OAK APPLES OAKLANDS LANE CROWTHORNE (6 UNIT SCHEME)

LANDSCAPE AND ECOLOGICAL MANAGEMENT PLAN (LEMP)

PALATINE HOMES

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QUALITY ASSURANCE

1.1. 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).

1.2. 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:	Palatine Homes
Site/job:	Oak Apples, Oaklands Lane, Crowthorne (6 unit scheme)
Author:	Ryan Yeates
Technical review:	Lily Gilbert

CONTENTS

1 INTRODUCTION

1.1. ACD Environmental Ltd was instructed by Palatine Homes in November 2022 to produce a Landscape and Ecological Management Plan (LEMP) for a parcel of land at Oak Apples, Oaklands Lane, Crowthorne, (OS Grid Reference: SU 83725 65165). This land is hereafter referred to as 'the Application Site'.

1.2. Full planning consent for a 6-unit scheme was granted by Wokingham Borough Council on 18th August 2023 (planning ref: **230283**).

1.3. This consent includes the following at Condition 21:

"21. On-site biodiversity mitigation and enhancement measures - No development or other operations shall take place except in complete accordance with the measure set out in sections 5, 6 and 7 of the Landscape and Ecological Management Plan (LEMP) (ACD Environmental, 23/01/23) and sections 5, 6 and 7 of the Construction Environmental Management Plan: Ecology (CEMP) (ACD Environmental, 23/01/23) unless otherwise agreed in writing by the local planning authority."

1.4. This original LEMP from 23rd January 2023 has been revised to accompany a variation to condition discharge application.

1.5. This LEMP provides ongoing management and maintenance prescriptions to ensure that the ecological mitigation and enhancements proposed lead to the calculated net gain of 11.24% in habitat units, 100% in hedgerow units and 0% in river units as per the Biodiversity Metric 3.1 calculations (outline consent was granted before the Statutory Biodiversity Metric)[1].

1.6. This LEMP focuses on ongoing management, maintenance and monitoring of retained, enhanced and created habitats. For details on lost habitats, and on measures undertaken during the construction phase to protect habitats and wildlife, please refer to the CEMP: Ecology[2].

1.7. This LEMP must be read in conjunction with the Ecology Note[3], Soft Landscape Plan[4] and the Habitat Creation Plan. The Soft Landscape Plan is provided within **Appendix 2** and the Habitat Creation Plan is provided within **Appendix 3**.

Competence

1.8. The original report has been written by Ryan Yeates. Ryan is an Ecologist and has been involved in

[1] ACD Environmental. (2023). *Oak Apples, Oaklands Lane, Crowthorne: Biodiversity Metric 3.1*.
[2] ACD Environmental. (2023) *Oak Apples, Oaklands Lane, Crowthorne (4 unit scheme) CEMP:Ecology.*
[3] ACD Environmental (2023). *Land at Oak Apples, Oaklands Farm, Crowthorne. Ecology Note.*
[4] ACD Environmental (2023). *Soft Landscape Proposals.*

a wide range of surveys including Extended Phase 1 Habitat Surveys and Phase 2 surveys for protected species; and reports including Preliminary Ecological Appraisals (PEAs) and Ecological Impact Assessments (EcIAs). Ryan holds Natural England Class Licences for bats (level 1), hazel dormouse *Muscardinus avellanarius* and great crested newt *Triturus cristatus* and is an Associate member of the Chartered Institute of Ecology and Environmental Management (ACIEEM).

1.9. A Technical Review of this report has been undertaken in line with ACD Environmental Ltd's Quality Assurance procedures. The Technical Review was originally undertaken by Lily Gilbert, Principal Ecologist at ACD Environmental Ltd. Lily has over 9 years' experience working for commercial consultancy. Lily has significant experience of EcIA and protected species surveys. Lily is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and holds class licences for barn owl *Tyto alba*, bats (level 2) hazel dormouse and great crested newt.

2 AIMS AND OBJECTIVES

Aims

2.1. The aims of this LEMP 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 (**Section 5.0, Appendix 2, 3, 5**).
- Provide details on management and maintenance of retained and created habitats (**Section 6.0**).
- Provide details on monitoring and review (**Section 6.0**).
- Provide details of a schedule of works for implementation and subsequent management, maintenance and monitoring (**Section 7.0**).
- Provide conclusions to the points raised (**Section 8.0**).

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 net 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 that is 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 Application Site comprises approximately 0.66ha of land. The Ordnance Survey Grid Reference for the approximate centre of the Application Site is SU 83725 65165.

3.2. The Application Site is located in the north of Crowthorne. Oaklands Lane borders the Application Site to the north, with residential development present to the east, south and west. The location of the Application Site is shown within **Image 1**.

Image 1: Approximate boundary of the Application Site (red line).[5]

3.3. The Application Site has been subject to a range of ecological surveys, which have been undertaken by a combination of AA Environmental Ltd and Tyler Grange. The surveys carried out at the Application Site are summarised within **Table 1** below.

Table 1: Details of field surveys.

Survey	Survey date
Extended Phase 1 Habitat Survey	20th July 2018 and 9th March 2021
NVC Survey	15th June 2020
Bat Emergence/re-entry Surveys	2018 (exact dates not available); 8th June 2021, 6th July 2021, 12th August 2021
Reptile Surveys	2018 (exact dates not available)

[5] Google Earth (2022).

Biodiversity Metric

3.4. In addition, a Biodiversity Metric 3.1 was undertaken by ACD Environmental in January 2023. In line with published guidance, the pre-clearance baseline for the Application Site as of 2020 was used for the calculations **(Appendix 1)**. A full methodology of the baseline valuation can be found within the *Ecological Assessment Report*[6] produced by Tyler Grange.

3.5. The development considered to achieve a 11.24% (+0.29 units) net gain in habitats, a 100% (+1.23 units) net gain in hedgerows and a 0% net gain in rivers. Although a trading down of other neutral grassland and bramble scrub habitat still occurs, it is not considered to be a meaningful limitation. This is because the total number of units traded down (0.4) is considered negligible when taken into consideration with the significant net gain for habitats and hedgerows that the development will deliver.

3.6. Details of habitat retention, creation and enhancement measures can be found below in **Section 5**.

3.7. A summary of the results of the previous surveys is provided below for context. For further details, please refer to the Ecology Note and reports from AA Environmental Ltd[7] and Tyler Grange[8].

Habitats

3.8. It is important to note that vegetation clearance was undertaken within the Application Site in 2020 under an extant planning permission (planning ref: **L202420**). The vegetation removal comprised areas of low value young self-set woodland, semi-improved grassland and scrub, and was undertaken outside of the nesting bird season. A Phase 1 Habitat Map (pre-clearance) can be found at **Appendix 1**. No further vegetation removal was scheduled to be undertaken; however, aerial imagery (from February 2022) suggests the scrub, semi-improved grassland and ephemeral/short perennial recorded in the centre of the Application Site in 2021 has been cleared.

3.9. The Application Site is now dominated by broadleaved woodland and bare ground. A building is situated in the centre of the Application Site and was subjected to an act of arson in 2020 that largely destroyed the roof and interior of the building. A dry ditch is present along the northern boundary.

3.10. Isolated stands of Japanese knotweed *Fallopia japonica*, buddleia *Buddleja* sp., bamboo and cherry laurel *Prunus laurocerasus were* identified south of the building and within the broadleaved woodland. Japanese knotweed is listed on Schedule 9 of the Wildlife and Countryside Act 1981[9] as an invasive species and will require treatment and/or removal from a specialist contractor. Although

[6] Tyler Grange (2022). Oak Apples, Crowthorne. Ecological Assessment Report.
[7] AA Environmental Ltd (2018). *Oak Apples Crowthorne. Preliminary Ecological Appraisal.*
[8] Tyler Grange (2022). *Oak Apples, Crowthorne. Ecological Assessment Report.*
[9] Available at: https://www.legislation.gov.uk/ukpga/1981/69/schedule/9

buddleia, bamboo and cherry laurel are not listed on Schedule 9, they are considered invasive in the absence of management. Measures have been provided within the CEMP: Ecology.

3.11. The broadleaved woodland was considered to be of up to local importance. The building and dry ditch were considered to be of negligible ecological importance.

Fauna

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

Badger

3.13. The Application Site provides suitable habitat for foraging and commuting badger *Meles meles*; however, no evidence or setts have been found during the surveys.

3.14. Despite the lack of evidence, due regard must be given to the potential for badgers to be present within the Application Site given the suitable habitats present. Measures to protect badgers are outlined within the CEMP: Ecology.

Bats

3.15. During emergence/re-entry surveys undertaken in 2018 by AA Environmental Ltd, the building was determined to be a day roost of low numbers of soprano pipistrelle *Pipistrellus pygmaeus* and brown long-eared *Plecotus auritus* bats. Subsequently, the building was subject to an act of arson on 24th August 2020, largely destroying the interior and roof of the building.

3.16. Update emergence/re-entry surveys were undertaken between June-August 2021. No bats were observed to be roosting within the building and were considered likely absent.

3.17. Five trees within the woodland were identified as being of 'low suitability' to support roosting bats (T5, T11, T15, T51 and T52). T11 has since died and been removed. The remaining four trees are to be retained within the scheme. T51 and T52 are scheduled for deadwood removal during development.

3.18. Given the small extent of suitable habitats for commuting and foraging bats, activity surveys were not considered necessary.

3.19. Measures to protect bats from disturbance are included within the CEMP: Ecology.

3.20. In addition, a sensitive lighting scheme will be implemented to protect bats during the operational phase. Principles of the sensitive lighting scheme are outlined below and are in line with best practice guidance[10] [11].

3.21. Operational lighting mitigation options include:

- Luminaires will not be directed at sensitive habitats, boundary vegetation or onto bat and bird boxes and hedgehog highways. Where required, lights can be fitted with hoods, baffles or louvres to reduce back-spill.
- Only luminaires with an upward light ratio of 0% will be used, and low-level bollard lighting will be used where feasible to retain darkness above the luminaire.
- All external luminaires used on site will lack UV elements and will be warm-white coloured (ideally <2700 Kelvin) to reduce blue-light components.
- LED luminaries will be used due to their sharp cut-off, lower intensity, good colour retention and dimming capability.
- Where security lighting is installed this will be motion-activated.
- For street lighting, consider part night lighting and/or dimming.

Birds

3.22. The woodland within the Application Site provides foraging, roosting and nesting opportunities for birds. Due to the small extent of suitable habitats, it was considered unlikely that the Application Site supports significant assemblages of breeding or wintering birds. The Application Site was considered to have potential to support common and widespread species of nesting birds.

3.23. No further woodland clearance is proposed. However, precautionary measures of work with regards to nesting birds and building demolition and/or deadwood removal are outlined within the CEMP: Ecology.

Reptiles

3.24. Presence/absence surveys for reptiles were undertaken by AA Environmental Ltd in 2018. No reptiles were recorded and they were considered to be likely absent.

3.25. Update reptile surveys were not undertaken by Tyler Grange as it was considered the Application Site no longer contained suitable habitat for common reptile species.

[10] LP and BCT. (2018). *Bats and Artificial Lighting in the UK. Bats and the Built Environment.* ILP. Warwickshire
[11] Voigt, C *et al.* (2018). *Guidelines for consideration of bats in lighting projects.* EUROBATS Publication Series No. 8. UNEP/EUROBATS Secretariat, Bonn, Germany, 62 pp.

Other wildlife

3.26. The Application Site was not considered suitable to support hazel dormouse, otter *Lutra lutra*, water vole *Arvicola amphibius* or great crested newt. However, suitable habitat is present for foraging and nesting hedgehog *Erinaceus europaeus*. Precautionary methods of work to protect hedgehog from harm are provided in the CEMP: Ecology.

4 ROLES AND RESPONSIBILITIES

4.1. This report should be read in conjunction with other environmental reports for Oak Apples, Oaklands Lane, Crowthorne.

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 LEMP (including habitat creation) during site preparation and construction is the collective responsibility of the appointed Project Manager, and the Developer, Palatine Homes. This collective will ensure that all appointed contractors are aware of the ecological requirements of the Application Site and will distribute this LEMP 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 Application Site is managed in line with the aims and objectives of this LEMP for a minimum of 30 years. Management should continue in perpetuity.

5 HABITAT CREATION AND ENHANCEMENT

5.1. The following habitats will be retained within the Application Site:

- Ditches (0.05km).

5.2. The following habitats will be retained and enhanced:

- Other woodland; broadleaved (0.35ha).

5.3. The following habitats will be created:

- Developed land; sealed surface (0.13ha).
- Vegetated garden (0.12ha).
- Introduced shrub (0.01ha).
- Modified grassland (0.04ha).
- Urban trees (0.04ha).
- Hedgerows:
    - Native hedgerow (0.11km).
    - Native species-rich hedgerow (0.11km).

5.4. This section details the measures taken to create new ecologically valuable habitats and to enhance existing habitats in order to provide the predicted net gains of 11.24% (+0.29) in habitat units, 100% (+1.23) in hedgerow units and 0% in river units.

5.5. The Soft Landscape Plan at **Appendix 2** provides details and locations of planting. In addition, the Habitat Creation Plan, which has been used to inform the Biodiversity Metric calculations, is included within **Appendix 3**.

Habitat Enhancement

<u>Other woodland; broadleaved</u>

5.6. Areas of broadleaved woodland in the east of the Application Site and around the northern, southern and western boundaries are due to be retained and enhanced from poor condition to moderate condition.

5.7. Enhancement will be focused on the provision of mixed native understory planting comprising hawthorn *Crataegus monogyna* (25%), European spindle *Euonymus europaeus* (25%), European hornbeam *Carpinus betulus* (25%) and holly *Ilex aquifolium* (25%). This planting will be focused on open areas and areas of the woodland that are lacking an understory.

5.8. Deadwood within the woodland will be left *in situ* and formed into log piles to provide habitat for a variety of wildlife.

5.9. 750mm of thick mulch will be added to the soil around a retained oak tree to improve its growing condition **(Appendix 2)**. Litter will also be removed and the invasive plants, specifically Japanese knotweed, buddleia, bamboo and cherry laurel, will be removed during the construction phase as detailed within the CEMP: Ecology.

5.10. Details of enhancements have been shown within the Soft Landscape Plan **(Appendix 2)**, which have replicated the Woodland Management Plan[12] **(Appendix 4)** as far as possible.

Habitat Creation

Modified grassland

5.11. Small sections of the Application Site will be planted with good quality amenity turf and laid in line with good horticultural practices. New turves are to be laid on, or adjacent to, plot frontages.

Hedgerows

5.12. As part of the proposals, new hedgerow planting will be undertaken throughout the Application Site. Two types of hedgerow will be planted: native hedgerow and species-rich native hedgerow.

5.13. Planting of hedgerows will lead to a net increase in hedgerows. This will enhance the Application Site by increasing species and habitat diversity; and will provide new habitats for nesting birds, invertebrates and small mammals including hedgehogs.

Native hedgerow

5.14. Stretches of native hedgerow will be predominantly planted around the residential plot frontages, with some planting carried out between the street and eastern woodland area. These hedgerows will solely comprise wild privet *Ligustrum vulgare*.

Species-rich native hedgerow

5.15. In addition, species-rich native hedgerow planting will take place within the Application Site. This will be carried out predominantly along the eastern boundary of the woodland area, with some additional

[12] ACD Environmental (2023). *Woodland Management Plan.*

planting carried out around the entrance to the Application Site.

5.16. Species composition will be as follows: hawthorn (20%), field maple *Acer campestre* (20%), European spindle (20%), holly (10%), elder *Sambucus nigra* (10%), blackthorn *Prunus spinosa* (10%) and wild privet (10%).

Introduced shrub

5.17. New shrub planting will be incorporated into the Application Site. Planting will take place within front gardens. To increase the value of this habitat for wildlife, shrub and herbaceous species of known value to pollinators have been selected and included within the development[13]. Species lists are provided within the Soft Landscape Plan.

Urban trees

5.18. A total of nine new trees are included within the Application Site. Species comprising field maple, silver birch *Betula pendula* 'Dalecarlica', gingko *Gingko biloba*, tulip tree *Liriodendron tulipifera* and Serbian spruce *Picea omorika*.

5.19. The inclusion of these trees will provide additional habitats and food sources for birds, small mammals and invertebrates.

Artificial wildlife habitats

5.20. Locations of artificial wildlife habitats are shown within **Appendix 5**.

Bat boxes

5.21. A total of 6x 2F Schwegler bat boxes will be fixed to existing trees to provide a net increase in bat roosting opportunities. It is recommended the following boxes are installed:

- 6 x 2F Schwegler Bat Box will be fixed to existing trees. These boxes should be installed at a southern or western elevation at a minimum height of 4m within close proximity to suitable habitat. Boxes should have clear access into and out of the box. Light-spill onto bat boxes must be avoided.

Bird boxes

5.22. A total of eight bird boxes will be fixed to walls and existing trees on site to provide a net increase in bird nesting opportunities. It is recommended the following boxes are installed:

[13] Royal Horticultural Society. (2022). RHS Plants for Pollinators [online]. Available at: https://www.rhs.org.uk/science/conservation-biodiversity/wildlife/plants-for-pollinators

- 4x Schwegler 1SP Sparrow Terraces to be installed to the walls, underneath the eaves of new buildings at northern or eastern elevation at a minimum height of 4m, out of the reach of cats. Sparrow terraces should be installed within close proximity of one another, due to the communal roosting nature of sparrows. Light-spill onto boxes must be avoided.

- 4x Vivara Pro Barcelona Woodstone Open Nest bird boxes will be fixed to existing trees on site at northern or eastern elevations at a minimum height of 4m, out of the reach of cats. Light-spill onto boxes must be avoided.

Hedgehog 'Highways'

5.23. The development will contain a number of new gardens that provide habitats for hedgehogs, which are a UK BAP priority species[14]. To ensure hedgehogs are able to utilise the new garden habitats, closed board fencing will include a small hole (13cm x 13cm) cut into the base of the panel to facilitate hedgehog movement by creating a 'hedgehog highway'. This size gap is too small for most pets to fit through. To encourage residents not to block holes, signs can be placed above the gaps to illustrate their purpose. At least 3x locations of hedgehog holes are required, which will form a hedgehog highway.

[14] Biodiversity Reporting and Information Group. (2007). *Report on the Species and Habitat Review*. Available at: https://hub.jncc.gov.uk/assets/bdd8ad64-c247-4b69-ab33-19c2e0d63736 [Accessed 1st May 2020]

6 MANAGEMENT, MAINTENANCE AND MONITORING

Management prescriptions

General management

6.1. The following general management measures will be followed throughout the Application Site:

- Small loose objects of litter (e.g. plastic bottles, food packets etc.) should be removed regularly.
- Fly-tipping should be safely removed and reported to Wokingham Borough 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.

Other woodland; broadleaved

6.2. Following planting, understory planting management and maintenance will be undertaken in accordance with BS8545:2014 section 11 'Trees: from nursery to independence'. Once established, the understory will be managed to form a mosaic of differing densities within the woodland. For example, dense swathes of understory will be formed to provide a refuge for wildlife, whilst selective thinning of other areas will allow light and warmth to reach the woodland floor. This will be conducted on a long rotation of approximately 5-7 years, with no more than 20% of understory to be thinned at any given time. This management will create a biodiverse woodland with a varied structure and will provide opportunities for a variety of wildlife.

6.3. All trees and planting within the woodland will be subject to visual checks undertaken annually and after major storm events. These checks should be staggered so that the trees are inspected at different times in the year. If any tree displays signs of decline, distress or damage then a competent person should be instructed to undertake a tree inspection where necessary.

6.4. Where safety considerations allow, trees will be managed by non-intervention as a principle. If large branches or entire trees need to be removed or felled, tree works are to be undertaken by an Arboricultural Association approved contractor to British Standard BS3998:2010 'Tree Work

Recommendations'. The trees in question must be surveyed by an ecologist prior to works to ensure there is no roosting bat potential and to ascertain whether further ecologist supervision will be necessary.

6.5. Tree works must be undertaken with due regard for nesting birds. Ideally works should take place between September to February to avoid the bird nesting season; however, where this is not feasible works between March to August can proceed on the condition that a nesting bird check is undertaken by an ecologist within 24 hours prior to the works starting. If the ecologist discovers an active nest during this check, works must stop, and an appropriate buffer zone (as determined by the ecologist, usually 5m) must be established around the nest. The buffer must be left in place until the ecologist confirms that the young have fledged and the nest is no longer in use.

6.6. During any tree works, operations must be carried out in a sensitive manner, taking care not to unnecessarily damage the tree(s) being worked on, or any neighbouring vegetation.

6.7. Felled wood should be left for a minimum of 24 hours prior to cutting up sections to allow any fauna to disperse. Any arisings created from tree work undertaken, including leaf material, branches, wood chip and logs will be used to create log piles within the woodland. Log piles will be subject to annual external checks to assess for any damage or loss of structure. If any remedial works are required, then materials from on-site maintenance operations will be utilised in the first instance.

6.8. It is important to note that some of the retained and enhanced woodland is situated within residential gardens. In this case, all enhancement works must take place prior to occupation and subsequent management and maintenance works will be secured via a covenant to ensure the woodland remains at its target condition in perpetuity. The eastern block of woodland, which is outside the residential gardens, will not be accessible to the general public and will be managed by a private management company.

Modified grassland

6.9. During establishment, modified grassland within public areas will be mown regularly during the growing season (generally March to October) to a height of 40-60mm to keep annual weed growth in check.

6.10. Once established (usually after one to two years), amenity grassland will be mown regularly to 25-40mm in height.

Hedgerows

Native hedgerows and native species-rich hedgerows

6.11. All hedgerow trimming and pruning operations must be timed to avoid the breeding bird season,

which runs from March-August inclusive. The optimal time to cut hedgerows is January as this allows birds and small mammals time to utilise fruits throughout the winter months.

6.12. Native hedgerows will be trimmed annually to the specified height and profile using suitable mechanical cutters.

6.13. Native species-rich hedgerows are to be cut on a rotational basis whereby one side of the hedgerow is cut alternatively each year (i.e. year 1 one side, year 2 hedgerow top, year 3 remaining side). Native species-rich hedgerows will be maintained at a minimum height of 2m and minimum width of 1.5m to maximise opportunities for biodiversity. At this size or larger, a hedgerow will provide shelter for nesting birds and foraging habitat for insects, bats and birds.

6.14. All hedgerows will be checked annually for signs of damage, deterioration or distress. If hedgerows are in poor condition, growing conditions will be amended as necessary. If the hedgerow does not recover it will be replaced in the next available planting season.

Introduced shrub

6.15. Where introduced shrub planting is located within public areas, shrubs will be maintained in a balanced shape and will be annually pruned to achieve this. Any growth that will obscure windows, signs or sight-lines will be removed.

6.16. All shrubs will be checked annually for signs of damage, deterioration or distress. If shrubs are in poor condition, growing conditions will be amended as necessary. If the shrubs do not recover, they will be replaced in the next available planting season.

Urban trees

6.17. Post-planting management and maintenance of trees will be undertaken in accordance with BS8545:2014 section 11 ‘Trees: from nursery to independence’.

6.18. 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.

6.19. 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.

6.20. 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.

6.21. All stakes and ties will be removed as soon as the developing root system is strong enough to support the tree, usually after five full growing seasons.

Artificial wildlife habitats

6.22. Once installed, the artificial wildlife habitats will require minimum maintenance.

6.23. Bat and bird boxes and hedgehog highways will be subject to an annual external visual check to assess for any damage. Damaged or missing features will be repaired and/or 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.

6.24. Bat boxes should be internally checked at least every five years by a Natural England Level 2 bat licenced ecologist. Where possible, bird boxes should be emptied of old nesting material annually during the autumn/winter months (September - January). Disinfectant must not be used in any bat or bird boxes.

6.25. It is recommended that Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust/Berkshire and South Buckinghamshire Bat Group 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 Application Site and to foster a sense of responsibility.

Monitoring and feedback into LEMP

6.26. On completion of the construction phase, the Application Site will be inspected by an ecologist to confirm the development has adhered to the LEMP. Where discrepancies are identified, these are to be reported to Palatine Homes and Wokingham Borough Council. The discrepancies will be corrected under the supervision of the ecologist where required. Discrepancies can include missing bird and bat boxes, hedgerow or tree failure etc.

6.27. Following this, the Application Site will be monitored every three years by an ecologist, and management regimes amended as required to meet the management aims and objectives.

6.28. The LEMP will be reviewed after five years by an ecologist and will be amended as necessary. Following this, the Application 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 where necessary:

- Wokingham Borough Council.

- Local Records Centre.
- Relevant national recording scheme.
- ACD Environmental Ltd (if required).

7 SCHEDULE OF WORKS

7.1. The work schedule for monitoring, maintenance and management activities are set out within **Table 2**. 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.

7.2. The colour coding within **Table 2** is as follows:

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

Table 2: Work schedule for management, maintenance and monitoring schedules.

Action		J	F	M	A	M	J	J	A	S	O	N	D
POST COMPLETION - YEAR 1													
Year 1	**Year 1 monitoring survey undertaken by an ecologist. Results used to feedback into LEMP as required and to rectify any issues.**												
	Regular removal of litter and check for invasive species.												
	Amenity grassland areas mown regularly to 40-60mm.												
	Annual visual inspection of artificial habitats for any signs of damage. Remedial action/replacement undertaken as necessary.												
	Annual check of habitats to include woodland, hedgerows, shrub and trees to check for signs of damage, deterioration or distress.												
	Annual pruning of hedgerow, introduced shrub, and developing trees as required.												
POST COMPLETION - YEAR 2 ONWARDS													
Weekly-Monthly	Regular removal of litter and check for invasive species.												
	Amenity grassland mown regularly to 25-40mm in height.												
Annual	Annual check of habitats to include woodland, hedgerows, scrub and trees to check for signs of damage, deterioration or distress.												
	Annual visual inspection of artificial habitats for any signs of damage. Remedial action/replacement undertaken as necessary.												
	Annual pruning of native hedgerow, introduced shrub and developing trees as required.												
	Suitably experienced person to remove bird nesting material from nests annually.												
2-3 years	Monitoring surveys undertaken by an ecologist every three years. Results used to feedback into LEMP as required and to rectify any issues.												
	Prune native species-rich hedgerows in January once every three years; or on a rotation of one side/top per year.												

5 years	**Five-year review of LEMP undertaken. Results provided to Wokingham Borough Council, Local Records Centre and Developer as required. LEMP updated and monitoring continued in line with LEMP.**	
	Five-year check of bat boxes undertaken by level 2 licenced bat ecologist.	
	Selective thinning of small sections of understory planting undertaken on a long rotation of 5-7 years. No more than 20% of understory to be pruned at one time.	

8 CONCLUSIONS

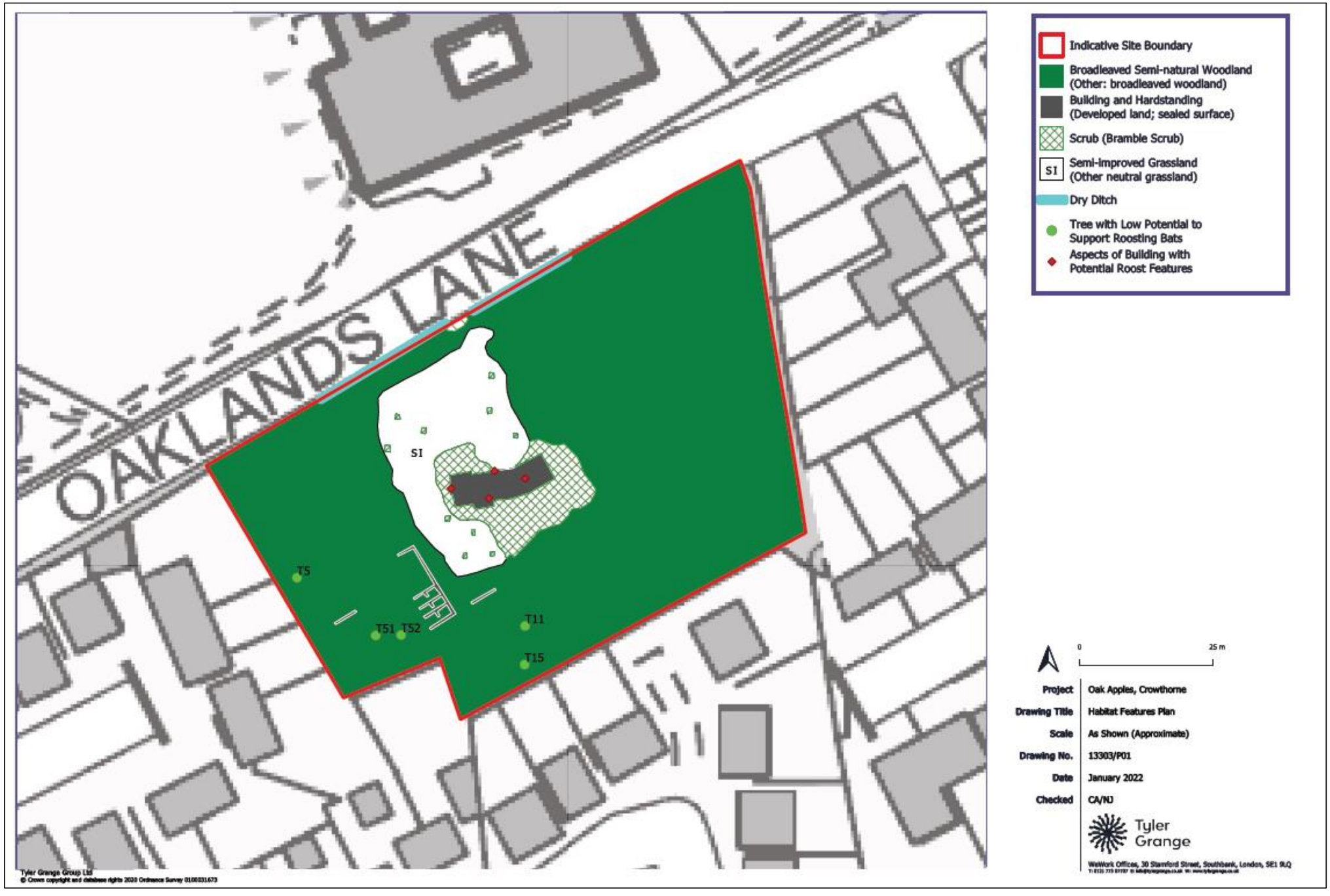
8.1. This LEMP has been produced to accompany a full planning consent for a 6-unit scheme was granted by Wokingham Borough Council on 18th August 2023 (planning ref: **230283**)

8.2. 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 Plan. Once the construction phase is complete, the maintenance and management of the habitats on the Application Site will be the responsibility of a private management company appointed by the Developer and the residents.

8.3. This LEMP sets out the ongoing maintenance, management and monitoring programme to be undertaken at the Application Site post-completion.

8.4. With implementation of the measures outlined within this report, it is considered that the ecologically valuable habitats within the Application Site will be maintained in a favourable condition in perpetuity and that the calculated net gain of 11.24% in habitat units, 100% in hedgerow units and 0% in river units will be delivered.

APPENDIX 1: PRE-CLEARANCE PHASE 1 HABITAT MAP[15]



[15] Tyler Grange (2022). Drawing 13303/PO2

APPENDIX 2: SOFT LANDSCAPE PLAN

APPENDIX 3: HABITAT CREATION PLAN

APPENDIX 4: WOODLAND MANAGEMENT PLAN

APPENDIX 5: ECOLOGICAL ENHANCEMENT PLAN

IMAGE ABOVE OF VIVARO BIRD BOX TO BE INSTALLED ONTO EXISTING TREES, OR SIMILAR

IMAGE ABOVE OF HEDGHOG HIGHWAY, 13X13CM GAP IN FENCE WITH ACCOMPANYING SIGN TO PREVENT ACCIDENTAL BLOCKAGE

OAKLANDS LANE

PLOT 6
FFL: 72.800

PLOT 5
FFL: 73.000

PLOT 4
FFL: 73.150

PLOT 3
FFL: 73.150

PLOT 1
FFL: 72.700

PLOT 2
FFL: 72.700

Legend

4no. Proposed Schwegler 1SP Sparrow Terrace bird boxes, to be fixed to wall, under eaves of building. Where two boxes are located on same facade, locate these close to each other

4no. Proposed Vivaro Pro Barcelona Woodstone Open fixed bird boxes, to be fixed to existing trees as shown. To be fixed at least 4m above ground and facing in a north or east direction, with clear access in and out of box

6no. Proposed 2F Schwegler General Purpose bat boxes, to be fixed to existing trees as shown. To be fixed at least 4m above ground and facing in a south or west direction, with clear access in and out of box

3no. Locations of hedgehog holes as required - Gaps in fencing to be 13x13cm to form hedgehog highway.

Other existing gaps are shown on drawing

Bird bat boxes available from nhbs or similar

IMAGE BELOW OF SCHWEGLER 2F BAT BOX TO BE INSTALLED ONTO EXISTING TREES, OR SIMILAR

IMAGE BELOW OF 1SP SPARROW TERRACE TO BE INSTALLED ONTO HOUSES, OR SIMILAR

Rev	Date	Details	Drawn
A	28.03.24	Client comments	JC
B	25.09.24	Ecologist adjustments	JC

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client: Pelatine Homes
drawing: Ecological Enhancement Plan
date: December 2022
scale: 1:200@A1
drawing no: PR/24098-66B
drawn: RY checked: JC

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