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integrating nature conservation

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Landscape and Ecological Management Plan

26-28 Priests Bridge
London
SW14 8TA

August 2024

Darwin Ecology Ltd
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QUALITY CONTROL		
The information which we have prepared and provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct.		
Prepared by	Licensed Ecologist Libby Pinches BSc (Hons)	09.08.24
Reviewed by	Principal Ecologist Olatz Gartzia BSC MSc ACIEEM	12.08.24
Revised by	Licensed Ecologist Libby Pinches BSc (Hons)	04.09.24
This report remains valid for 2 years from date of issue.		

Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living creatures are capable of migration and whilst protected species may not have been located during the survey duration, their presence may be found on site at a later date.

The views and opinions contained within the document are based on a reasonable timeframe between the completion of the survey and the commencement of any works. If there is any delay between the commencement of works that may conflict with timeframes laid out within this document, or have the potential to allow the ingress of protected species, a suitably qualified ecologist should be consulted.

It is the duty of care of the landowner/developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to works.

1. EXECUTIVE SUMMARY

1.1. This Landscape and Ecological Management Plan (LEMP) has been prepared to support a planning application for the the demolition of all existing buildings and the subsequent construction of seven residential units and mixed use commercial buildings with two areas of green roof at 26-28 Priests Bridge, London SW14 8TA. Planning permission was granted under application number 22/2360/FUL.

1.2. This plan provides details of the habitats to be created as part of the scheme and provide details on how habitats will be managed in perpetuity to achieve an overall biodiversity net gain.

1.3. The site is comprised of a complex of five buildings previously used as vehicle garage and dance centre. The remaining habitats comprise of hardstanding and a small patch of scrub at the northernmost corner.

1.4. An Ecological Impact Assessment (EcIA) was conducted by Darwin Ecology in December 2022, during which limited potential for protected species were recorded and habitat on site was limited and of low ecological importance.

1.5. Provisions for protected species will be outlined, and summarised as provided in prior Darwin Ecology documentation.

1.6. This LEMP provides details regarding the specific creation and management prescriptions to be implemented pre- and post-construction, and as part of the proposed habitat creation and long-term management over 30 years (as required under Biodiversity Net Gain).

1.7. This document ensures that an overall biodiversity net gain is achieved through the development and that negative impacts on ecologically valuable habitats (both within the site and the adjacent designated sites) are avoided. It also outlines which of the relevant stakeholders responsible for each action and provides recommendations regarding timing of works.

2. INTRODUCTION

2.1. This LEMP has been prepared to support a planning application for the the demolition of the existing buildings and construction of residential and commercial buildings with green roof at 26-28 Priests Bridge, London SW14 8TA[1].

3. AIMS AND OBJECTIVES

3.1. This report aims to detail the habitats to be created as part of the scheme and provide details on how each habitat will be managed in perpetuity to achieve an overall biodiversity net gain.

3.2. It has been informed by additional reporting by Darwin Ecology Ltd, including an EcIA, which was submitted with planning application 22/2360/FUL.

3.3. The primary objectives are as follows:

- To mitigate the net loss in habitat area by enhancing retained areas of habitat and managing these for biodiversity in perpetuity;
- To provide details of the type and size of each habitat to be retained, enhanced or created;
- To provide details of five years of aftercare, 25 years of management and 30 years of monitoring of post-development habitats;
- To ensure that soft landscaping enhances the site for invertebrates by providing nectar, pollen and fruit resources throughout the seasons, a variety of structural diversity and larval food plants, with no less than 80% native and local species by number and diversity;
- To provide a timescale for delivery of habitat creation and enhancement including soft landscaping and green infrastructure;
- To provide a monitoring strategy which will assess the condition of all habitats created and detail any and all necessary management or replacement / remediation measures required to deliver the agreed upon values, as well as suggesting appropriate contingency measures should monitoring identify that changes are required to ensure the habitats are in the appropriate condition to deliver the required biodiversity values.

3.4. The compensation, enhancement and management proposals relate to two main themes:

- Methods of habitat creation and enhancement including aftercare to ensure proper establishment of habitats to appropriate target conditions; and
- Long-term management of all post-development habitats to maximise biodiversity and ensure a biodiversity net gain in perpetuity including monitoring strategy.

[1] Ordnance Survey (OS) grid reference TQ 21507 75548

4. SITE OVERVIEW

4.1. The site is located in the Mortlake residential area in the Richmond Upon Thames Borough of London approximately 600m southwest of the River Thames.

4.2. The site is comprised of a complex of five buildings previously used as vehicle garage and dance centre. The remaining habitats comprise of hardstanding and a small patch of scrub at the northernmost corner (see **Figure 1**).

4.3. The wider landscape comprises further residential properties with associated amenity gardens, public areas of open green space, sports grounds and small areas of woodland. Roehampton golf club is located roughly 0.4km southeast of the site and Chiswick Rugby and Football club is located roughly 0.8km northwest (see **Figure 2**).

Figure 1: Site location within the local landscape (Copyright Google Maps, 2024)

Figure 2: Site location within the wider landscape (Copyright Google Maps, 2024)

5. BIODIVERSITY ENHANCEMENT PLAN[2]

Introduction

5.1. The details below outline the practical tasks required to create the habitats outlined in the proposed landscaping plans. Specific habitat creation and enhancement details are outlined below and in **Appendix 2**, with timings for each action outlined in **Appendix 3**.

5.2. Any future updated landscape plans will include any species recommendations laid out in this report.

Habitats

5.3. All newly created or retained habitats listed will be managed appropriately to ensure the desired conditions are reached within the target time.

5.4. Management will include five years of specific aftercare, during which monitoring and remedial action must be proactive to ensure habitats establish successfully. After this initial five years, management in perpetuity to ensure long-term biodiversity value is maintained will be required.

Landscape planting

5.5. Raised planters will be implemented throughout the site and a vegetated strip will be created adjacent to the wall of the brook. These features will be planted with species that offer pollen, nectar and fruit sources and therefore are beneficial for biodiversity.

5.6. Growing wires will be fixed to the railing which will run parallel to the brook. This will allow climbing plants such as ivy *Hedera helix* and honeysuckle *Lonicera periclymenum* to grow and maximise the amount of vegetation that can grow in this area.

5.7. Landscaped planting areas will be managed as appropriate to maintain a multi-functional resource, that provides both aesthetically pleasing features for people whilst also providing an appropriate foraging resource for invertebrates.

5.8. Plants that provide fruits and nuts should not be pruned excessively and these resources should be allowed to remain on vegetation over-winter to ensure the benefits of these features are maximised, with management cutting taking place in January or February. All arisings from landscape planting management should be removed from the site, collected in discrete, self-contained compost units or, in the case of larger woody species, these can be added to any deadwood piles that could be created on site.

[2] All landscape contractors should be familiar with the National Plant Specification and follow the relevant British Standards and Codes of Practice, including BS5837:2012 - Trees in relation to design, demolition and construction; BS3882:2015 Specification for topsoil; BS3936:1992 Nursery Stock - Specification for trees and shrubs; BS8545:2014 - Trees: from nursery to independence in the landscape; and BS4428:1989 - Code of Practice for general landscaping operations.

Extensive Green Roof

5.9. The mixed-use building to the west of the site facing onto Priests Bridge (labelled B1 in Appendix 2) will have an extensive green roof, that will add additional wildflower opportunities to the site. The extensive green roof will comprise 100mm of growing substrate which will be covered with a native wildflower blanket (BauderGREEN WB native wildflower blanket[3]) to create additional habitat for wildlife.

5.10. The soil will be watered to saturation 48 hours prior to laying the blanket above, which should be laid as soon as possible following delivery and following supplier's guidance.

5.11. Plugs and bulbs of snowdrops and Narcissi, and will be planted to create winter interest and foraging opportunities for early emerging species. Additional seed or plant plugs may need to be provided in the second year to improve any sparse patches.

Year 1 Management

5.12. After laying the wildflower blanket, the green roof should be left to grow longer from April to August to allow the wildflowers to start establishing.

5.13. Watering will be carried out at regular intervals during the first six months if laid during spring or summer and increased during dry periods, and re-seeding of any failed areas will be carried out in autumn if sown in spring, or re-seeded in spring if sown in autumn.

5.14. After August, a hay cut should be done where the grassland is cut back to 50mm and again in early spring (March/April). During year 1 of the living roof planting, a hay cut should be undertaken in late summer (ideally September), with all arisings left *in situ* for 48 hours following cutting, to allow appropriate time for seeds to fall. Following this, arisings will be removed to prevent soil enrichment.

Yearly Management

5.15. Once established the green roof will require a single late summer cut in September after flowering. The grassland will be cut with hand tools to 50mm. The material should be left for 1-5 days to dry out before removing off site.

5.16. In the second year after creation, if the green roof is not sufficiently established, damaged, defective or bare areas shall be re-seeded following the established as detailed in the points above.

5.17. Scrub encroachment should be monitored on a regular basis and removed as necessary. Ongoing weed control will also need to be carried out.

5.18. Ongoing weed control will be carried out to ensure the wildflower meadow is free of broad leaved, injurious and invasive weeds. Injurious weeds are those listed in the Weeds Act 1959 and the Wildlife and Countryside Act 1981 (as amended) and include the following:

[3] https://www.bauder.co.uk/technical-centre/products/green-roof-landscaping/baudergreen-wb

spear thistle *Cirsium vulgare*, creeping thistle *Cirsium arvense,* curled dock *Rumex crispus*, broadleaved dock *Rumex obtusifolius* and common hogweed *Heracleum sphondylium.*

Biodiverse Green Roof

5.19. The building in the east of the site (labelled B2 in Appendix 2) will have a biodiverse green roof. This green roof will provide a more diverse vegetation structure incorporating shrubs, native forbs and grasses. It will have a 150mm+ substrate (such as BauderGREEN SUB-IM UK Intensive substrate[4]) and can be covered with a similar extensive native wildflower blanket that can be interspersed in grouped areas with higher density areas of sedums, native perennial, grass and shrub mixes.

5.20. The soil will be watered to saturation 48 hours prior to laying the blanket above, which should be laid as soon as possible following delivery and following supplier's guidance.

5.21. Native perennials, shrubs, and grasses should be planted in mixed grouped areas creating diverse height structure across the roof. Grasses can be planted in proximity to shrubs to create taller sward structure and stability for invertebrates. Plugs and bulbs of snowdrops and Narcissi, should be planted to create winter interest and foraging opportunities for early emerging species. Additional seed or plant plugs may need to be provided in the second year to improve any sparse patches.

Year 1 Management

5.22. After laying the wildflower blanket and planting, the living roof should be left to grow longer from April to August to allow the wildflowers to start establishing, and taller structure vegetation to take root and settle.

5.23. Watering will be carried out at regular periods during the first 6 months if laid during spring or summer and increased during dry periods and especially so on larger shrubs. Re-seeding of any failed areas will be carried out in autumn if sown in spring, or re-seeded in spring if sown in autumn.

5.24. After August, areas of grassland can be cut in the same manner at the extensive roof and upkeep should be the same. In more areas of more vegetation diversity and structure, perennials can be cut by hand towards the end of the winter months allowing plants to naturally die off seeds to remain for potential foraging for birds. Shrubs can be left to overwinter without intervention.

Yearly Management

5.25. Once established the green roof will require a hay cut in areas where wildflower blanket is dominant the same methodology as noted for the extensive roof above. In areas of predominantly sedum, perennials and shrubs the vegetation can be largely left to grow with yearly scrub encroachment monitored and removed as necessary. Shrubs, if needed, should be pruned during dormant winter months. Ongoing weed control should also be carried out.

[4] https://source.thenbs.com/product/baudergreen-sub-im-uk-intensive-substrate/d4CgaPVZ2rJ8PrB6K9nqqy/nRz5fLQLvMSY5sj4AZ7KbZ

5.26. In the second year after creation, if the green roof is not sufficiently established, damaged, defective or bare areas shall be re-seeded and any areas of sedum, taller forbs or shrubs can be replanted following the established as detailed in the points above.

River Walkway

5.27. The public access pathway which runs parallel at ground level between building B2 and Beverly Brook will be designed in such a way that it creates a low intensity green corridor which a continual soil base.

5.28. Installing a pathway with evenly spread paving slabs laid upon a suitable soil substrate that extends the length and width of the pathway will allow for better establishment of plant species that will be installed along the edge adjacent to the brook. It will also provide a more suitable 'green corridor' for urban wildlife than other designs that prioritise hardstanding and raised planters.

5.29. The soil substrate will be a minimum of 300m at its shallowest point to allow for the appropriate rooting and continual growth of propose planted species such as ivy, jasmine, Clematis and honeysuckle which will be installed along the galvanised steel planter edge of the brook. The balustrade railing will be fitted with suitable growing wires to allow to establishment of plants along the walkway. Additionally, there will be no raised edge to the galvanised steel planter to ensure vegetation can also grow down along the concrete wall of the brook.

5.30. The pathway will be set-back from the brook according to the building regulations minimum width, in order to provide the widest possible area for soft landscaping and denser growth. The ballustrade will be a vertical open railing construction (with 100mm spacing) that will enable planting growth through and down the brook wall.

5.31. The pathway should ideally be planted during months October to April to maximise vegetation uptake outside of drier summer months, and the soil substrate based should be watered to saturation 48 hours prior to planting.

5.32. Once installed the pathway will be regularly watered to secure irrigation over the entire panels and all failed plants will be replaced.

5.33. As per previous documented discussion with the EA (October to December 2022), the baskets that were suggested to be within and/or overhanging the brook were considered an impractical solution which present maintenance complications and also the potential to increase flood risk. In addition, the ecological benefit from these planters is thought to be limited; they do not provide any additional habitat area and would serve no more ecological purpose than the vegetation which will be allowed to grow over the balustrade and down the wall of the brook.

5.34. Hence, as outlined in the sections above, it is proposed that the planting is provided within the site boundary at ground level, with the margin for planting increased as much as possible, within the access constraints.

Yearly Management

5.35. Once established the vegetation can be largely left to grow with twice yearly checks for encroachment onto the public footpath which may monitored and removed as necessary. Shrubs, if needed, should be pruned during dormant winter months. Ongoing weed control should also be carried out.

5.36. In the second year after creation, if the pathway is not sufficiently established, damaged, defective or bare areas shall be replanted following the established as detailed in the points above.

Protected Species

Birds

5.37. Four bird boxes (Vivara Pro Seville 32mm WoodStone Nest Box[5], or similar as available) will be mounted onto the external facades of the new buildings at a height of at least 2m to provide additional nesting opportunities for common birds using the local area.

5.38. Additionally six sparrow terrace nest boxes will be installed to offer nesting space for a number of pairs. The sparrow terraces will be installed in pairs at three locations on the southeast aspect of B2 facing the brook. The boxes will be installed at the eaves of the building at least 1.5m from ground level.

Bats

5.39. Six integrated bat boxes (Bird Brick Houses bat box[6] or similar as available), will be integrated into the brickwork on the southwestern elevation of B1. These will be installed at a minimum height of 4m. The area in front of the box should be un-cluttered with good connectivity to nearby linear features or habitats such as the adjacent Beverley Brook. The installation of these boxes will be overseen by a suitably qualified ecologist to ensure they are positioned in an appropriate location.

5.40. Any boxes installed should be placed in an area where lighting is at a minimum, as illumination of a roost or associated flight path may result in the box remaining unused. In conjunction with this a sensitive lighting scheme should be implemented, to ensure bats can use the site for foraging.

5.41. The Bat Conservation Trust (BCT) offers guidelines on reducing the impact of lighting on bats. The following measures are recommended when designing a sensitive lighting scheme

[5] https://www.nhbs.com/vivara-pro-seville-32mm-woodstone-nest-box

[6] https://www.birdbrickhouses.co.uk/products/bat-brick-houses/

for bats, these comments are generic but incorporating these should be included on all projects:

- Lighting intensity kept to a minimum;
- Lighting times limited to provide some dark periods (e.g. switching installations off between midnight and 5am);
- Timers and motion sensors used to ensure areas are only lit when necessary;
- Retention of dark corridors;
- Low level lighting to allow darkness to be retained in higher vegetation;
- Warm colour spectrums (<2700K, <550nm wavelength) used;
- Light to be directed downward and shielded to prevent light spill above a 70 degree angle;
- All luminaires to avoid UV elements and metal halide fluorescence; and
- LED luminaries used where possible to provide sharp cut-off, lower intensity, good colour rendition and dimming capability.

5.42. In addition to this, all lighting must be directed away from the adjacent habitats to the rear of the site to maintain 'completely dark' conditions (as defined by TBMS 'defined as < 0.2 lux on the horizontal plane and less than 0.4 lux on the vertical plane (measured at 1.5m and 4m) (Bat Conservation Trust and Institution of Lighting Professionals, 2018). There must be no glare impact from the development within this zone'). These principles will ensure the adjacent habitat is retained favourably for bats and other protected species. A post development lighting check will be carried out 2 years post completion of the development to ensure that no alterations have been made.

Invertebrates

5.43. Four bee bricks will be incorporated into the brickwork of the southwest elevation of B1 in order to provide opportunities for solitary bees and wasps.

5.44. Additionally, two insect hotels will be created on each of the green roofs. Insect hotels can additionally be easily implemented and can be made from bricks, plant pots, tree cuttings, broken tiles etc.

5.45. The main aim of management for invertebrates is to maintain a diverse structure, with areas of short sward, bare ground, tussocks and flowering herbaceous plants. Native plants should be allowed to set seed to increase the availability of food (nectar and pollen) for foraging insects.

5.46. Inclusion of some standing water will be installed to help improve the value of the site for invertebrates. Even something as limited as a small open barrel or bird bath would provide some improvement and can be installed on the green roofs.

5.47. The proposed green roof can be beneficial to invertebrates if designed appropriately. Features and practices to create beneficial green roofs include:

- Use a variety of substrates in addition to soil e.g. sand, crushed concrete, and shingle;
- Create different depths of the substrate to encourage structurally diverse vegetation. Where soil is thin not many plants will grow which creates the bare earth which is vital for so many invertebrates. Where the substrate is thicker, wildflowers will grow. Undulations will create small localised changes to the micro-climate due to varying exposure to sun, wind and rain;
- Keep the coverage of sedum species to less than 30% as whilst they can help establish other species on a green roof, they can reduce the species diversity;
- Choose locally appropriate plant species which cater for a range of invertebrates. Example species include ox-eye daisy, hawkbits, yarrow, white dead nettle, red clover, bird's foot trefoil, common vetch;
- Include deadwood piles as they are important for many invertebrates. Care should be taken over how much weight is on the roof;
- Create south-facing mounds of sand to provide sand banks for bees; and
- Remove any unwanted species that start to grow, in particular butterfly bush *(Buddleja davidii).*

6. ECOLOGICAL MONITORING AND REMEDIAL ACTION

6.1. On completion of the development, a compliance check will be undertaken by a suitably qualified ecologist to ensure that habitats and protected species features have been created correctly and are establishing. Where habitats or features have not established successfully, the ecologist will provide advice with regards rectifying any issues.

6.2. The ecological condition of the habitats on site will be monitored every two to three years by a suitably qualified ecologist, starting one year post-completion of the development and continuing for five years. Condition assessments of all habitats on site and collation of full species lists including relative abundance using the DAFOR scale will be undertaken as part of this review. If the condition of any of the habitats appears to be in decline, advice regarding additional management will be provided. This management will then be carried out by an appropriate landscape contractor. A report of the conditions of the habitats on site and any management changes that have been proposed will be provided to the Local Planning Authority by the **1st November** on year 3 and 5 post development, and every five years thereafter.

6.3. After the initial five years post-development, this management plan (with any necessary amendments identified during those first five years) will be complied with in perpetuity. Reviews of the management plan will be undertaken by a suitably qualified ecologist every five years to ensure that the management regimes remain appropriate and that the habitats and features within the site continue to provide biodiversity gain.

7. REFERENCES

Darwin Ecology (2023) *26-28 Priests Bridge, London, Ecological Impact Assessment Report*. Darwin Ecology, Farnham.

Flora Locale (2012) *Code of Practice or collectors, growers and suppliers of native flora - Planting with wildlife in mind* [online] cieem.net/wp-content/uploads/2019/07/FL-code-of-practice-growers-seeds.pdf [April 2024].

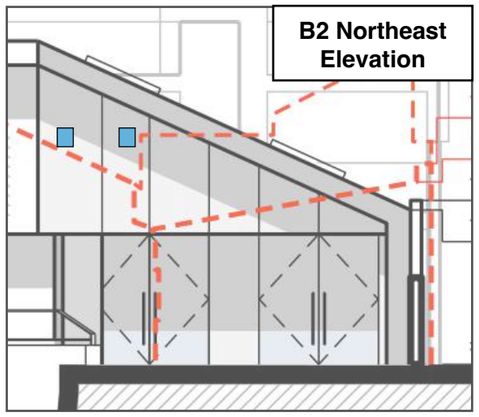
8. APPENDICES

Site Plan

B1 Southwest Elevation

Bird Brick Houses Sparrow Terrace

Bug hotel

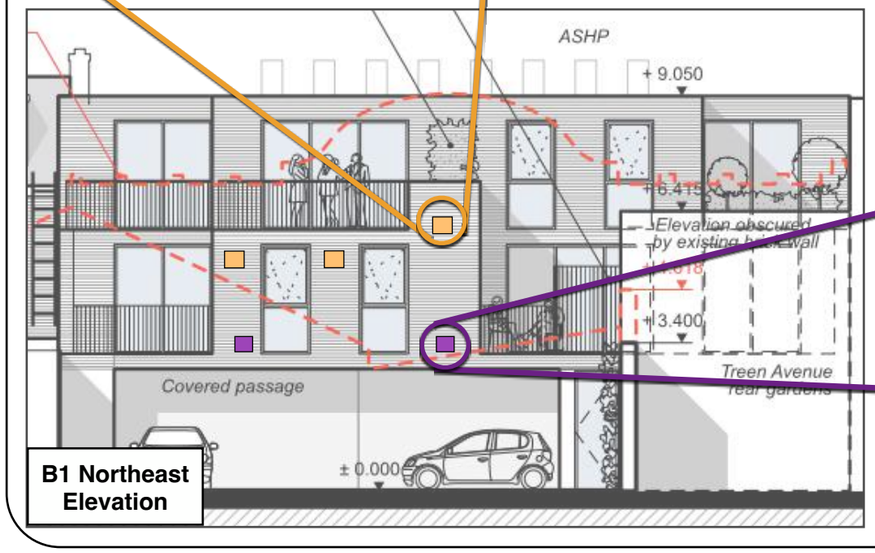


B2 Northeast Elevation

Vincent Pro Bat Box

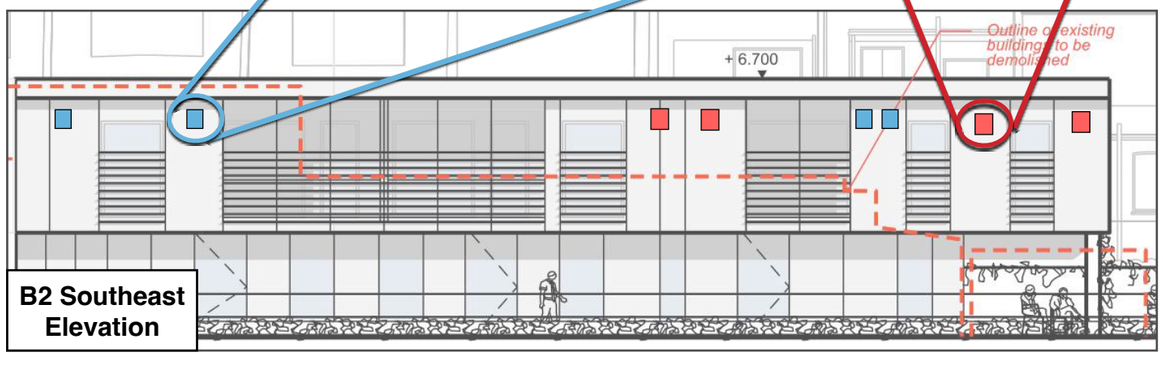
Greenwoods Bat Box

Vivara Pro nest box



B1 Northeast Elevation

Green & Blue Bee Brick



B2 Southeast Elevation

- Extensive Green Roof
- Biodiverse Green Roof
- Movable planters
- Fixed planters with climbing plants to create a green wall
- Vegetated strip along brook
- X4 Bee bricks
- X4 Bird boxes suitable for a range of urban birds
- X2 Insect hotels
- X6 Integrated bat boxes
- X6 Sparrow terraces in three locations

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Project: 26-28 Priest's Bridge

Appendix 2: Proposed habitats and enhancement features

Date: August 2024

APPENDIX 2 - TIMETABLE FOR HABITAT CREATION, ENHANCEMENT AND MANAGEMENT

Description of works		Years Active with Priority					
	Pre works	1	2	3	4	5	Post 5 yrs
Protected Species Enhancement							
1. Mounting of bird and bat boxes		Y	-	-	-	-	
2. Creation of insect hotels		Y	-	-	-	-	
3. Monitor, clean and replace if in poor condition (NB: Licensed bat worker required to take down any bat boxes that need replacing)		-	Y	Y	Y	Y	Y
Landscape Planting							
1. Plant new plants in autumn or spring . Irrigate for the first 6 months if planted in spring.		Y	-	-	-	-	-
2. Replace dead or dying species on a like for like basis		-	Y	Y	Y	Y	Y
3. Cut and prune as needed in accordance with species requirements		Y	Y	Y	Y	Y	Y
4. Train climbing plants over structures		Y	-	Y	-	Y	Y
Green Roof							
1. Lay blanket and irrigate for the first 6 months if laid in spring or summer.		Y	-	-	-	-	-
2. Undertake first cut after summer (September) to 50mm		Y	-	-	-	-	-
3. Undertake a second cut in spring to 50mm		-	Y	-	-	-	-
5. Ongoing weed control by hand		Y	Y	Y	Y	Y	Y
6. Yearly September cut		Y	Y	Y	Y	Y	Y
Monitoring							
1. Compliance check		Y	-	-	-	-	-
2. Monitor general green infrastructure and habitats every two to three years and use results to inform future management		Y	-	Y	-	-	Y