

4.2.2 Green Roof

- 4.2.1 The sedum green roof will require maintenance throughout the first year of installation and then is predicted to be low maintenance from year one onwards. This EMP should be used in conjunction with the supplier's recommendations.
- 4.2.2 The maintenance measures for this habitat are as follows;
- Remove unwanted and undesirable species in the spring such as moss to ensure integrity of the green roof. Application of a moss killer will be necessary if there are multiple undesirable species present.
 - Replacement of any dead or failed plants
 - Fertiliser can be applied during spring to increase vigour and ensure the functionality of the sedum green roof.
 - Inspection of rainwater outlets and drains to ensure water does not collect for long periods.
 - Removal of dead flower heads and unwanted plant material to be undertaken in autumn, after the growing season has ended and seeds have been dispersed.

4.3 Watering

- 4.3.1 The aim of the watering programme will be to provide an adequate supply and application of water to ensure establishment and satisfactory growth of planting.
- 4.3.2 All planted areas should be routinely inspected to ensure that planting is not stressed through lack of water. Where such stress is apparent, water the affected planting areas to field capacity. The green roof should be monitored closely within the first year of development, with no connectivity to other areas the roof can be more prone to water stress.

4.4 Species

- 4.4.1 Phase 2 species surveys were conducted on the Site in 2022 and the results have been used to inform the EMP. The specific measures for each species are discussed below.

Bats

- 4.4.2 The woodland areas of the Site will be supplemented with bat boxes to provide roosting opportunities for the bat species that were recorded during the Phase 2 activity surveys. Species recorded included common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, serotine *Eptesicus serotinus* and noctule *Nyctalus noctule*.
- 4.4.3 Three long lasting Schwegler 2F bat boxes will be installed in the Site. These are designed to be used by a variety of bat species including those that were recorded on site in 2021. The bat boxes will be placed in the locations as shown in Figure 1.
- 4.4.4 Bat boxes will be installed at least 4 m high and east or south-facing.
- 4.4.5 The bat boxes will require annual maintenance to clear debris that can build-up inside. Bat boxes must be checked by a suitably licensed ecologist and bats must be confirmed absent prior to their maintenance.

Birds

- 4.4.6 Seven bird nest boxes will be installed around the Site in areas most suitable and will not be subject to disturbance once the Site is operational. Two song-bird nest boxes such as the Schwegler 1B will be installed on mature trees within the woodland and along the boundary of the Site to the north. Three swift boxes such as the Schwegler 17 will be installed on the east and north of the welcome block. Two house sparrow terraces will be installed on the southern aspect of the teaching block. The bird boxes will be placed in the locations as shown in Figure 1.
- 4.4.7 These will require annual maintenance with the old nests and debris removed each winter outside of the bird nesting season (March to August inclusive). Any damaged or lost boxes should be replaced before the next nesting season starts.

Reptiles and Invertebrates

- 4.4.8 Log piles will be created on the edge of the woodland surrounding the Site to provide deadwood habitat. These will be required on sunny woodland edges. Material for the log piles will originate from trees to be felled to facilitate the development. The log piles and deadwood will create and enhance the habitat on Site that is available to both reptiles and invertebrates.
- 4.4.9 A further log pile will be designed to be used by a range of species by being partially buried to increase moisture content and acting like deadwood in a woodland.

- 4.4.10 The log piles will require very little maintenance and can be added to as and when arisings from tree surgery and general maintenance appear.
- 4.4.11 Insect hotels will be integrated into walls across the Site and won't require maintenance for 30 years and the structure will be maintained so they remain functional. Any structures that require maintenance should be replaced to maintain the habitat available for invertebrates.

European Hedgehog

- 4.4.12 A hedgehog refuge will be installed within the woodland to the east of the Site. Each shelter will be constructed from graded construction timber treated with an anti-bacterial water-based coating to prevent the spread of disease. It will have a durable felt roof, and fixed floor to prevent the shelter from being toppled and the internal chamber being exposed.
- 4.4.13 Further measures to be implemented within the scheme include hedgehog 'highways' which will consist of rounded holes in fence borders to allow hedgehogs to pass unobstructed across the Site.

4.5 Timing of Operations and Monitoring

4.5.1 A general programme of operations and monitoring requirements is listed in Table 4.5.

Table 4.5. Typical programme of operations and monitoring

ACTIVITY	J	F	M	A	M	J	J	A	S	O	N	D
NEUTRAL GRASSLAND												
Hay Cut (remove arisings)												
Pernicious + invasive weed control only												
Optional Spring Cut												
WOODLAND, TREES:												
Weed control												
Trim groundcover												
Check and adjust support												
Selective pruning												
Remedial Arboriculture												
SEDUM GREEN ROOF:												
Removal of Moss and Weed												
Replacement of dead/failed plants												
Application of fertiliser												
Inspection of drainage												
Watering (If required)												
Removal of dead flowers/vegetation												
RAIN GARDEN:												
Weed control												
Sediment Removal												
Watering (If required)												
HEDGEROWS:												

REPORT

ACTIVITY	J	F	M	A	M	J	J	A	S	O	N	D
Hedge Cutting												
Pruning (Low Impact)												
Replanting												
Condition of Checking of equipment (guys, stakes, shelters)												
TIMING OF OPERATIONS:												
Protection of active bird nests												
Protection of active reptiles												
Protection of hibernating reptiles												
Bats – main activity season												
MONITORING												
Grassland areas												
Woodland, trees and hedgerows												
Rain garden												
Green roof												
Bat boxes												
Bird boxes												
Reptiles and invertebrates												
European hedgehog												

REFERENCES

BSI Standards (1993) BS 7370-4:1993 *Grounds maintenance. Recommendations for maintenance of soft landscape*. ISBN 0580211118

BSI Standards (2010) BS3998:2010. *Tree Work Recommendations*. ISBN 978 0 580 53777 6

Fusion, (2021). *Construction Management and Logistics Plan, Capel Manor College*. [unpublished]

Hortus Collective, (2021). *Planting Plan, Capel Manor College*. [unpublished]

MG Partnership, (2021). *Capel Manor College External Lighting Proposals*. [unpublished]

RPS, (2021^a). *Arboricultural Impact Assessment (AIA) and Arboricultural Method Statement (AMS), Capel Manor College Mottingham*. [unpublished]

RPS, (2021^b). *Phase 2 Survey Report, Capel Manor College*. [unpublished]

RPS, (2022^a). *Biodiversity Net Gain Assessment, Capel Manor College*. [unpublished]

RPS, (2022^b). *Ecological Mitigation and Enhancement Plan, Capel Manor College*. [unpublished]

RPS, (2022^c). *Preliminary Ecological Appraisal, Capel Manor College Mottingham*. [unpublished]

RPS, (2022^d). *SINC Impact Letter, Capel Manor College* [unpublished]



DRAWINGS

Drawing 1

**Ecological Enhancement and
Management Compartments**



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- Legend**
- Site boundary
 - Common song bird nest box (x2)
 - House sparrow nest box (x2)
 - Swift nest box (at least 5m high) (x3)
 - 2F Bat refuge box (at least 4m high) (x3)
 - Deadwood habitat for invertebrates (x7)
 - Insect hotel (integrated on wall) (x7)
 - Hibernacula (x1)
 - Vertical loggery for stag beetle refuge (x1)
 - Hedgehog refuge (x1)
 - Hedgehog highway hole in fence (13cm x 13cm) (x7)
 - Neutral grassland
 - Meadow grassland
 - Rain garden planting
 - Sedum green roof (Welcome Block)
 - Raised planting bed
 - Hedgerow

Rev	Description	By	CB	Date

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Client Capel Manor College
 Project Capel Manor College
 Title Ecological Mitigation and Enhancement Plan

Status **Draft** Drawn By LP PM/Checked By AH/FM
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