



WIER HOUSE
50 RIVERSIDE WAY
UXBRIDGE
LONDON

ECOLOGICAL
ENHANCEMENT
SCHEME

SHEPHERDS BUSH
HOUSING
ASSOCIATION

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QUALITY ASSURANCE

This report has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Report Writing (2nd Edition, December 2017).

The facts stated in this report are true to the best of our knowledge and belief, and any opinions expressed are held genuinely and in accordance with the accepted standards of the profession. ACD Environmental Ltd is a CIEEM Registered Practice.

Client:	Shepherds Bush Housing Association
Site/job:	Wier House, 50 Riverside Way, Uxbridge, London
Author:	Lisa Durrant
Technical review:	Nicholas Jones



CONTENTS

1	INTRODUCTION	4
2	AIMS AND OBJECTIVES	6
3	BASELINE ECOLOGICAL CONDITIONS	7
4	ROLES AND RESPONSIBILITIES	10
5	CONSTRUCTION PHASE – MITIGATION MEASURES	18
6	HABITAT CREATION, ENHANCEMENT	18
7	MANAGEMENT MEASURES	22
8	MONITORING AND FEEDBACK	27
9	SCHEDULE OF WORKS	28
10	CONCLUSIONS	31
	APPENDIX 1: PHASE 1 HABITAT MAP	32
	APPENDIX 2: SOFT LANDSCAPE PLANS	33
	APPENDIX 3: ECOLOGICAL ENHANCEMENT PLAN	34

1 INTRODUCTION

- 1.1. Full planning permission was granted by London Borough of Hillingdon (in January 2022) for demolition of existing building and erection of a part four and part five storey block providing 34 units (use class C3) associated access and other works including landscaping and amenity space, car and cycle parking and refuse storage (ref: 43495/APP/2020/888).
- 1.2. The development area consists of a small 0.2977ha parcel of land comprising hardstanding, buildings, introduced shrubs and trees. This land is hereafter referred to as 'the Approved Development Site'. The Approved Development Site is adjacent to the Grand Union Canal to the east and River Colne to the west; there are nearby ribbons of woodland; and green space and bodies of open water associated with/adjacent to Summerlease Quarry to the north-east.
- 1.3. This report has been produced to address **Condition 18** of the planning permission. Condition 18 states:

"18. Prior to the commencement of development an ecological enhancement scheme shall be submitted to and approved in writing. The scheme shall be accompanied by a plan showing the retention of existing features of value together with proposals for the inclusion of additional features and improvements to the existing site which will result in a net gain in ecological value. The enhancements shall include

1. wildlife specific planting

2. log piles

3. habitat walls

4. bat and bird boxes

5. Enhanced riverside vegetation and improvement works

The development must proceed in accordance with the approved scheme unless otherwise agreed in writing with the Local Planning Authority.

REASON

To ensure the development contributes to ecological enhancement in accordance

with Policy EM7 (Local Plan) and Policy G9 of the London Plan 2021.”

- 1.4. This Ecological Enhancement Scheme must be read in conjunction with the soft landscape scheme, which is provided within **Appendix 2**.
- 1.5. This report should also be read in conjunction with the following ecology reports:
- Ecological Appraisal prepared by Jones & Sons Environmental Ltd (April 2016), which was prepared to inform a previous planning application.
 - Preliminary Roost Assessment (PRA) prepared by CSA Environmental Ltd (December 2019).
 - Bird Hazard Management Plan (BHMP) prepared by ACD Environmental Ltd (July 2026).

Competence

- 1.6. This report has been written by Lisa Durrant, Senior Ecologist at ACD Environmental Ltd who has over 13 years' experience and has been involved in a wide range of ecological projects including Extended Phase 1 Habitat Surveys/UK Habitat Classification Surveys, Phase 2 surveys for protected species and European Protected Species (EPS) licence applications. She is a full member of CIEEM (MCIEEM) and holds Natural England Class licences to survey for bats, barn owl *Tyto alba*, hazel dormouse *Muscardinus avellanarius* and great crested newt *Triturus cristatus*.
- 1.7. A Technical Review of this report has been undertaken in line with ACD Environmental Ltd's Quality Assurance procedures. The review was carried out by Nicholas Jones at ACD Environmental Ltd. Nicholas is the Head of Ecology. He has over 18 years' experience working for commercial consultancy and specialises in EPS legislation and mitigation, holding class licences for barn owl, bats (Level 2) and great crested newt and is one of a small number of ecologists who is a Registered Consultant under the 'low impact' Bat Mitigation Class Licence (BMCL). He has significant experience of Ecological Impact Assessments (EclAs), Statutory Biodiversity Metrics and post-consent ecology reports and has represented ecology at a Hearing. Nicholas is a Full Member of CIEEM (MCIEEM).

2 AIMS AND OBJECTIVES

Aims

2.1. The aims of this Ecological Enhancement Scheme and how this relates to specific sections of this report are as follows:

- Provide a summary of the previous ecology surveys and results in order to provide the context to subsequent recommendations (**Section 3.0, Appendix 1**).
- Provide details of the roles and responsibilities for future actions (**Section 4.0**).
- Provide details of habitat creation and enhancement, including artificial wildlife habitats and demonstrate biodiversity gain (**Section 6.0, Appendix 3**).
- Provide details on management and maintenance of retained and created habitats (**Section 7.0**).
- Provide details on monitoring and review (**Section 8.0**).
- Provide details of a schedule of works for implementation and subsequent management, maintenance and monitoring (**Section 9.0**).
- Provide conclusions to the points raised (**Section 10.0**).

Objectives

2.2. To ensure the success of the landscape and ecological design in perpetuity, the programme of maintenance and management within this report will aim to achieve the following objectives:

- Ensure features of ecological value are protected and managed in a way that ensures their ecological value is maintained.
- Create new habitats of ecological value and ensure delivery of biodiversity gain through appropriate management.
- Establish a flexible management and maintenance regime, able to respond to changing needs or objectives.
- To ensure that the required protected species enhancement measures remain in place in perpetuity and are not disturbed.

3 BASELINE ECOLOGICAL CONDITIONS

- 3.1. The Approved Development Site is located in North Uxbridge Industrial Area to the west of Uxbridge town centre and comprises an approximate area of 0.25ha. The Ordnance Survey Grid Reference for the approximate centre of the site is TQ 04908 83952.
- 3.2. The Approved Development Site is shown within **Image 1**.



Image 1: Aerial photograph of the Approved Development Site.

- 3.3. The Approved Development Site has been subject to ecological surveys, which are summarised within **Table 1**.

Table 1: Field surveys

Survey	Survey Date
Extended Phase 1 Habitat Survey (Jones & sons Environmental Sciences Ltd)	March 2016
Preliminary Roost Assessment (PRA, CSA Environmental)	November 2019

- 3.4. A summary of previous surveys is provided below for context. For further details, please refer to the original reports.

Habitats

- 3.5. The Approved Development Site comprises primarily of buildings and hardstanding with some introduced shrubs, grass and trees. Habitats within the Approved Development Site are considered to be generally of low ecological value.
- 3.6. Adjacent to the Approved Development Site and within 1m of the red line boundary, there are river habitats and marginal aquatic vegetation. The Grand Union Canal to the east and the River Colne to the west, which are of higher value.

Fauna

- 3.7. For ease of reference, descriptions of relevant fauna have been provided alphabetically, below.

Bats

- 3.8. In 2016, the building within the Approved Development Site, namely Wier House, was assessed for potential to support roosting bats. Wier House is a large, relatively modern detached metal-framed office building with brick and breezeblock walls and large glazed windows. The roof is hipped on two sides with a central flat area. There are skylights in the roof and the slope of the roof has a shallow pitch. The slates fit together tightly with no suitable access points for bats identified.
- 3.9. Internally there is no loft and the slate roof is lined with insulation and modern breathable membranes. No suitable roosting areas were identified, and the light internal conditions would deter bats from roosting. The building was assessed being unsuitable for roosting bats.
- 3.10. In 2019 the building was inspected again and similarly described, however as not all of the building was accessible at the time, it was concluded that further survey work in the form of internal inspections of the rood void and external inspections of the roof tiles from the flat section of the roof would be required in order to confirm 'likely absence' of roosting bats. If these inspections are not possible, then an emergence survey was recommended.
- 3.11. The inspection of trees within the site boundary on both occasions found that most had trunks of a small diameter and no suitable crevices for bats. The trees within the site boundary were assessed as negligible potential for roosting bats.
- 3.12. Bats frequently feed on flying insects associated with waterways and the tall trees lining the Grand

Union Canal and River Colne provide sheltered favourable habitats for foraging bats. The Approved Development Site lies adjacent to non-statutory sites and is an area of importance to several bat species. The presence of bats flying along the waterways adjacent to Wier House is likely.

Birds

- 3.13. The adjacent waterways and trees within and adjacent to the site are of value to birds. The trees and shrubs support suitable song perches, foraging and nesting habitat. Birds recorded within the site included house sparrow *Passer domesticus*, great tit *Parus major*, blue tit a *Cyanistes caeruleus* and feral pigeon *Columba livia domestica*. Mallards *Anas platyrhynchos* were observed along the Grand Union Canal and a coot *Fulica atra* was observed on the River Colne.

4 ROLES AND RESPONSIBILITIES

4.1. This report should be read in conjunction with other environmental reports for 50 Riverside Way, Uxbridge, London including.

- Ecological Appraisal prepared by Jones & Sons Environmental Ltd (April 2016), which was prepared to inform a previous planning application.
- Tree Reference Plan prepared by ACD Environmental Ltd (November 2019).
- Arboricultural Impact Assessment and Method Statement prepared by ACD Environmental Ltd (November 2019).
- Preliminary Roost Assessment (PRA) prepared by CSA Environmental Ltd (December 2019).
- Soft Landscape Management and Maintenance Plan prepared by ACD Environmental Ltd.
- Bird Hazard Management Plan prepared by ACD Environmental Ltd (July 2026).

4.2. The overall responsibility for the design of the scheme under The Construction (Design and Management) Regulations 2015 is with the Principal Designer.

4.3. The implementation of this Ecological Enhancement Strategy (including habitat creation) during site preparation and construction is the collective responsibility of the appointed Project Manager, and the Developer. This collective will ensure that all appointed contractors are aware of the ecological requirements of the Approved Development Site and will distribute this report to relevant parties.

4.4. All materials, workmanship, quality and operations should be in accordance with all relevant British Standards, Codes of Practice and legislation including relevant Health and Safety legislation.

4.5. Once the construction phase is complete, the maintenance and management of the habitats on the Application Site and associated funding will be the responsibility of a private Management Company appointed by the Developer. Once a Management Company is appointed, their details should be inserted here:

Name:

Company:

Telephone:

Personnel responsible for implementation of the plan:

Main contact:

Developer contact details:

Length of agreement

- 4.6. The minimal length of the initial agreement with the Management Company will be five years. Following the five years, management practices will be reviewed, and a new contract drawn up as necessary, to ensure the Approved Development Site is managed in line with the aims and objectives of this report for a minimum of 30 years. Management should continue in perpetuity.

5 CONSTRUCTION PHASE MEASURES

- 5.1. This section outlines the measures taken during the construction phase to protect protected species and habitats. General prescriptions are provided along with species measures.

General prescriptions

Pollution Prevention

- 5.2. The works will be carried out in accordance with Guidance for Pollution Prevention (GPPs)¹ and Pollution Prevention for Businesses² to prevent pollutants from entering the adjacent terrestrial and aquatic habitats, and to appropriately deal with any pollution incidents should they arise.

Ground Construction Works

- 5.3. Any exposed areas of soil during the works should be covered by a geotextile membrane whilst not being worked in, to minimise the risk of soil erosion and minimise dust pollution.
- 5.4. If soil is imported on to the Approved Development Site, a record should be made as to where the imported soil is distributed, and these areas checked annually between May and September by the ECoW. The ECoW will search for invasive species, such as Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera* and giant hogweed *Heracleum mantegazzianum*.

Location of Construction and Plant Machinery

- 5.5. The site compound, including welfare facilities, storage materials and plant will be positioned a sufficient distance from potential pollution pathways and sensitive ecological receptors around the Approved Development Site.
- 5.6. All general material will be carefully stored within the site compound. Any loose materials are to be covered with a geotextile membrane to prevent them from impacting sensitive receptors during times of strong wind and rain.

Vehicles

- 5.7. Vehicle access during construction (including plant access) is to be attained from the existing site access in the north of the Approved Development Site.
- 5.8. Refuelling of vehicles is to be undertaken within the site compound(s) on an impermeable surface.

¹ NetRegs (2022). Guidelines for Pollution Prevention. Available at: [guidance-for-pollution-prevention-1-2022-update.pdf](https://www.netregs.org.uk/guidance-for-pollution-prevention-1-2022-update.pdf) (netregs.org.uk).

² <https://www.gov.uk/guidance/pollution-prevention-for-businesses>

Chemical Contamination

- 5.9. All chemicals are to be stored within the site compound(s) to minimise the risk of any potential contamination particularly into the adjacent waterways which are of higher ecological value.
- 5.10. Should any chemical spills occur then these should be traced, recorded and addressed in compliance with COSHH. A spill kit will be maintained onsite at all times in order to react to any chemical spills which may occur.
- 5.11. Should any drums be damaged or leaking then these should be removed from the site immediately and disposed of in an appropriate manner.
- 5.12. For further information on dealing with chemical spills and incidents reference should be made to PPG21 'Dealing with Spills'. A copy of this guidance should be kept on site during the construction works.

Deliveries

- 5.13. Deliveries of plant or materials to/from site are to be during construction hours; all deliveries are to be unloaded within the site and in the designated material handling areas. Delivery vehicles are to be washed before leaving site and the site entrance is to be swept regularly. Trafficked areas will comprise hard standing to reduce impact of mud entering the road and there will be regular visits by road sweepers for roads in the surrounding area.

Site Waste Management

- 5.14. The appointed contractor will ensure the proper removal and safe disposal/recycling of all waste materials arising from the proposed works. The contractor will also ensure safe disposal of all surplus construction material offsite.
- 5.15. Waste should be stored securely in sealed, labelled containers clearly explaining the type of waste that is to be stored, skips should be covered with waterproof covers to prevent runoff from contaminated waste items particularly into the adjacent watercourses.
- 5.16. Hazardous and non-hazardous substances should be stored separately, and the manufacturers guidelines should be followed when disposing of any hazardous waste. Hazardous waste includes:
- Materials containing asbestos.
 - Batteries..
 - Chemicals such as brake fluid or print toner.

- Pesticides.
- Oils.
- Equipment containing ozone depleting substances.
- Hazardous waste containers.

5.17. Waste must be classified to ensure that it is disposed of correctly before being sent for disposal or recycling, please refer to the waste classification code or refer to the Environment Agency Technical Guidance on Waste Management.

5.18. Where possible, topsoil will be re-used on the Approved Development Site.

5.19. With reference to the BHMP, food waste and litter, which would arise from contractors onsite, must be placed within designated recycling/refuse bins, and these bins must be animal-proof and regularly emptied as exposed food waste, even in bin bags, can attract species such as gulls and will not be permitted; and contractors will be explicitly forbidden from feeding birds within or adjacent to the Approved Development Site.

Dust Pollution

5.20. Measures are to be taken to avoid dust pollution, particularly into the adjacent watercourses, which are high value habitats. This can include installing geo-textile fabric on the Heras fencing or similar surrounding the construction site as appropriate.

5.21. Any piles of sand, soil or other small particle materials in bunded areas are to be prevented from drying unless operations require the material to be dry. Where this is required, these areas will be covered with geo-textile fabric to prevent the amount of dust and debris leaving the construction site and fenced where appropriate.

Species specific mitigation measures

General Measures for fauna

5.22. General measures will be adopted to safeguard any wildlife that may be present on the Approved Development Site during site preparation and construction phases. These are as follows:

- If a protected species is found in the absence of an ecologist, works will stop immediately and an ecologist contacted for advice immediately.
- Machinery and building materials are to be stored on areas of hardstanding, and on pallets wherever possible.

- Any excavations must be covered at night wherever practicable. A means of escape must be provided in the form of a ramp to allow trapped fauna to escape.
- Excavations must be managed to avoid the formation of temporary waterbodies.
- All temporarily exposed pipes must be capped overnight to prevent animals gaining access and later becoming trapped.
- Heras fencing or similar will be used to mark the site boundary to protect offsite habitats of value to fauna. No building materials, spoil or machinery may be stored in the areas outside of this fencing.
- Existing site access must be used in favour of creating new access points to minimise disturbance.
- Food and litter are not to be left within the working area overnight.
- Any chemicals must be stored in such a way that protected species cannot access them.

Bats

- 5.23. The building within the Approved Development Site will be demolished.
- 5.24. The mitigation is dependent on whether the emergence survey/full inspection was/will be carried out and what the results were/will be. If no bats were found, the building still has a low possibility of roosting bats and it should be demolished using precautionary methods of working including a soft strip of any possible features and where possible demolished during the autumn when the maternity roosting season is over and before hibernation (this is also outside of the nesting bird season).
- 5.25. A total of 12 trees will be removed as part of the works; none have been identified as having presence of roosting bats.
- 5.26. Bats could use the boundary vegetation and adjacent waterways for commuting and foraging. A sensitive lighting strategy is to be implemented during the construction phase, whereby no additional artificial lighting will be permitted after dark near the retained habitats, and no works permitted on the Approved Development Site overnight where possible. In the few cases where it becomes unavoidable, no lighting will be directed at any of the off-site waterways, boundary features or trees. Only directional task lighting will be permitted, with no upward or backward light spill. The lighting specification must be 'warm white' light (~2700-3000K, >550nm peak wavelength) with no UV component to avoid the most disruptive wavelengths to bats.
- 5.27. A sensitive lighting scheme will also be incorporated upon completion of the built environment, particularly at the retained off-site and new boundary features to ensure the development does not

cause increased lighting around potential commuting corridors. It is recommended that a lighting specialist is consulted to design detailed lighting strategies and must adhere to the same specification detailed above as a minimum with dimmable LED lighting preferred. If security lighting is required, this is to utilise motion sensors.

- 5.28. A total of four bat boxes will be installed on trees across the Approved Development Site to provide a net increase in bat roosting opportunities. It is recommended 2FR Bat Boxes (or a suitable alternative) will be installed within the fabric of the new building (if possible in terms of design and fire safety) and Schwegler 2F Bat Boxes (or a suitable alternative) to be installed on mature trees. No lighting is to be directed at the bat box, nor will it be situated near a source or artificial lighting.

Birds

- 5.29. The buildings and trees within the Approved Development Site provide opportunities for common species of birds as identified in the Ecological Appraisal.
- 5.30. Removal of the trees and buildings should be undertaken outside of the main nesting bird season, which is widely accepted to be March to August inclusive.
- 5.31. In the event that removal must occur during the bird nesting season, the trees and buildings must first be thoroughly checked by a suitably qualified Ecological Clerk of Works (ECoW) prior to any work starting. If a nest is identified, the ECoW will establish a suitably sized buffer according to species around the nest with high visibility tape. No works will be permitted within the buffer, which must remain in place and undisturbed until the ECoW has confirmed that the nest is no longer in use. If it is not possible to fully access the vegetation for checking, the ECoW will supervise the clearance work, ensuring a suitable methodology is adhered to. All this work is to be undertaken using hand tools only in the vicinity of the nest with mechanical demolition following this. If a nest is identified in the absence of the ECoW, a suitably qualified ecologist will be contacted to advise immediately, and work must stop until the ECoW has attended and assessed the nest and provided suitable instruction.
- 5.32. With reference to the BHMP and recommendations above, soil must only be exposed in sections to prevent large, exposed areas; exposed soil must not be left over the winter as this could attract winter flocks; and any excavations (e.g. trenches/pits) must be covered when works are not taking place to ensure that they do not fill with water.
- 5.33. Also with reference to the BHMP and recommendations above, food waste and litter, which would arise from contractors onsite, must be placed within designated recycling/refuse bins, and these bins must be animal-proof and regularly emptied as exposed food waste, even in bin bags, can attract species such as gulls and will not be permitted; and contractors will be explicitly forbidden from

feeding birds within or adjacent to the Approved Development Site.

- 5.34. With reference to the BHMP, there are proposals for solar photovoltaic (PV) panels to be installed on the roofs. Although this contributes to broader environmental/sustainability objectives, measures must be taken to ensure that the panels do not attract nesting birds. The issue with solar PV panels in this context relates to the niches created underneath the panels, which could provide nesting opportunities, particularly for feral pigeons and starlings. The surface of the panels themselves are unlikely to support nesting birds; however, they could provide perches in association with nests. With reference to guidance on Biodiversity and Aerodrome Safeguarding from London City Airport London City Airport, this must comprise either **bespoke netting over the panels (e.g. high-density polyethylene, HDPE) or bespoke wire mesh installed around the outer edge of the panels.**
- 5.35. According to the Ecological Appraisal the provision of bird boxes, should include those suitable for house sparrows (a species of conservation concern, national and London Priority BAP species).
- 5.36. With reference to the BHMP and due to the presence of RAF Northolt and Heathrow Airport, plans should be designed to minimise hazardous species (large or flocking birds). Blue tit, great tit and house sparrow do exhibit flocking behaviour; however, they are small passerines and none of these species appear on the Top 20 lists, with the exception of 'sparrows' (likely house sparrow) in data from 2012 - 2016. In this data set, the number of bird strikes was c.45 and this represents c.0.5% of the total. As such, bird boxes that specifically target small passerines should be erected on buildings/retained trees are considered to be suitable.
- 5.37. This could be achieved with 4x 1B Schwegler Nest Boxes with a 26mm entrance hole, which are suitable for small passerines.
- 5.38. Created and retained habitats on site will be designed and managed to minimise the attraction of large or flocking bird species whilst still providing benefit to other bird species and wildlife. See the BHMP for full details.

6 HABITAT CREATION & ENHANCEMENT

- 6.1. Some of the existing trees within or on the boundary of the site will be retained and protected in line with the ACD Tree Protection Plan (PRI22688-03).
- 6.2. The following habitats will be created within the Approved Development Site:
- Amenity grassland.
 - Wildflower grassland.
 - Introduced shrub planting.
 - Native shrub planting.
 - Native hedgerow.
 - Tree planting.
 - Buildings and hardstanding.
- 6.3. This section details the measures taken to create new ecologically valuable habitats to enhance the biodiversity value of the Approved Development Site.
- 6.4. Detailed soft landscaping plans must limit provision of fruit/berry-bearing tree/hedgerow species and contain columnar/fastigate trees (growing erect and parallel and non-canopy forming).
- 6.5. The approved soft landscaping plans provide details and locations of planting. These are provided within **Appendix 2**. In addition, the Habitat Enhancement Plan is included within **Appendix 3**, which clarifies the locations of habitat types and enhancements.

Habitat Creation

Grassland

- 6.6. The development will include amenity grassland areas around the building comprising good quality shade tolerant amenity grass turves laid on prepared ground in line with good horticultural practices.
- 6.7. There will also be a strip to the north of the Approved Development Site of wildflower grass to receive grass seed mix Heritage Woodland and Shaded Areas (130JC4110-PRO) at a sowing rate of 5g/m² on prepared ground in line with good horticultural practices. As supplied from John Chambers Wildflowers or similar. This will be an ecological area running alongside the Grand Union Canal.

6.8. The Proposed ecological area will be created through removal of bramble *Rubus fruticosus* agg., common nettle *Urtica dioica* and other pernicious weeds. Light cultivation of existing soil to be undertaken by hand in order to prevent impact on existing retained trees. The area to then be seeded with native grass and wildflower mix.

Shrub planting

6.9. There will be several areas of shrub planting within the Approved Development Site.

6.10. Decorative planting mixes of ornamental species will be around the parking area and building, species will include:

- *Aucuba japonica* 'Variegata' 20%.
- *Cornus alba* 20%.
- *Osmanthus heterophyllus* 'Variegata' 20%.
- *Photinia fraseri* 'Robusta' 20%.
- *Skimmia japonica* 'Rubella' 20%.

6.11. Flowering planting mixes of ornamental species will be around the proposed play area, species will include:

- *Ceanothus thyrsiflorus repens* 10%.
- *Hebe* 'White Gem' 20%.
- *Lavandula angustifolia* 'Twickel Purple' 20%.
- *Miscanthus sinensis* 'Zebrinus' 15%.
- *Phalaris arundinacea picta* 15%.
- *Rosmarinus officinalis* 20%.

6.12. There will be a canalside planting mix of native species, this will include:

- *Corylus avellana* 15%.
- *Crataegus monogyna* 50%.
- *Salix cinerea* 15%.

- *Salix lanata* 15%.
- *Sambucus nigra* 5%

6.13. The shrub planting will provide suitable resources for invertebrates and small passerines.

Tree and hedgerow planting

6.14. There will be *Carpinus betulus* hedgerows around the play area and along the boundary of the northern part of the Approved Development Site.

6.15. There will also be fourteen new trees planted 2x *Alus glutinosa*, 3x *Betula nigra* and 1x *Acer forrestii*, 2x *Acer Campestre*, 3x *Carpinus betulus* 'Fastigiata', 3x *Betula utiis jacquemontii*.

6.16. The tree and hedgerow planting will provide suitable resources for invertebrates and small passerines.

Artificial wildlife habitats

6.17. Locations of artificial wildlife habitats are shown within **Appendix 3**.

Bat boxes

6.18. A total of four bat boxes will be installed on trees across the Approved Development Site to provide an increase in bat roosting opportunities. It is recommended the following boxes are installed:

- 2x Schwegler 2FR Bat Boxes (or a suitable alternative) will be installed within the fabric of the new building (if possible in terms of design and fire safety). Bat tubes will be installed on north facing elevations of the new buildings at a minimum height of 4m. Lighting will be directed away from bat tubes, out of the prevailing weather and out of the reach of domestic cats.
- 2x Schwegler 2F Bat Boxes (or a suitable alternative) to be installed on mature trees.

Bird boxes

6.19. Enhancements for nesting birds will be provided within the Approved Development Site through installing suitable bird nest boxes.

- 4x 1B Schwegler Nest Boxes with a 26mm entrance hole will be incorporated into the development with 2x located on retained trees and 2x on the new building. Nest boxes should not be placed in direct sun or southern facing

locations. Potential flight paths to and from the boxes should be free of obstructions.

Log piles

6.20. Two log piles will be added to the ecological area. Where possible, log and brash piles will be created using timber produced as a result of any tree pruning/removal works. Log piles should measure approximately 1m x 1m x 2m (height x width x length) and should be created by stacking logs of various sizes in sheltered spots. Only non-diseased wood will be used.

7 MANAGEMENT MEASURES

7.1. To ensure the success of the landscape and ecological design in perpetuity, the programme of maintenance and management within this report will aim to:

- Ensure retained features are protected and managed in a way that ensures that their value is maintained.
- Create new habitats of ecological value and ensure delivery of net biodiversity gain through appropriate management.
- Create and maintain ecological corridors for commuting wildlife across the completed development to ensure connectivity of habitats is maintained.
- Establish a flexible management and maintenance regime, able to respond to changing needs or objectives.
- Ensure the integrity of protected and notable species populations and that legal requirements in relation to protected species are met.

Management prescriptions

General management

7.2. The following general management measures will be followed throughout the Approved Development Site:

- Small loose objects of litter (e.g. plastic bottles, food packets etc.) should be removed regularly.
- Fly-tipping is strictly prohibited and if any fly-tipping occurs, it must be safely removed and reported to London Borough of Hillingdon Council.
- Should planting be found to be in poor health, professional help will be sought and appropriate remedial/replacement measures taken.
- If invasive plant species are discovered, these must be removed using a species appropriate method.
- Herbicide and pesticide use will be avoided, except where required for removal of invasive species.

Amenity grassland

- 7.3. Grass shall be cut during the growing season (generally April to October) using a sharp cutter to leave about 30-35mm of growth. Arisings will be removed from the Approved Development Site. Generally, grass will be cut at intervals of 10-14 days, however, it is recommended that mowing is relaxed for a period of 4-8 weeks between April and June to encourage flowering to benefit invertebrates.

Wildflower grassland

- 7.4. To successfully establish the grassland, it is essential that ground preparation and management is appropriate. To prepare a seed bed, weeds should be removed through repeated cultivation. The area should then be ploughed or dug to bury the surface vegetation, harrowed or raked to produce a medium tilth, and rolled to produce a firm surface. Under no circumstances are herbicides to be used adjacent to retained habitats or near ditches or watercourses.
- 7.5. Grass and wildflower seed is best sown in the autumn or spring but can be sown at other times of the year if there is sufficient warmth and moisture. The seed must be surface sown either by machine or hand.
- 7.6. During establishment the wildflower grassland to be mowed to a height of 50-80mm three times per year with arisings left in place for several days to allow seed drop. Following this, arisings should be collected and removed. Once established, cutting will be carried out once in March/April and then late summer, ideally September following flowering. Once mowing has been undertaken, arisings will be left in place for several days to allow seed drop to take place, before arisings are removed. Managing the wildflower in this way will ensure the diversity of the grassland is maintained.

Shrub planting

- 7.7. Watering operations are to be undertaken as many times as necessary to ensure the continued thriving of all planting materials. If the water supply is, or is likely to be, restricted by emergency legislation, submit proposals for an alternative suitable source of water. Obtain instructions before proceeding.
- 7.8. Ideally, all shrub trimming and pruning should be scheduled outside the bird nesting season, which is widely considered to be between March and August.
- 7.9. Ongoing maintenance for shrubs will primarily involve litter removal, weeding, trimming, removal of dead plants and replanting as needed.

Hedgerow and tree planting

- 7.10. The retained trees will be retained and will be protected during construction through their inclusion within Biodiversity Protection Zones (BPZs). The BPZs, as a minimum, would extend as far as their root protection areas (RPAs) and be protected with Root Protection Fencing (RPF) such as Heras fencing, or similar. They will also be subject to minimal management in order to benefit wildlife that uses this habitat.
- 7.11. New trees are best planted during their dormant stage, typically between November and February to minimise losses, although heavy frosts are to be avoided. Pit planting is recommended. New specimens are to be provided with supporting stakes and guards, which are to be firmed into the ground securely.
- 7.12. All newly planted trees will be watered weekly for the first year following planting. Watering will take place during the summer season (May to September) and will be required unless rain fell for at least four of the previous seven days. Trees will be watered using 2 litres of water each.
- 7.13. Trees will be regularly inspected to ensure the following:
- Trees and stakes are wind-firmed and ties are in good condition.
 - No trees show signs of external damage (e.g. damage by mammals, vandalism by people).
 - There is no compaction of the soil around the trees.
 - That grilles, grids, guards or other protective furniture is required and that these are not causing damage to the tree.
- 7.14. All non-biodegradable stakes and ties shall be removed as soon as the developing root system is strong enough to support the tree, usually after two full growing seasons. Stakes and ties will be disposed of at a suitable licenced site.
- 7.15. Unless specific nutritional deficiencies are identified, no fertiliser shall be applied to newly planted trees in the first season. If visual inspection points to nutrient deficiency, further investigation of causes will be necessary. Remedial action may include addition fertiliser application, pH testing and/or assessment of organic content and levels of compaction.
- 7.16. Post-planting management and maintenance of trees shall be in accordance with BS8545:2014 section 11 Trees: from nursery to independence in the landscape recommendations.

- 7.17. A formal assessment of young tree health and development will be undertaken annually. This assessment will include foliar appearance, leaf size and leaf canopy density, extension growth and incremental girth development. Trees will also be assessed continually throughout the year on an ad hoc basis.
- 7.18. Formative tree pruning is to be undertaken until a permanent structurally sound scaffold system of branches typical of the species and appropriate to the site circumstances is produced. Minor pruning of dead or damaged wood will be carried out annually.
- 7.19. If the young trees are not thriving or are in poor condition, then growing conditions should be amended as necessary. If the specimen does not recover the tree will be replaced in the next available planting season. No plant substitutions are to be made without the prior written agreement of the London Borough of Hillingdon Council.
- 7.20. New hedgerow planting should ideally take place during the autumn or spring. Bare-root stock can be planted between the end of October and the end of March. Generally, it is best to plant early in the season, before January, to allow the plants more time to establish a network of feeder roots before the onset of spring. Never plant during freezing weather or if the ground is waterlogged. Ideally plant on a still, moist day, to minimise root drying and stress to the plants.
- 7.21. During the first three years of the new hedgerow planting, plants should be cut annually to ensure the development of bushy growth low down in the hedgerow. Dead plants should also be replaced in autumn, over the first few years.
- 7.22. After the first three years, it is optimal to cut the new hedgerow planting on a two or (preferably) a three-year cycle ideally in January or February and outside of the nesting bird season.

Artificial Wildlife Habitats

- 7.23. The bat and bird boxes, are specifically designed not to require regular maintenance and can be left in perpetuity. All boxes will be subject to an external visual check monthly to assess the box for any damage. Damaged or missing boxes will be repaired/replaced as necessary. Bat boxes must only be disturbed by a Natural England Class 2 Bat Licence holder as bats and their roosts are protected under wildlife legislation.
- 7.24. An important component to the artificial boxes will be managing the expectations of residents and other users of the development site, including dealing with any fears, questions, or unauthorised interference. It is recommended that prospective buyers of these properties are made aware of the legal protection afforded to bats and birds, and their obligations as owners.

- 7.25. It is recommended that local wildlife trusts/bat groups are approached and given the opportunity to undertake monitoring of bat and bird boxes with volunteers from the local community. This approach will help to encourage community engagement with the wildlife within the Approved Development Site and to foster a sense of responsibility.
- 7.26. The log/brash piles will also be subject to monthly checks to ensure these are still in place and have not been vandalised/damaged. It is recommended that the log piles are topped up regularly using materials from site maintenance (e.g. logs, brash). If there is an excess of these materials new log piles can be created within sheltered habitats in the Approved Development Site. Only non-diseased wood will be used.

8 MONITORING AND FEEDBACK

- 8.1. On completion of the construction phase, the Approved Development Site will be inspected by a suitably qualified person to confirm the development has adhered to the Ecological Enhancement Scheme. Where discrepancies are identified, these are to be reported. The discrepancies will be corrected under the supervision of the ecologist where required. Discrepancies can include missing bird and bat boxes etc.
- 8.2. Following this, the Approved Development Site will be monitored every three years by a suitably experienced person, and management regimes amended as required to meet the management aims and objectives.
- 8.3. This report will be reviewed after five years by an ecologist and will be amended as necessary. Following this, the Approved Development Site will continue to be monitored by an ecologist every three years and adjusted as considered necessary. Relevant data from the surveys will be sent to the following organisations by the ecologist where necessary:
- London Borough of Hillingdon Council.
 - Local Records Centre.
 - Relevant national recording scheme.
 - ACD Environmental Ltd (if required).

9 SCHEDULE OF WORKS

9.1. The work schedule for monitoring, maintenance and management activities are set out within **Table 3**. The works schedule below may be subject to changes in timings subject to the construction phase schedule. In the instance that any changes in timings are required, the Developer and/or the appointed Management Company is to contact an ecologist at ACD Environmental Ltd to confirm agreement to any amendments.

9.2. The colour coding within **Table 3** is as follows:

	Optimal months
	Sub-optimal months (may be acceptable if appropriate mitigation/supervision undertaken)
	Unsuitable months

9.3. Where ECoW presence is required the relevant species/species group consideration is demonstrated as follows:

	Nesting birds
	Roosting bats

Table 3: Work schedule for management, maintenance and monitoring schedules.

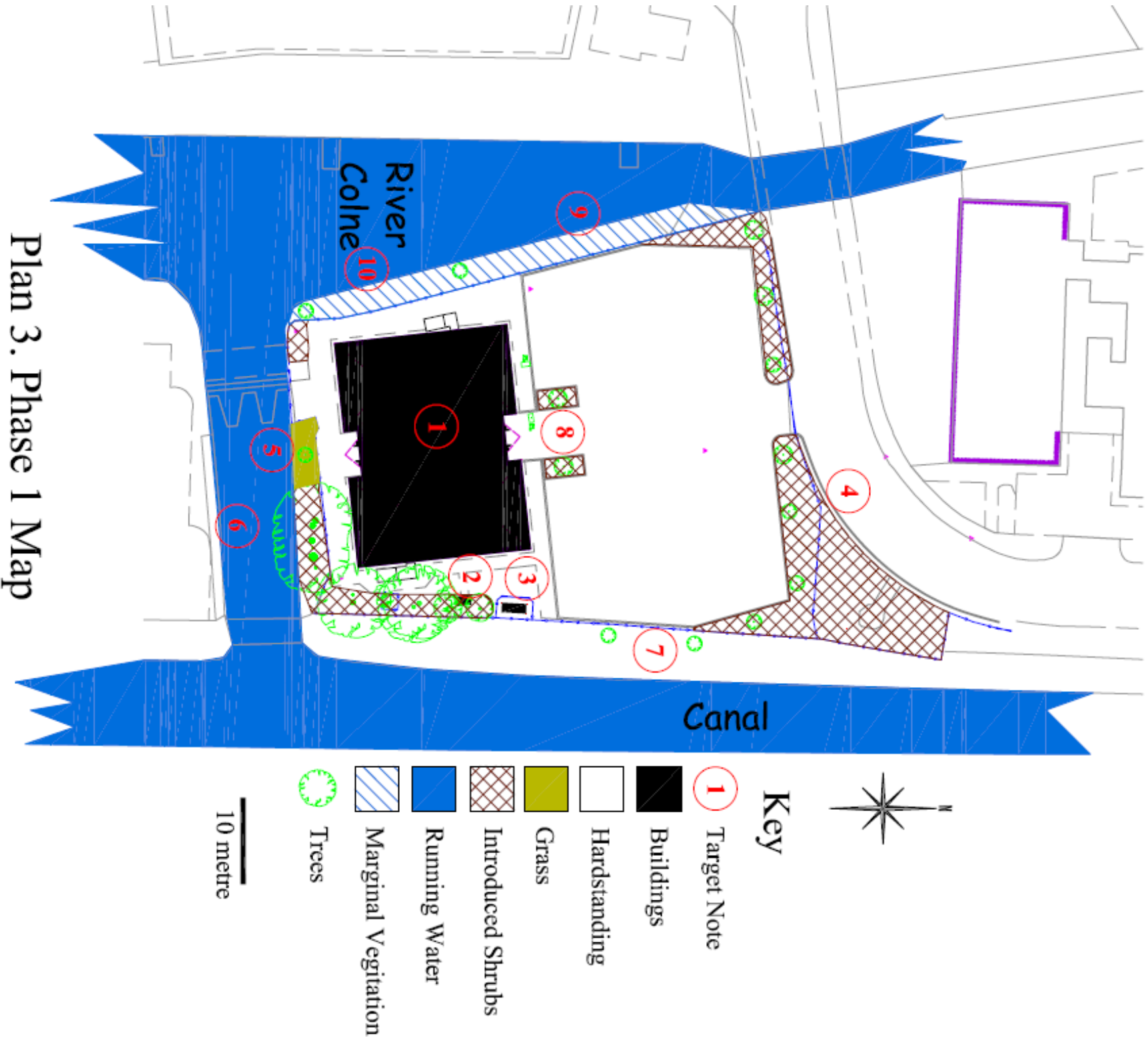
Action		J	F	M	A	M	J	J	A	S	O	N	D
PRE-CONSTRUCTION													
Precautionary method of works for demolition of building for bats.													
Clearance of habitat suitable for nesting birds including buildings or boundary vegetation, checked by an ecologist if during nesting bird season.													
THROUGHOUT CONSTRUCTION PHASE													
Checks to be carried out each day to include a check of any exposed excavations/pipes to ensure no animals have become trapped overnight, and a check of any mounds for potential mammal burrows.													
Checks to be carried out at the end of each working day to include ensuring the site is clean and tidy, all chemicals/materials are safely stored, any excavations are covered, pipes are capped, and all lighting (except security lighting) has been switched off.													
Weekly check of all protective fencing and signage to ensure this is still in place and functioning.													
POST COMPLETION - YEAR 1													
	Post completion survey to be undertaken by an ecologist. Results used to feedback into EES as required and to rectify any issues.												
POST COMPLETION - YEAR 1 ONWARDS													
Weekly-Monthly	Regular removal of litter and check for invasive species. Ensure planting is maturing as expected and weed removal.												
	Cutting of amenity grassland.												

	Weekly watering of new planting (May - September).												
	Monthly visual inspection of artificial habitats and enhancement features for any signs of damage. Remedial action/replacement undertaken as necessary.												
Annual	Three cuts per year to 50-80cm for wildflower for first year and then two cuts annually (ideally March and September).												
2-3 years	Monitoring surveys undertaken by an ecologist every three years. Results used to feedback into EES as required and to rectify any issues.												
5 years	Site visit by an ecologist and five-year review of EES undertaken. Updated and monitoring continued.												
	Five-year check of bat boxes undertaken by Level 2 licenced bat ecologist.												

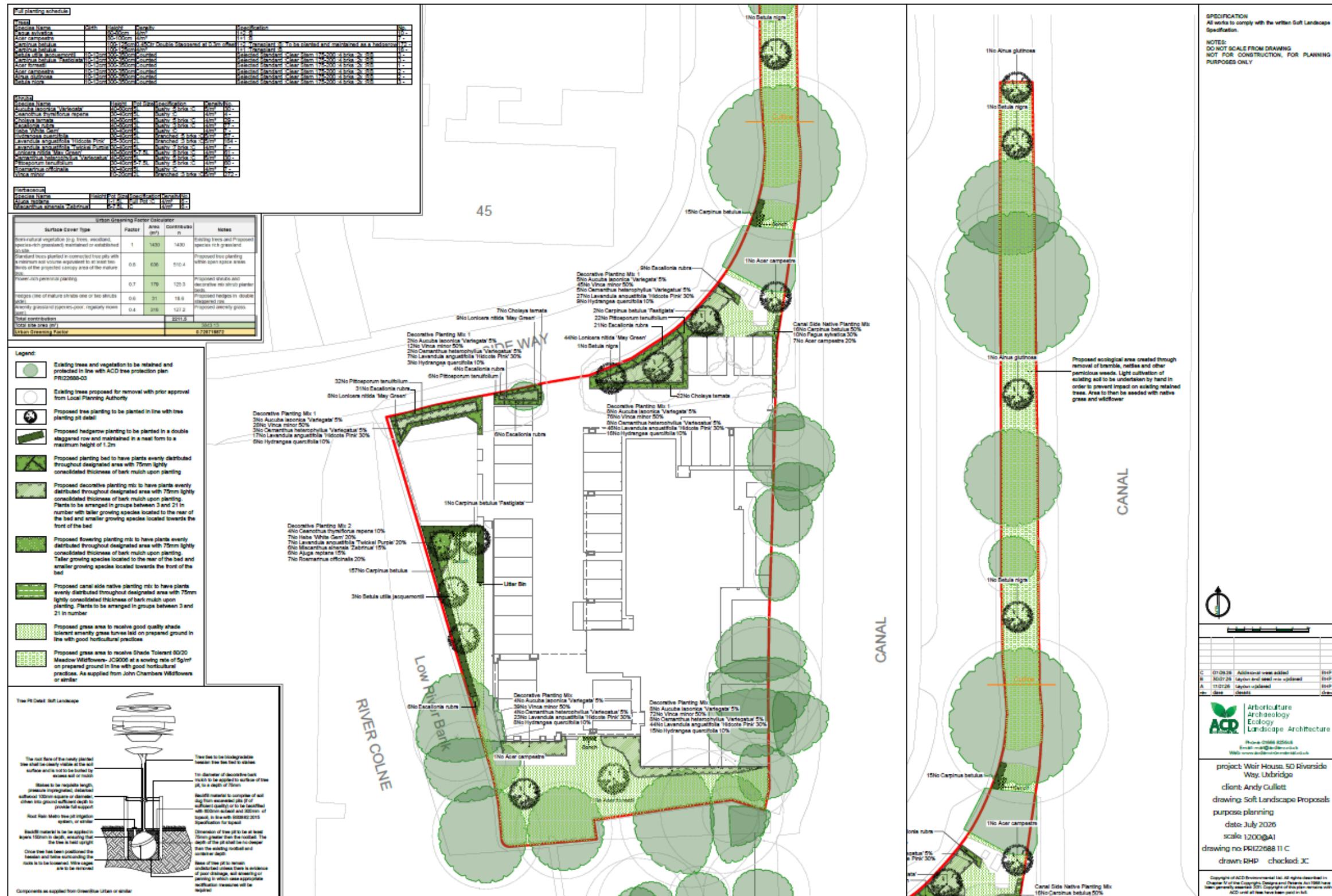
10 CONCLUSIONS

- 10.1. This Ecological Enhancement Scheme has been produced to fulfil **Condition 18** of the planning consent for the Approved Development Site (ref: 43495/APP/2020/888).
- 10.2. The Developer and Site Manager will be responsible for ensuring that the habitats are created, as described within this report and detailed within the soft landscape plans. Once the construction phase is complete, the maintenance and management of the habitats on the Approved Development Site will be the responsibility of a private Management Company appointed by the Developer.
- 10.3. This report sets out the ongoing maintenance, management and monitoring programme for the enhancements to be undertaken at the Approved Development Site post-completion.

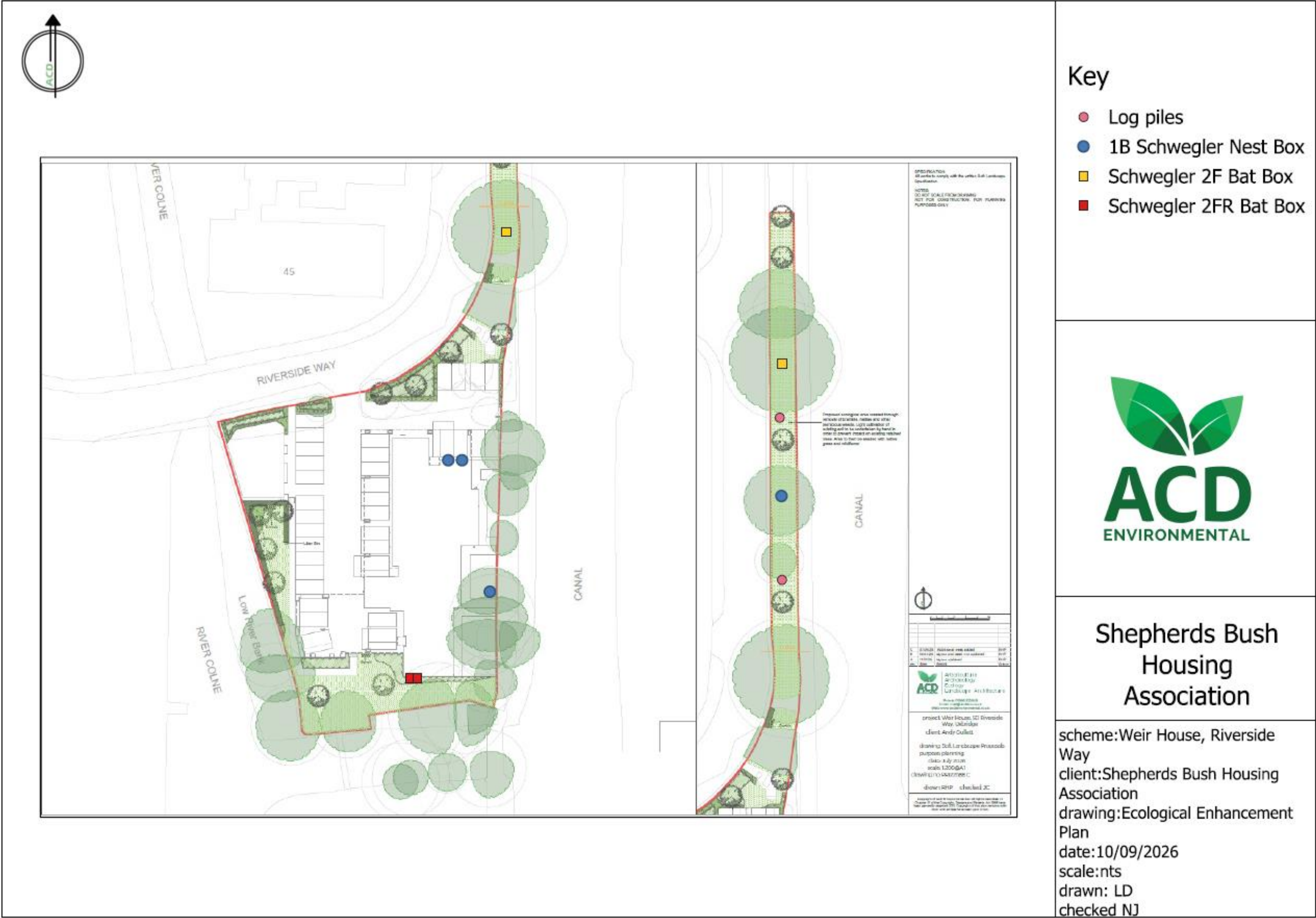
APPENDIX 1: PHASE 1 HABITAT MAP



APPENDIX 2: SOFT LANDSCAPE PLANS



APPENDIX 3: ECOLOGICAL ENHANCEMENT PLAN



Arboriculture
Archaeology
Ecology
Landscape Architecture

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