

BALMORAL AVENUE PHASE 2 BANBURY OXON

LANDSCAPE AND ECOLOGICAL MANAGEMENT PLAN (LEMP)



Ecology
Archaeology
Arboriculture
Landscape Architecture



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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:	Orbit Homes
Site/job:	Balmoral Avenue Phase 2, Banbury, Oxon
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APPENDIX 1: SOFT LANDSCAPE PLANS

APPENDIX 2: ENHANCMENT PLAN

1 INTRODUCTION

- 1.1 ACD Environmental Ltd was instructed by Orbit Homes to produce a Landscape and Ecological Management Plan (LEMP) for a parcel of land at Balmoral Avenue, Banbury, Oxon. This land is hereafter referred to as the 'Approved Development Site'.
- 1.2 Outline planning consent for the construction of 49 dwellings, associated roads and infrastructure, drainage and landscaping was granted by Cherwell District Council.
- 1.3 This Landscape and Ecological Management Plan (LEMP) has been written to address **Conditions 19** and **20** of the planning consent which state the following:

“Condition 19

No development shall take place, including any demolition and any works of site clearance, and as part of any reserved matters application for layout and landscaping, until a method statement and scheme for enhancing biodiversity such that an overall net gain for biodiversity is achieved, has been submitted to and approved in writing by the Local Planning Authority. The scheme shall include details of enhancement features and habitats both within green spaces and integrated within the built environment, shall be in general compliance with Ecological Assessment report reference: edp7133_r002a shall include a biodiversity impact assessment metric, and shall include a timetable for provision of the biodiversity enhancement measures. The biodiversity enhancement measures shall be carried out and shall be retained in accordance with the approved scheme.

Reason: To ensure the development provides a net gain in biodiversity in accordance with Policy ESD10 of the Cherwell Local Plan 2011-2031 Part 1 and Government guidance contained within the National Planning Policy Framework.

Condition 20

No development shall take place until a Landscape and Ecology Management Plan (LEMP) has been submitted to and approved in writing by the Local Planning Authority. Development shall be carried out in accordance with the approved LEMP.

Reason: To protect habitats of importance to biodiversity conservation from any loss or damage in accordance with Policy ESD10 of the Cherwell Local Plan 2011-2031 Part 1 and Government guidance contained within the National Planning Policy Framework.”

The LEMP addresses the requirements of Conditions 19 and 20 as outlined above and provides details on the ecological baseline of the Approved Development Site. The LEMP must be read in

conjunction with the Soft Landscape Plans¹; and the Soft Landscape Specification², the Biodiversity Net Gain Technical Note³ and the Ecological Appraisal⁴. The soft landscape plans are provided within **Appendix 1**, and the enhancement plan provided within **Appendix 2**.

Competence

- 1.4 This report has been written by Lisa Durrant, Senior Ecologist at ACD Environmental Ltd who has over 11 years' experience and has been involved in a wide range of ecological projects including extended Phase 1 Habitat Surveys, Phase 2 surveys for protected species and European Protected Species (EPS) licence applications. Lisa is a full member of CIEEM (MCIEEM) and holds Natural England Class licences to survey for bats (level 2), barn owl *Tyto alba*, dormouse *Muscardinus avellanarius* and great crested newt *Triturus cristatus*.
- 1.5 A Technical Review of this report has been undertaken in line with ACD Environmental Ltd's Quality Assurance procedures. The Technical Review was undertaken by Jennifer Lackie, ACD Environmental Ltd. Hayley is a Senior Ecologist with over 5 years' experience working in commercial ecological consultancy. Hayley has significant experience of habitat and protected species survey and producing associated reports including EclA's. Hayley holds Natural England Class Licences for great crested newts *Triturus cristatus*, barn owl *Tyto alba* and bats (Level 2), and is a FISC Level 4 botanist with UK habitat classification training. Hayley is accredited to carry out River Condition Assessments.

¹ ACD Environmental (2023). *Balmoral Avenue Phase 2. Soft Landscape Plans ORB24157-11A Sheet 1-4*. ACD Environmental, Malmesbury.

² ACD Environmental (2023). *Balmoral Avenue Phase 2. Soft Landscape Specification ORB24157 Spec Rev A*. ACD Environmental, Malmesbury.

³ ACD Environmental (2023). *Biodiversity Net Gain Technical Note. ORB24157 Net Gain Report*. ACD Environmental, Malmesbury.

⁴ EDP (2021) *Ecological Appraisal Report Reference edp7133_r002a*

2 ROLES AND RESPONSIBILITIES

- 2.1 This report must be read in conjunction with the soft landscape plans¹ and the Soft Landscape Specification² which provide details on habitat creation and design.
- 2.2 The overall responsibility for the design of the scheme under The Construction (Design and Management) Regulations 2015 is with the Principal Designer.
- 2.3 Once the construction phase is complete and the initial inspection confirms the development has adhered to the EDS, the maintenance and management of habitats on the Approved Development Site will continue in line with this LEMP. Maintenance, management 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

- 2.4 The minimal length of the agreement with the management company will be five years. During the first five-year period, annual checks by a suitably qualified ecologist should be carried out to confirm that the development has adhered to this report. This will allow for any remedial action to be taken as appropriate.
- 2.5 Following the first five years, management practices should be reviewed and a report produced after this, which will summarise the success of the habitat creation and ecological enhancements incorporated into the scheme. It will also set out whether any of the management measures within the ongoing LEMP need to be adjusted.
- 2.6 A new contract shall then be drawn up as necessary, to ensure the Approved Development Site is managed in line with the aims and objectives of this LEMP in perpetuity.

3 BASELINE ECOLOGICAL CONDITIONS

- 3.1 The Approved Development Site is located in the district of Cherwell, Oxfordshire off of Balmoral Avenue. Grid Reference for the approximate centre of the Approved Development Site is SP 437 400.
- 3.2 The Approved Development Site encompasses approximately 2.95 hectares (ha) of predominantly cereal crops, blackthorn *Prunus spinosa* scrub, semi natural woodland and ruderal vegetation. The Approved Development Site is in a semi-rural area and is bounded by fields on all sides. To the east will be 'phase 1' development for up to 49 homes, public open space and landscaping.
- 3.3 The location of the Approved Development Site is shown within **Image 1**.

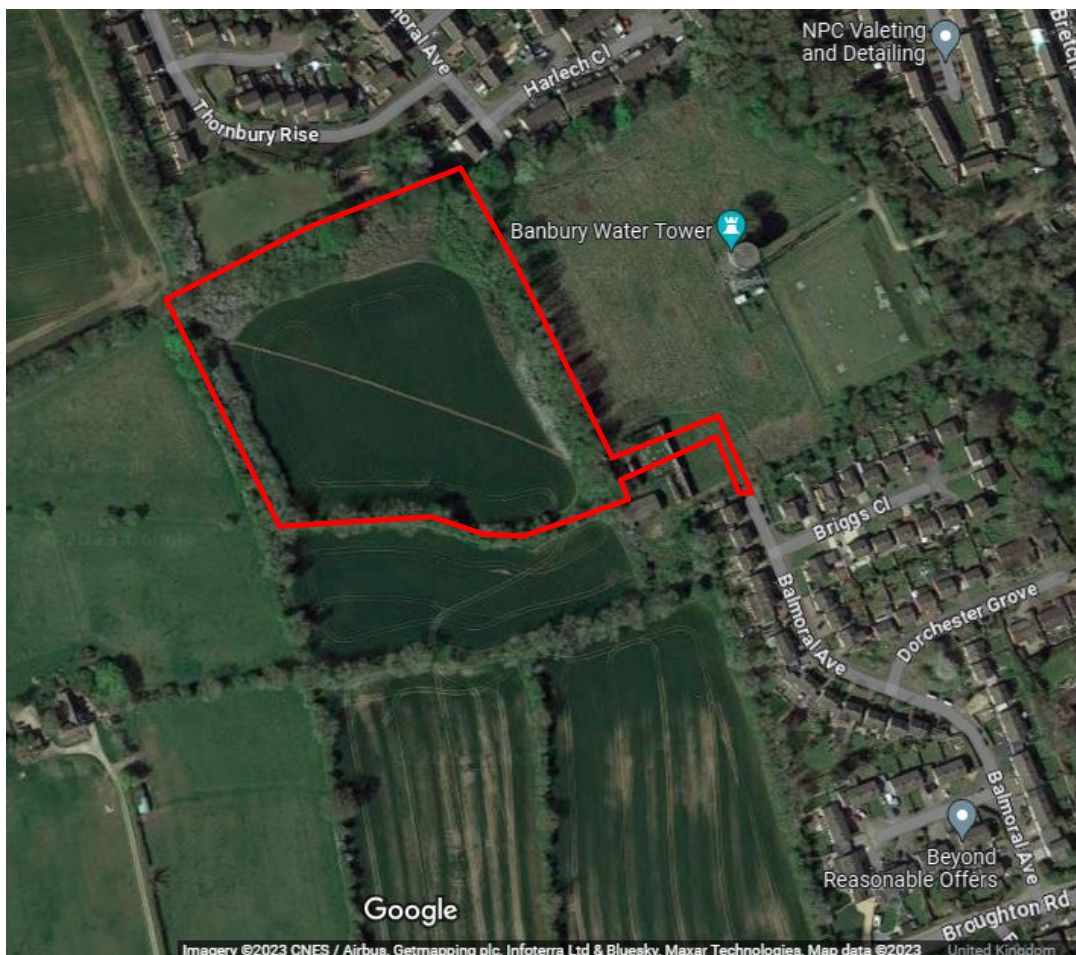


Image 1: Approximate boundary of the Approved Development Site (red line)

- 3.4 The Approved Development Site has been subject to a range of ecological surveys, which were undertaken in 2021 by EDP. The surveys carried out at the Approved Development Site are summarised within **Table 1** below.

Table 1: Details of field surveys.

Survey	Survey date
Phase 1 Habitat survey and roost inspections (buildings)	2019
Extended Phase 1 Habitat Survey	May 2021
Hedgerow Survey	May 2021
Breeding bird study	May 2021
Bat roosting – Trees	May 2021
Bat Activity Surveys	June – September 2021
Hazel dormouse	June – November 2021
Great crested newt	May and June 2021
Badger	May 2021

Habitats

- 3.5 The majority of the Approved Development Site comprises of an arable field. This was assessed as having negligible value due to intensive cultivation and absence of any notable margins.
- 3.6 There is a small amount of tall ruderal in the southeastern corner of the field. This was assessed as being of site level value due to low distinctiveness and small size of habitat.
- 3.7 There is dense continuous blackthorn scrub predominantly around the north east and western areas of the field. This was assessed as being of Site level value.
- 3.8 There is an area of broadleaved semi natural woodland along the eastern edge of the field. This was assessed as being local level value.
- 3.9 There were some derelict buildings just to the south east where the access road will go, they are no longer present and are therefore described as hard standing with negligible value.

Fauna

- 3.10 These habitats also support a number of protected/notable species that will also require consideration in this LEMP. A summary of the protected/notable species is provided below:

Breeding Birds

- 3.11 During the breeding bird survey, 18 species were recorded in total. Of these, 14 (78%) were common and widespread (Green list or no status) species. Of the remainder, two (11%) were Red list species and two (11%) Amber list, namely song thrush (*Turdus philomelos*), house sparrow (*Passer domesticus*), bullfinch (*Pyrrhula pyrrhula*) and dunnock (*Prunella modularis*). All of these species are relatively common and widespread in garden and parkland settings, despite suffering national declines. With the exception of house sparrows, which typically nest in buildings, the other conservation concern species are likely to breed within the scrub/wooded habitats within the

Approved Development Site. This is considered to be of Site-Local level value;

Bats

3.12 No evidence of roosting bats were found during the emergence surveys on the buildings or tree inspections. Activity surveys indicated moderate levels of bat foraging/commuting activity across the site with typical and widespread species, including common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), myotis sp. and noctule bats (*Nyctalus noctule*). However, a number of additional rare species were recorded including Nathusius pipistrelle (*Pipistrellus nathusii*), serotine (*Eptesicus serotinus*), long eared species as well as Annex II species barbastelle (*Barbastella barbastellus*) and lesser horseshoe (*Rhinolophus hipposideros*). Based on the survey findings, the bat population supported by the Site is considered to be of Local level ecological importance.



Other wildlife

3.14 With respect to other wildlife, the Approved Development Site is considered to have limited potential to support significant/notable populations, given the absence of historic survey findings and extent of habitats. As a precaution, and in line with best practice, consideration is also given to hedgehog (*Erinaceus europaeus*), reptiles, amphibians and invertebrates, particularly with respect to future enhancements.

4 PROTECTION OF KEY FEATURES

4.1 Existing retained habitats e.g woodland, mature trees and hedgerows 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) as defined within any future detailed Arboricultural Method Statement (AMS).

Breeding birds

4.2 All wild birds, their nests and eggs are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

- Intentionally kill, injure or take any wild bird;
- Take, damage or destroy the nest of any wild bird while it is in use or being built;
- Take, damage or destroy the egg of any wild bird; or
- To have in one's possession or control any wild bird (dead or alive) or egg or any part of a wild bird or egg.

4.3 Any above-ground vegetation clearance that includes removal or pruning of any potential bird nesting habitat, such as trees and/or scrub, should be undertaken during the months of September to February (inclusive), in order to avoid nest destruction and/or abandonment during the bird breeding season.

4.4 Should habitats suitable for breeding birds be affected by clearance works within the breeding season (March to August inclusive) they should be checked for the presence of active bird nests by a suitably experienced ecologist, immediately prior to the commencement of clearance works. If an active bird's nest is discovered, then works within a minimum of 5m of the nest should cease until it has been confirmed by a suitably experienced ecologist that the nest is no longer active. The exact dimensions of the buffer zone will be determined by the ecologist and depend on the level of disturbance, bird species present and life stage of young.

4.5 Areas of grassland within the Approved Development Site, including field margins which are within the construction footprint, should be maintained at a height of less than 150mm (in line with other species-specific recommendations) through frequent mowing, or as bare ground through frequent disturbance, to deter ground nesting birds and other wildlife from entering the construction site. All arisings from any vegetation clearance should be taken away from the works area.

4.6 If works are scheduled to begin within the breeding bird season, a precautionary walkover survey of the construction footprint should be undertaken by a suitably qualified ecologist to check that the

area is free from ground nesting birds. If an active bird's nest is discovered, then works within a minimum of 5m of the nest should cease until it has been confirmed by a suitably experienced ecologist that the nest is no longer active. The exact dimensions of the buffer zone will be determined by the ecologist and will depend on the level of disturbance, bird species present and life stage of young.

Bats

- 4.7 All species of British bat are listed as European Protected Species (EPS) on Schedule 2 of the Conservation Regulations (Annex IV (a) to the Habitats Directive). This affords bats and their roosts strict protection under the Conservation of Habitats and Species Regulations 2017 (as amended). Additional protection for bats is also afforded under the Wildlife and Countryside Act 1981 (as amended) and a subset of the British bat assemblage are listed as UK Priority Species.
- 4.8 No confirmed roosts were found during the 2018/2019 and 2021 detailed bat surveys and the mature trees and woodland located within the Approved Development Site's boundary will all be retained as part of the proposals. Subject to the protection of these trees during construction and implementation of a sensitive lighting scheme to avoid illumination above existing levels, potential impacts on any roosting bats within these trees will be avoided. In the event that, through changes to landscape design, it later transpires that any of these trees require felling or pruning, these should be subject to further detailed survey (such as an update roost assessment and, if necessary, aerial inspection) prior to any such works commencing.

Badgers

- 4.9 Badgers *Meles meles* and their setts are protected under the Protection of Badgers Act 1992. On a precautionary basis and to prevent any harm/disturbance to badgers and other mammals in the surrounding area, the following measures are to be implemented:
- An updated survey of affected habitats will be carried out no less than two weeks prior to works commencing.
 - Exclusion of badgers under a Natural England badger licence, should any 'active' setts be discovered which require removal/disturbance during works; and
 - The covering of any excavations at night or insertion of 'escape ramps' such that any badgers or other mammals that inadvertently enter the construction zone cannot become trapped.

5 MAINTENANCE, MANAGEMENT AND MONITORING

Aims and objectives

- 5.1 To ensure the success of the landscape and ecological design in perpetuity, the programme of maintenance and management within the LEMP will aim to:
- Ensure retained features are managed in a way that ensures their value is maintained and/or enhanced.
 - Ensure delivery of targeted net biodiversity gain through appropriate management of newly created or enhanced habitats.
 - 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

- 5.2 This section of the LEMP should be read in conjunction with the detailed planting schedules and soft landscaping scheme drawings provided at Appendix 1. A description of how each feature will be retained and enhanced is provided below.

Woodland/Mature Trees

- 5.3 The existing woodland 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) as defined within any future detailed Arboricultural Method Statement (AMS). They will also be subject to minimal management in order to benefit wildlife that uses this habitat.
- 5.4 All pruning, felling and coppicing measures must be timed to avoid the bird nesting season (generally February to August inclusive). Ideally, pruning, felling and or coppicing should take place in January to ensure berries and nuts are available for wildlife throughout the winter. Similarly, any ground works (e.g. planting, root removal) should be timed to avoid the winter (November to February inclusive) when wildlife may be hibernating within root systems. Where tree felling is required, trees will be checked prior to removal by an ecologist to check for the presence of roosting bats. Where required,

pruning works will be carried out in accordance with the British Standard for Tree Work guidance (BS3998:2010) by recognised tree contracting companies from the Arboricultural Association's list of registered contractors. Proof of experience and insurance providers will be required. All work shall be undertaken at the appropriate time and with the consent of the Management Company and Local Planning Authority if necessary.

- 5.5 Leaf litter will be left in place to naturally decompose. Similarly, fallen deadwood will be left in place. If deadwood poses a Health and Safety risk where it has fallen, this will be moved to a safer location within the woodland.
- 5.6 Thinning operations are to be undertaken as required in order to establish a diversity in the woodland stock. This is to be undertaken in winter and will be undertaken on a rotational basis.
- 5.7 To enhance the existing woodland, coppicing of suitable woodland mix shrub species (e.g. hazel, elder) will be undertaken within the woodland on a suitable long rotation. This would comprise coppicing small sections (no more than 10% of total woodland area) of the woodland mix shrub each year/every few years in sequence. Once coppiced, species such as hazel should be allowed to re-grow undisturbed for approximately 5-7 years before harvesting. Coppicing will allow a mixed understorey/woodland edge structure to develop within the woodland and will create clearings that are favoured by species such as bluebell *Hyacinthoides non-scripta*, primrose *Primula vulgaris* and wood anemone *Anemone nemorosa*.
- 5.8 All trees on site should be visually checked annually. 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 carry out a tree inspection where necessary. A comprehensive inspection of all the trees on site should be carried out by a competent person at a maximum interval of every three years.

Shrub planting

- 5.9 There will be proposed reed mix swales in damper wetland areas, species will include 29No *Glyceria maxima* 15%, 19No *Phalaris arundinacea* 10%, 58No *Phragmites australis* 30%, 29No *Sparganium emersum* 15%, 58No *Typha latifolia* 30% and a rain garden in the centre of the site.
- 5.10 A diverse mix of flowering and wildlife friendly shrubs will also be planted across the site. Where shrub planting is located within public areas, shrubs will be annually pruned. Any growth that will obscure windows, signs or sight-lines will be removed.
- 5.11 If plants are not thriving or are in poor condition, then growing conditions should be amended as necessary. If the specimen does not recover, the plant will be replaced in the next available planting season.

Grassland

Wildflower grassland – Cricklade North Meadow Mixture EM11 and Pond Edge Mixture EP1

- 5.12 Once established the grassland will be managed using a spring cut once bulbs have flowered to 50-60mm to control the first flush of growth. This will be followed by a period of no cutting through to July/August to give grasses and wildflowers an opportunity to flower. After flowering in July or August the grassland meadow can be cut to 4cm. Where possible, arisings should be left in place for 1-7 days to shed seeds before being removed from the site. Following this cut, the re-growth will be managed by cutting to 50-60mm through to late autumn/winter as required.
- 5.13 Due regard must be given to the potential colonisation of the meadow grassland by reptiles. To account for this, a 2m margin of uncut grass will be left at the edge of meadow grassland areas where this meets hedgerows/woodland areas. In addition, cutting should only take place on dry days when temperatures are above 10°C to ensure any reptiles which may utilise the established grassland are able to move out of harms way. Cutting should start from the centre of any area and move outwards to allow reptiles to disperse into surrounding edge habitats.
- 5.14 If persistent weeds are noted within the grassland, these should be controlled by hand weeding using the appropriate tools. The weeds should be removed from the Approved Development Site following removal.

Amenity grassland

- 5.15 Once established (usually after one to two years) amenity grassland will be mown regularly to 25-40mm in height and arisings removed from the Approved Development Site. To encourage flowering this can be left uncut in either May or June with cutting recommencing after this through to the end of the growing season.
- 5.16 If persistent weeds are noted within the grassland, these should be controlled by hand weeding using the appropriate tools. The weeds should be removed from the site following removal.

New tree planting

- 5.17 A total of 66 newly planted trees and shrub mix are proposed within the developed with the majority being native and a few non-native species. Species include Silver Birch *Betula pendula*, Sweet Cherry *Prunus avium*, Field maple *Acer campestre*, Common hazel *Corylus avellana*, Hawthorn *Crataegus monogyna*, Holly *Ilex aquifolium*. A full species list can be found in the landscape plan planting schedule (Appendix 1).
- 5.18 All newly planted trees will be watered weekly for the first year following planting. Watering will take

place during the summer months (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.

5.19 Trees will be regularly inspected to ensure the following:

- Trees and stakes are wind-firmed and ties are in good condition;
- No specimens show signs of external damage (e.g. damage by mammals, vandalism by people);
- There is no compaction of the soil around the trees; and
- That grilles, grids, guards or other protective furniture is required and that these are not causing damage to the tree.

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

5.21 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. Wherever practicable the performance of young trees shall be assessed by testing leaf fluorescence and leaf chlorophyll content.

5.22 If the young plants are not thriving or are in poor condition, then growing conditions should be amended as necessary. If the specimen does not recover it will be replaced in the next available planting season.

5.23 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.

5.24 All trees on site 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. A comprehensive inspection of all the trees on site should be carried out by a competent person at a maximum interval of every three years.

5.25 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.

- 5.26 Tree works must be undertaken with due regard for nesting birds. Ideally works should take place between September to January to avoid the bird nesting season; however, where this is not feasible works between February 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.
- 5.27 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.
- 5.28 Removed wood should be left for a minimum of 24 hours prior to cutting into sections to disperse any fauna. Any arisings created from tree work undertaken, including leaf material, branches, wood chip and logs should be used to create log piles in discreet areas of the Approved Development Site.

Hedgerows

- 5.29 Plans include proposed native and decorative hedgerow planting.
- 5.30 Hedgerow maintenance operations will predominantly include litter removal, weeding, trimming, removal of dead plants and reinstatement of plant materials. Chemicals must not be used on the hedgerows.
- 5.31 All hedgerow trimming and pruning operations must be timed to avoid the bird nesting season. The optimal time to cut hedgerows is in January as this allows birds and small mammals to utilise fruits throughout the winter months.
- 5.32 Once established, native species-rich hedgerows will be cut on a rotational basis, whereby either the hedgerows are left uncut for three years with a cut in the fourth year; or whereby a side of the hedgerow is cut alternatively (i.e. year 1 one side, year 2 hedgerow top, year 3 remaining side). Managing the hedgerows in this way will ensure they are of continued value to a variety of wildlife.
- 5.33 Ornamental non-native hedgerows and native hedgerows will be trimmed to specified height and profile using suitable mechanical cutters.
- 5.34 Any gaps which appear in the hedgerows will be subject to replanting in the next available planting season. They must be replanted using the original species mix as per the planting schedule.

Off-site Habitat - Mixed scrub

- 5.35 There is an area proposed off-site, which has a cropland baseline. This area within the blue line boundary will be replaced with mixed scrub. The species proposed for this area will include hawthorn *Crataegus monogyna*, ivy *Hedra helix* and elder *Sambucus nigra*.
- 5.36 All new planting should ideally take place during the Autumn and in an irregular, wide-spaced pattern to ensure a natural appearance and to allow for natural infilling. During establishment it is recommended that timber and wire fencing is installed along the edges of the scrub belt to prevent pedestrian access and trampling.
- 5.37 Scrub will be cut as required to maintain structure and healthy growth. Cuts will be avoided when specimens are in fruit and will be undertaken to ensure habitats for protected species, such as hedgehogs and nesting birds, are always maintained.
- 5.38 Where scrub meets grassland, a scalloped edge should be maintained to provide a diversity of habitat niches suitable for use by invertebrate species and reptiles. Ruderal growth within this area should be encouraged by leaving a 1m margin of uncut grass where this meets scrub. However, if there is vigorous growth of undesirable species such as a common nettle then selective removal should take place.
- 5.39 Coppicing and some removal of small sections of scrub should be undertaken on a long rotation (e.g. every 5-7 years) to maintain this habitat as scrub. During management no more than 20% of scrub should be removed/coppiced at any one time. To maintain a balance of species, it may be necessary to selectively thin vigorous scrub species.
- 5.40 Scrub should only be cut back if it begins to significantly encroach on the surrounding habitats and cropland.
- 5.41 This new planting will provide protection, shelter and a source of food for a variety of wildlife including invertebrates, and small mammals.

Off-site - Attenuation Pond

- 5.42 Additionally, there will be an attenuation pond created in the off-site blue line area, south of the Application Site.
- 5.43 Management of SuDS for wildlife purposes needs to combine removal of accumulated sediments and pollutants, with minimal disturbance to wildlife habitats. In SuDS schemes that are relatively free from pollutants, the longer the scheme can be left undisturbed the better.
- 5.44 Native marginal and emergent species will be used in conjunction with submerged and floating plants

as appropriate to provide a range of attractive habitats for invertebrates, whilst also providing breeding opportunities for amphibians. Species to include are lesser pond sedge *Carex acutiformis*, soft rush *Juncus effuses*, purple loosestrife *Lythrum salicaria*, marsh marigold *Caltha palustris*, water forget-me-not *Myosotis scorpioides*, lesser spearwort *Ranunculus flammula*, water plantain *Alisma Plantago-aquatica* and water mint *Mentha aquatica*.

- 5.45 In SUDS schemes which are exposed to a relatively high pollutant burden, removal of sediments may help to improve water quality and increase the value of the pond as a habitat. Dredging of silt every 3-5 years may be beneficial, especially where it is possible to dredge out polluted sediments from deeper water areas, whilst leaving shallower wildlife-rich edges, with little accumulated sediment, intact. After 5 years, bankside trees and shrubs may have to be coppiced/pollarded, to avoid excessive shading along the shoreline. Aim to achieve 50% sunlight and 50% dappled shade.
- 5.46 The SuDS should support approximately a minimum of 60% open water, and up to 40% vegetation. There is no ideal amount of vegetation from a wildlife perspective, although more is usually better, provided some open water is always present, and excessive silt levels do not cause the SuDS basins to dry up completely in the summer. After initial establishment, SUDS schemes can be allowed to develop naturally, recognising that, unless the margins are occasionally managed, they are likely to become dominated by trees and shrubs.
- 5.47 The introduction of fish is to be strictly avoided and the area is to be managed sympathetically for wildlife.
- 5.48 Annual checks will be carried out per year for invasive species, overgrowth, species diversity, general plant health and any other issues.

Invasive species

- 5.49 No invasive species have been identified within the Approved Development Site, however, should invasive species be noted within the Approved Development Site at any time, a specialist contractor must be consulted immediately. The contractor will advise on the best methodology for removing the plant in line with Schedule 9 of the Wildlife and Countryside Act 1981⁵.

Artificial wildlife habitats

- 5.50 To further enhance the opportunities for wildlife, bird boxes will be installed within the woodland as well as integrated into the new buildings (Appendix 2). CDC recommends and seeks the equivalent of at least one bat or bird provision per dwelling to be integrated into the fabric of the building to ensure its retention for the lifetime of the development. Therefore, a total of 25 bird boxes have been

⁵ Wildlife and Countryside Act 1981, c.69. Available at: <https://www.legislation.gov.uk/ukpga/1981/69/schedule/9> (Accessed: 01 April 2020)

recommended as follows:

- Buildings - 5 x sparrow terraces, 5 x starling nest box and 5 x swift boxes (finish to match that of the building if integrated).
- Woodland - 5 x 32mm hole, 5 x open fronted;

5.51 Boxes will be mounted following manufacturer's specifications, out of direct sunlight on aspects of the building/tree that provide some cover from surrounding vegetation to offer shelter to birds but with a clear flight line to/from the entrance (uncluttered). Boxes should be positioned between 2m and 5m from the ground to deter predators.

5.52 A total of 24 bat boxes are recommended as follows;

- Woodland – 6 x Schwegler 2F, 6 x Schwegler 2FN;
- Buildings - 12 x integrated bat boxes/tiles (finish to match the building)

5.53 Boxes will be mounted following manufacturer's specifications, ideally orientated to face south with a clear flight line to/from the entrance (uncluttered). Boxes should be positioned between 3m and 5m from the ground to deter predators (Appendix 1).

5.54 Once installed the artificial ecological habitats will require minimum maintenance. Visual inspections are to be undertaken monthly.

5.55 Bat boxes and bird boxes will be subject to an external visual check monthly to assess the box for any damage. Damaged or missing bat and bird 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.

5.56 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.

5.57 Gardens and public open space have been designed to enable hedgehogs and other mammals, to move freely, by use of hedgerows to form boundaries (rather than fencing), or by providing holes in fences of a minimum of 120mm x 120mm between garden boundary fences.

5.58 Two hibernacula will be created: one within the woodland; one within the area of meadow grassland. The design of the hibernacula will broadly follow that provided in the Reptile Habitat Management

Handbook⁶ (Appendix 2).

Monitoring and feedback into LEMP

5.59 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 LEMP and soft landscape plans. Where discrepancies are identified, these are to be reported to Countryside Partnerships and Buckinghamshire 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.

5.60 Following this, the Approved Development Site will be managed in accordance with this LEMP and monitored every three years by a suitably experienced person. Management regimes within this LEMP will be amended as required to meet the management aims and objectives.

5.61 The LEMP will be reviewed after five years by a suitably qualified person and will be amended as necessary. Following this, the Approved Development Site will continue to be monitored by a suitably experienced person every three years and adjusted as considered necessary. Relevant data from the surveys will be sent to the following organisations where necessary:

- Cherwell District Council;
- Local Records Centre;
- Relevant national recording scheme; and
- ACD Environmental Ltd (if required).

⁶ https://groups.arguk.org/images/users/113/downloads/Reptile_Habitat_Management_Handbook.pdf
ACD Environmental

6 WORKS SCHEDULE

- 6.1 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 appointed management company is to contact an ecologist at ACD Environmental Ltd to confirm agreement to any amendments.
- 6.2 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 monitoring survey undertaken. Results used to feedback into LEMP as required and to rectify any issues.												
Weekly watering of new planting (May to September).												
Amenity grass cut every 10-14 days.												
Wildflower grassland spring cut then leave until after flowering in July or August. Can then be cut to 4cm.												
Regular check of new planting to ensure maturing as expected. Litter and weeds removed. Remedial measures undertaken as necessary.												
Annual check of trees to check for signs of damage, deterioration or distress.												
Annual formative pruning undertaken as required on tree and shrub planting (optimal timing may be species dependent).												
Monthly visual inspection of artificial habitats for any signs of damage. Remedial action/replacement undertaken as necessary.												
Annual check of pond and management activities such as plant replacement												
POST COMPLETION - YEAR 2 ONWARDS												
Monitoring surveys undertaken every three years. Results used to feedback into LEMP as required and to rectify any issues.												
Comprehensive inspection of tree health undertaken at a maximum interval of three years.												
Cut wildflower grassland areas in March/early April and late July/August (to no less than 4cm)												
Cut hedgerows back yearly (or as required), ideally in January.												
POST COMPLETION - YEAR 5 ONWARDS												
Rotational thinning operations of woodland.												
Five-year review of LEMP undertaken. LEMP updated and monitoring continued in line with LEMP.												

7 CONCLUSIONS

- 7.1 This LEMP has been produced to fulfil **Conditions 19 and 20** of the planning consent for the Approved Development Site.
- 7.2 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. This LEMP sets out the ongoing work schedule and monitoring programme to be undertaken at the Approved Development Site post-completion.
- 7.3 With implementation of the measures outlined within this report, it is considered that the landscape features and associated ecological interest of the Approved Development Site will be maintained in perpetuity.

APPENDIX 1: SOFT LANDSCAPE PLANS





- ### Legend
- Existing trees to be retained and protected during construction
 - Proposed tree planting within soft landscape. (See detail on sheet 1)
 - Proposed specimen shrub planting to receive short angular staking on half standards with expandable tree ties.
 - Proposed decorative hedge planting to be planted in a double staggered row 300mm apart and at 500mm centres in each row. To be maintained at 1m height.
 - Proposed mixed native hedge planting to be planted in a double staggered row 300mm apart and at 500mm centres in each row. To be maintained at 1m height.
 - Proposed shrub planting to receive 75mm bark mulch after planting operations.
 - Proposed decorative mix shrub planting to be planted in groups of 5-7nos. of each species and as above.
 - Proposed native thicket mix to be planted in groups of 5-7nos. of each species and as above.
 - Proposed wildflower and grass areas, to be seeded with Cricklade North Meadow Mixture EM11 by Emorgate Seeds and sown at 5g/m², or similar.
 - Proposed grass areas to receive good quality amenity grass turves laid in line with good horticultural practices.
 - Proposed bulb planting, to be planted in natural swathes at 3x depth of bulbs in autumn.
 - Proposed BX17 4035 Winchester Canopied Litter Bin and BX14 1935 8lyn Seat as supplied by Broxap or similar.
 - Proposed safety surfacing to be Grass Mats as supplied by Matta Products and laid to critical fall heights.
 - Proposed root barrier to be ReRoot500 as supplied by GreenBlue Urban or similar.
 - Cut lines
 - For planting schedule refer to sheet 1 of 4

Plant schedule on sheet 1 of 4.

SPECIFICATION
All works generally to comply with the written Soft Landscape Specification.

In case of quantity discrepancies, the quantities on the plan(s) take precedence over the quantities shown in the planting schedule.

NOTES
DO NOT SCALE FROM DRAWING
NOT FOR CONSTRUCTION, FOR PLANNING PURPOSES ONLY

18/02/24 Ecology comments
18/02/24 On-site comments
18/02/24 Design

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orbit Your place to thrive

scheme: Balmoral Avenue
Phase 2
client: Orbit Homes
drawing: Landscape Proposals
date: February 2023
scale: 1:200 @ A1
drawing no: ORB24157-11B Sheet 3 of 4
drawn: TC checked: SR

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- Legend**
- Existing trees to be retained and protected during construction
 - Proposed tree planting within soft landscape. See detail on sheet 1
 - Proposed specimen shrub planting to receive short angular staking on half standards with expandable tree ties
 - Proposed decorative hedge planting to be planted in a double staggered row 300mm apart and at 500mm centres in each row. To be maintained at 1m height
 - Proposed mixed native hedge planting to be planted in a double staggered row 300mm apart and at 500mm centres in each row. To be maintained at 1m height
 - Proposed shrub planting to receive 75mm bark mulch after planting operations
 - Proposed decorative mix shrub planting to be planted in groups of 5-7nos. of each species and as above
 - Proposed native thicket mix to be planted in groups of 5-7nos. of each species and as above
 - Proposed wildflower and grass areas, to be seeded with Crocodile North Meadow Mixture EM11 by Emorsgate Seeds and sown at 5g/m², or similar
 - Proposed grass areas to receive good quality amenity grass turves laid in line with good horticultural practices
 - Proposed bulb planting, to be planted in natural swathes at 3x depth of bulbs in autumn
 - Proposed BX17 4036 Winchester Canopied Litter Bin and BX14 1936 Biyth Seat as supplied by Broxap or similar
 - Proposed safety surfacing to be Grass Mats as supplied by Matta Products and laid to critical fall heights
 - Proposed root barrier to be ReRoot500 as supplied by GreenBlue Urban or similar
 - Cut lines
 - For planting schedule refer to sheet 1 of 4

Plant schedule on Sheet 1 of 4

SPECIFICATION
All works generally, to comply with the written Soft Landscape Specification.

In case of quantity discrepancies, the quantities on the plan shall prevail over the quantities shown in the planting schedule.

NOTES:
DO NOT SCALE FROM DRAWING
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Rev	Description	By	Date
1	Issue for comment	TC	14/02/23
2	Issue for comment	TC	14/02/23
3	Issue for comment	TC	14/02/23
4	Issue for comment	TC	14/02/23
5	Issue for comment	TC	14/02/23
6	Issue for comment	TC	14/02/23
7	Issue for comment	TC	14/02/23
8	Issue for comment	TC	14/02/23
9	Issue for comment	TC	14/02/23
10	Issue for comment	TC	14/02/23
11	Issue for comment	TC	14/02/23
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42	Issue for comment	TC	14/02/23
43	Issue for comment	TC	14/02/23
44	Issue for comment	TC	14/02/23
45	Issue for comment	TC	14/02/23
46	Issue for comment	TC	14/02/23
47	Issue for comment	TC	14/02/23
48	Issue for comment	TC	14/02/23
49	Issue for comment	TC	14/02/23

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your place
to thrive

scheme: Balmoral Avenue
Phase 2
client: Orbit Homes
drawing: Landscape Proposals
date: February 2023
scale: 1:200@A1
drawing no: ORB2457-11B Sheet 2 of 4
drawn: TC checked: SR

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APPENDIX 2: ENHANCEMENT PLAN

Bird Boxes

- Sparrow terrace
- Starling nest box
- Swift box
- 32mm hole
- Open fronted

Bat Boxes

- Schwegler 2F
- Schwegler 2FN
- Integrated bat box

★ Hibernacula



PHASE 1 - PLANNING APPROVED

PHASE 2



scheme: Balmoral Avenue, Banbury Phase 2
 client: Orbit Homes
 drawing: Enhancement Plan
 date: 29.09.2021
 scale: nts



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