

Landscape and Ecology Management Plan



Catalyst, Bicester,
Units 10, 11, 12 and 13 – RM5



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Plans:

LB291_D05a: RM5- Soft Landscape Proposals (Sheets 1-3)

11920_P08b_Ecological Enhancement Plan



Section 1: Introduction

Purpose

- 1.1 This Landscape Management Plan (LMP) has been prepared by Laird Bailey Landscape Architects (LBLA) on behalf of Albion Land for Catalyst, Bicester, Units 10, 11, 12 and 13 (hereafter referred to as the 'site'). The site is centred on OS grid reference SP575210.
- 1.2 The purpose of the LMP is to provide details of measures to ensure the successful establishment and ongoing maintenance of the soft and hard landscape elements of the development proposals.
- 1.3 This LMP should be read in conjunction with drawings LB291_D05a 'RM5 – Soft Landscape Proposals (Sheets 1-3)'.

Scope of the Landscape Management Plan

- 1.4 This Landscape Management Plan is set out as follows:
 - Section 2 sets out relevant standards and legislation;
 - Section 3 describes the site, and provides an overview of the existing landscape and its condition;
 - Section 4 describes the proposed soft landscaping typologies;
 - Section 5 describes the proposed hard landscaping typologies;
 - Section 6 sets out the long-term design objectives;
 - Section 7 sets out the management regimes and responsibilities;
 - Section 8 sets out the maintenance operations for all the soft landscape areas; and
 - Section 9 sets out the maintenance operations for all the hard landscape areas.



Section 2: Technical and Environmental Considerations

- 2.1 The contractor shall familiarise themselves and their operatives with all British Standards and regulations, as referred to in this document, and any subsequent revisions thereof. All chemical weed control must be carried out by suitably trained staff in accordance with the manufacturers recommendations and the legislation set out below.
- 2.2 The Contractor must only use chemicals specifically approved for the purpose for which it is intended as dictated by the Control of Pesticides Regulations 1986 and the conditions of approval for the chemicals and any relevant code of practice issued by DEFRA. The Contractor will consider in every instance whether the use of chemicals is strictly necessary before application.

Relevant Standards and Legislation	
ISO 7851	Classification scheme for fertilizers and soil conditioners
BS 4428	Code of practice for general landscape operations
BS 8545: 2014	Trees: from nursery to independence in the landscape - Recommendations
BS 5837	Trees in relation to design, demolition and construction - Recommendations
3882:2015	Topsoil
The Food and Environment Protection Act (1985)	
The Control of Pesticides Regulations 1986 (COPR) (as amended 1997)	
The Control of Substances Hazardous to Health Regulations (2002)	
The Environment Protection Act (1990)	



Section 3: Site Overview of Existing Landscape and its Condition

Site Context

- 3.1 The site is located to the southern edge of Bicester, Oxfordshire. The site is proposed for a several units (Units 10, 11, 12 and 13), associated landscaping and highways.
- 3.2 The site currently comprises a chicken farm with a residential unit, pond, scattered trees and hedgerows. Field boundaries are vegetated to the south and west with the southern boundary serves by a drainage gully. Soft landscaping elements are contained to the site's peripheries and around the pond. The site's north and east boundary are fenced and remain open with the wider agricultural field. To the south the field boundary is well vegetated with trees and a hedgerow. The sites western boundary is well vegetated with trees and is shared with Wendlebury Road to the west.
- 3.3 The character of the site is peri-urban with a mix of built development and agricultural land surrounding the site in all directions.



Section 4: Proposed Soft Landscaping

4.1 This LEMP is to read in conjunction with details of proposed soft landscaping (see LBLA Drawing No. LB291_D05a – RM5 – Soft Landscape Proposals (Sheets 1-3) and the Biodiversity Impact Calculator (BIC) Ecological Assessment (EA) which provides further information on target conditions for created habitats.

4.2 Soft landscaping within the site is designed to:

- Create an attractive and appropriate setting for the new Units (10, 11, 12 and 13), providing all year-round interest and colour.
- Create a strong soft landscape framework with planting to the perimeter of the site including trees, selected to maximise biodiversity;
- Ensure trees and shrubs are managed appropriately to promote the growth of flowers, berries and general ‘form’ offering the maximum benefit of amenity/habitat for birds, small mammals, and insects, and;
- Provide additional habitats for bats and nesting birds.

4.3 Proposed soft landscaping elements and planting consists of the following.

Trees

4.4 A selection of native trees, planted at a range of appropriate sizes (ranging between selected standard up to semi mature) will feature across the scheme. Proposed target condition “Good”.

Native Woodland Planting

4.5 In addition to specimen trees, a native woodland mix of feathered trees, whips and transplants shall be planted at an approximate density of 1 plant/1.5msq. Over time this will form a dense understorey screen to larger tree specimens, contributing to the overall bio-diversity value and visual mitigation/amenity, reducing visual coalescence between the built form. Proposed target condition “Good”.

Native Shrub Mix and Native Hedgerow

4.6 Featuring within the development and upon the site boundaries, creating a series of green corridors linking to the wider landscape fabric. Hedgerows will consist of a variety of native species (typically those which are prevalent in the local area) planted as double staggered rows at 5 plants per linear meter. Proposed target condition “Moderate”.

Amenity Shrub Planting

4.7 This consists of species which are mainly evergreen and offer all year-round seasonal interest. Specimens will be chosen due to their hardiness/robustness and need for minimal maintenance/management once established. Ultimately, mature sizes will range between 0.3m-1.5m in height. It has also been deemed important that the majority should be flowering species to provide added bio-diversity value and a food source for pollinators. Proposed target condition “Moderate”.



Headwall Climbers

- 4.8 Several species of ivy have been proposed along attenuation headwalls to assist in softening hard landscape elements. Specimens are planted at 1 plant per linear meter. Proposed target condition “Moderate”.

Wildflower Meadow Mix

- 4.9 Wildflower areas will be limited to the outer perimeters of the development and mainly form a successional buffer to understorey woodland and native hedgerows. Seed mixes will consist of a range of shade tolerant non-invasive grass and long-lasting wildflowers, offering maximum benefits to bees, butterflies, birds, and small mammals. Proposed target condition “Good”.

Swale Meadow Grass Mix

- 4.10 This is to be implemented on the margins/banks of swales and scrapes, both planted with a wetland meadow mix (Emorsgate EM8 composed of 20% wildflowers and 80% slow growing grasses). Proposed target condition “Good”.



Section 5: Proposed Hard Landscaping

5.1 This LEMP is to read in conjunction with details of proposed hard landscaping (see relevant Cornish Architects drawings).

5.2 Hard landscaping within the site is designed to:

- Create an attractive and appropriate setting for the new Industrial units (5, 6, 7, 8 and 9), providing hard landscape which is fit for purpose, durable and robust;
- Indicate change in use, identifiable from other hard surfaced areas; and
- To provide a pallet of materials which are aesthetically and visually appropriate for the various settings and uses within the development.

Tarmac Road and Bitmac Footway Surfacing

5.3 Tarmac surfaces are to be built to the given build-up specification and executed to a high standard. All bound surfaces will be edged accordingly to maintain crisp lines and the structural integrity of the surface build-up.

Concrete Block Paving to Parking Spaces/circulation and footpaths

5.4 Parking spaces, vehicular areas of circulation and footpath are to be laid to concrete blocks differentiating these spaces from main highways within the site and each other. All concrete block surfaces will be edged accordingly to maintain crisp lines and the structural integrity of the surface build-up.

Brushed Concrete Yards

5.5 Unit yards to be laid to brushed concrete for functional purposes. All brushed concrete surfaces will be edged accordingly to maintain crisp lines and the structural integrity of the surface build-up.



Section 6: Long-term Design Objectives

Existing Trees and Hedgerows

- 6.1 Management of existing trees, hedgerows and shrubs offers to secure the current landscape elements that have potential for enhancement without compromising other important aims of the development.
- 6.2 Specific objectives include:
- Ensuring long-term enhancement of trees and hedgerows with additional native planting and ‘gapping-up’ where required;
 - Maintaining long-term health of existing trees and hedgerows to contribute to buffering the development from neighbouring land and infrastructure;
 - To extend the life of mature trees through sound arbouricultural management; and
 - Creating a healthy tree and shrub understorey to knit into the proposed soft landscaping proposals, offering a series of mature/interconnected wildlife corridors
- 6.3 Any tree/hedgerow works such as the removal of hazardous branches or the felling of mature trees will be completed outside of the active period for breeding birds (generally understood as March to August inclusive but some bird species may nest all year round). Should any management be required within the breeding bird period, checks for nesting birds by a suitably trained ecologist will take place prior to any works commencing to ensure that no breeding birds are present. Should a nest be present then a suitable buffer would be installed until the nest is confirmed as being inactive.
- 6.4 Checks for the presence of roosting bats would also be completed prior to management taking place regardless of the time of year. Potential bat roosting features can include woodpecker holes, rot holes, any cracks or splits in the tree bark, cankers, gaps between overlapping stems or branches, partially detached ivy (with stem diameters in excess of 50mm), and man-made holes. If any of the potential bat roosting features are identified, evidence of roosting bats is identified or a bat is found, then works would temporarily stop and a licenced ecologist/Natural England consulted.

Proposed Trees and Native Woodland Planting

- 6.5 The long-term design and management objective is to ensure that on-site trees thrive and contribute to an attractive environment. Trees shall be managed to develop to a healthy and even form. Stems should only be removed so as to retain the natural appearance of the individual plant species or to remove broken or badly damaged branches and dead wood. Tree surgery such as crown lifting should be carried out as required to prevent restriction to pedestrians or vehicles.
- 6.6 Any tree works will have consideration for the potential presence of roosting bats and breeding birds as per the management considerations stated within the retained tree prescriptions above.

Existing and Proposed Native and Amenity Shrub Planting

- 6.7 The long-term design objective of the shrub planting is to ensure the plants thrive to create shrubbery for local amenity and habitat for wildlife. Planting will be managed to achieve a maximum height of 2.5 metres. Pruning should



be undertaken to promote flowering and fruiting in accordance with the species and age of the plant. Species and cultivars are to be pruned particularly to maximise flowering and berrying for amenity and wildlife.

- 6.8 As such, any management will take place at the end of the winter months to avoid the active period for most wildlife, providing the plants with time to produce flowers, seeds and berries. Should any management be required within the breeding bird season (March and August inclusive), checks for nesting birds will take place prior to any works commencing by a suitably qualified ecologist. Should a nest be present then a suitable buffer would be installed until the nest is confirmed as being inactive. Any vegetation management will have consideration for the potential presence of breeding birds as per the management considerations stated above.

Proposed Native Hedgerow

- 6.9 Hedgerows are to be incorporated into the southern area of the site delineating the access pathway from the ecological habitat area as shown on the planting plan. The hedgerow should create a physical barrier to discourage access to the ecological planting to the south and provide an attractive edge to the car park and access path. The creation of hedgerow will also increase connectivity of the site for wildlife and provide additional foraging and nesting habitat for a variety of species.
- 6.10 Hedgerow planting will be managed to achieve a maximum height of 1.2m.
- 6.11 The ground around the hedgerow transplants will be bark mulched to conserve moisture and reduce weed growth.
- 6.12 Careful trimming and pruning will be required in the early years to ensure the development of a well-clothed hedge. Trimming should aim to form an 'A' profile.
- 6.13 Any hedgerow management will have consideration for the potential presence of breeding birds as per the management considerations stated above.

All Hedging

- 6.14 Inspect monthly for the first year and maintain shrubs/hedging in a weed free condition through combined techniques by hand, herbicides, cultivation and mulching.
- 6.15 Prune or clip to promote bushy, healthy growth and required shape when necessary.
- 6.16 Trimming back of growth overhanging adjacent footpaths or windows when required.
- 6.17 Remove/replace individual specimens as required.

Proposed Wildflower Meadow Mix, Amenity Grass Mix and Hedgerow Margins

- 6.18 Management aims to increase structural diversity and species composition both in a manner compatible with user's amenity requirements and with the needs of fauna such as invertebrates, reptiles, birds and foraging bats. The management objectives are as follows:
- Secure foraging habitats for wildlife without disturbance by retaining grassland within root protection areas of retained hedgerows and trees;
 - Provide structured mosaics varying from regularly mown amenity grassland to wildflower and grass edges cut on less frequent mowing rotations;



- Enhance species composition in the seeding mix by specifying a species-rich wildflower and grassland mix for the public open space and hedgerow margins.

6.19 Amenity grass will be cut to a height of 50mm monthly during the growing season with arisings removed. Proposed wildflower meadow and hedgerow margins would be cut back once a year in late August and early September, left for a minimum of 3 days and then arisings removed, thus allowing the majority of the grassland plants to bloom and set seed.

Proposed Headwall Climbers

6.20 Management aims to develop a 'green wall' along the length of headwalls whilst maintaining functionality of inlet/outlets.

6.21 Climbers should be supported through the establishment phase to ensure adequate take to the headwall;

6.22 Climbers should not be allowed to form a ground cover mat and encroach into neighbouring areas such as amenity space nor within attenuation basins. Climbers should be cut back to headwall boundaries;

6.23 Climbers should be maintained as to ensure the functionality of attenuation basins are operational. Climbers should be cut back from all inlet/outlets connecting drainage infrastructure to attenuation basins.

Proposed Swale Meadow Grass Mix

6.24 Wetlands and other aquatic environments on site will aim to provide a unique habitat for thousands of species of aquatic and terrestrial plants and animals. Equally wetlands, swales and attenuation basins will offer flood protection and water quality improvement as well as a valuable, aesthetically pleasing, recreational resource.

6.25 This would be cut back annually as per the prescription for Wildflower Meadow.

Improve Opportunities for Bats

6.26 The retention of hedgerows on site in conjunction with the new hedgerow and tree planting will maintain and enhance the foraging and commuting opportunities for bats across the site and to the wider area. The provision of wildflower grassland, wetland scrapes and swale planting will also provide foraging opportunities for some bat species.

6.27 Additional roosting opportunities are proposed in order to provide further ecological enhancement for bats post-development. This will include the installation of eleven bat boxes across the Catalyst Bicester Phase 2.1 site (Vivaro Pro or similar). The boxes should be placed as high as possible (3 m and above), ensuring the entrance is free from obstruction. Favoured sites are close to linear features along the hedge line on suitable retained trees and away from street lighting. See ecological enhancement plan (Ref: 11920_P08b) for suggested specification and location of bat boxes.

6.28 The bat bricks are designed to be low maintenance and the only monitoring which should be completed after Year 1 is to confirm that the spec and location is appropriate.

Improve Opportunities for Birds

6.29 The creation and appropriate management of new native shrub, hedgerow, wetland scrapes and tree planting will provide and overall enhancement to bird foraging and nesting resources within the site post-development.



- 6.30 To provide an additional enhancement for birds, eleven bird boxes will be erected on suitable retained trees. Boxes will be positioned so they are sheltered from prevailing wind, rain and strong sunlight, normally facing north through to east at a height of between 2m and 5m, ensuring a clear flight path to the entrance. See ecological enhancement plan (Ref: 11920_P08b) for suggested specifications and location of bird boxes.
- 6.31 All boxes should be Vivara Pro or a similar product made from woodcrete as these are known to be durable, long-lasting and to regularly attract birds to nest.
- 6.32 A bespoke swift tower will also be installed in the Parklands area (see plan ref: 11920_P08b) for the estimated location. The swift tower will be mounted on a telegraph or metal pole. The specification will be as per the following:
- Lowest swift box at least 7m from ground level;
 - Clear flyway in front of and below the nest chamber entrances;
 - Minimum of 10 x nest chambers;
 - Each nest chamber should have dimensions of 200mm width, 400mm length, and 200mm height;
 - Next entrances should be 30mm x 65mm to exclude larger bird species;
 - Long lasting weatherproof materials should be used;
 - Rough materials should be used for the interior and exterior of the nest chambers to ensure swifts can obtain a grip with their claws; and
 - An anti-squirrel baffle should be placed at the bottom of the pole to prevent potential predation.
- 6.33 All boxes and the swift tower should be annually inspected for presence, damage, obstruction and if necessary, should be cleaned. Inspection and cleaning should be conducted annually during the winter months to avoid impact to nesting birds. If replacement through loss or damage is required, it should be for an identical product positioned in the same or a similar location.



Section 7: Management Regimes and Responsibilities

- 7.1 The landscaping works will receive post installation maintenance for a one-year defects liability period (DLP). All defects resulting from plant loss, disease, or failure will be replaced on a like for like basis. A visit every month, or more frequently should watering be required, is recommended during the DLP. Subsequently a minimum of 12 maintenance visits per annum is recommended.
- 7.2 Maintenance and management activities are set out below (which covers a minimum period of five years) to ensure the soft landscaping is managed effectively beyond the time limits of the implementation and establishment works. The responsibility for this management and maintenance is to be agreed. LBLA's recommendation is for the landscape contractor that undertakes the planting works to be engaged to carry out the one-year establishment maintenance.
- 7.3 Management and maintenance operations will be monitored and reviewed annually on an on-going basis and where required, modified if the operations and frequencies set out do not deliver the required results or meet the specific aims and objectives.
- 7.4 Habitats on site should be monitored to ensure they reach the targeted condition stated in the Biodiversity Impact Calculator (BIC)¹ Ecological Assessment (EA)² reports to ensure that Biodiversity Net Gain (BNG) is achieved. Monitoring should be carried out by a suitably qualified ecologist at first on an annual basis for circa. 5 years and then at 5 years intervals thereafter. It is intended that at least one of the reviews will include consultation with local grazier such as Banbury Ornithological Society who manage the adjacent Bicester Wetland Reserve with conservation grazing.
- 7.5 As a minimum, maintenance visits should be undertaken to inspect, monitor as well as to carry out routine operations, including weeding and litter picking, with other specific operations being undertaken as scheduled below.
- 7.6 Legal responsibilities of the parties, the landscape contractor and management company shall be addressed under the Manage Company Structure, with the appropriate insurances, along with the stated compliance with health and safety law and the implementation of landscape-related risk assessments are essential.
- 7.7 The appointed Contractor must provide details of all necessary insurances and certification to carry-out the works specified in this management plan. It is the responsibility of the appointing authority to ensure that all submitted insurances and certificates are up to date and provide the appropriate level of cover for the specified works.
- 7.8 Defects in the landscape are identified early and addressed promptly.

¹ Warwickshire Coventry and Solihull - Biodiversity Impact Assessment Calculator: Catalyst, Bicester, 21 June 2022

² Tyler Grange (2022), Catalyst, Bicester: Ecological Assessment, TG Report No. 11920_R03_AG_CW, 30th March 2022



Section 8: Soft Landscaping Maintenance Works Schedule

Component	Task	Time of Year	Frequency
<p><i>Visits every month throughout the one-year defects and establishment period, more frequently if required due to prologued dry weather conditions and the need for watering. Subsequently management and maintenance operations will be monitored and reviewed annually on an on-going basis and where required modified if the operations and frequencies set out do not deliver the required results or meet the specific aims and objectives.</i></p>			
Trees & Native Woodland Planting	Prune and repair wounds in accordance with good horticultural and arboricultural practice.	Oct-Feb	As required (annually).
	Check the ties regularly for rubbing and adjust if necessary. Constriction of the stem by ties happens very quickly, so fast-growing trees need frequent checking. After bad weather, check for abrasion and snapped stakes or ties. Re-firm tree by adjusting tree ties and ensuring soil is re-firmed around the base.	All year round and especially after strong winds, frost heave and other disturbances.	As required (annually).
	Hand weed mulched areas around trees.	Mar-Sep	Every visit.
	Apply suitable non-selective herbicide to control weeds.	Mar/Oct	Only if required.
	Replace any failed specimens.	Oct-Mar	As required during the one-year DLP (next available planting season).
	Remove debris/litter	Throughout	Every visit.
	Top up bark mulch around bases of trees to full depth of 75mm.	Mar/Apr	As required during the DLP.



	Newly planted trees will be watered throughout May-August months after any period of four weeks without significant rain to thoroughly wet the top 150mm of soil around the tree roots.	Throughout	As required after a period of four weeks without significant rainfall.
	Trimming and selective thinning of the canopy. Trim back growth overhanging adjacent footpaths when required.	Oct-Mar	Annually if required.
	In years 2 and onwards remove staking if tree has established well and the stakes are no longer required.	Any	As required.
Amenity Shrub Planting	Trimming, pruning and reshaping to encourage healthy bushy growth, flowering and fruiting. Trim back growth overhanging adjacent footpaths when required.	Oct-Mar	Annually if required.
	Hand weed.	Throughout	Every visit.
	Apply suitable non-selective herbicide to control weeds.	Apr-Sep	Only if required.
	Remove debris/litter.	Throughout	Every visit.
	Replace any failed specimens.	Oct to March	Within the DLP, as required (next available planting season).
	Top up bark mulch around bases of shrubs to full depth of 75mm.	Apr	As required during the DLP.
	Watering of newly established shrubs.	Throughout	As required after a period of four weeks significant rainfall, during the DLP.



Native Hedgerows/ Native Shrub Mix	Re-shaping.	Hard-prune Oct-Feb	Annually if required.
	Trimming, pruning and reshaping to encourage healthy bushy growth. Trim back growth overhanging adjacent footpaths when required.	Oct-Mar	Annually if required.
	Hand weed.	Throughout	Monthly/every visit.
	Apply suitable non-selective herbicide to control weeds.	Apr-Sep	As required.
	Apply fertiliser: Slow release, applied as per manufacturer's recommendations.	Mar/Apr	Annually.
	Remove debris/litter.	Throughout	Monthly/every visit.
	Replace any failed specimens.	Oct-Mar	As required (next available planting season).
	Top up bark mulch hedge base to full depth of 75mm.	Apr	Annually.
	Watering of newly established hedgerows.	Throughout	As required after a period of four weeks without significant rainfall.
	Trim and top hedgerow as necessary avoiding bird nesting season.	Feb	As required (annually).
Headwall Climbers	Cut back all climbers from encroachment into basin back in line with headwall. Cut back all climbers from inlet/outlets to the attenuation basin.	May and September	Twice annually



Wildflower Meadow Mix	Mowing/strimming.	Late Aug/early Sep	Cuttings must be left for a minimum period of 3 days before being raked up and removed, to allow wildflowers to bloom and disperse seeds
	Weeding.	Throughout	Monthly/every visit. Weeds exceeding 75mm and which don't feature in the seed mix should be removed.
	Re-seeding (if required).	Sep	Any bare patches of ground where seed has failed to germinate should be re-seeded as per the original specification.
Swale Meadow Grass Mix	Weed control.	Mar-Sep	Invasive weeds to be spot treated with a glyphosate herbicide applicator. Herbicide must not be applied within 2m of attenuation or swale bank if permanent standing water is present. Any weeds within this 2m zone or on sloping banks should be removed by hand or mechanically.
	Aquatic planting management/thinning.	Sept-Oct	Aquatic plant thinning should be carried out on a 3-year cycle to halt the natural succession process and ensure an open body of water maintained.
	Weeding.	Mar-Sep	Invasive weeds to be spot treated with a glyphosate



			herbicide applicator. Herbicide must not be applied within 2m of attenuation or swale bank if permanent standing water is present. Any weeds within this 2m zone or on sloping banks should be removed by hand or mechanically.
Improve opportunities for bats	Installation of bat boxes on suitable retained trees to include a range of different aspects (mainly to the south or west, but providing a variety of different positions to offer a range of climatic conditions). Boxes should be placed as high as possible (3m and above), ensuring the entrance is free from obstruction. To be installed as development progresses in accordance with the approved phasing plans for the site.	During construction phase	Once
	After Year 1, a check would be completed to ensure that they have been installed in the correct/optimal locations. Bricks / boxes should then be checked annually for presence, damage and obstruction.	Anytime	Annually
Improve opportunities for birds	Installation of bird boxes on suitable retained trees to include a range of different aspects (between north and east, but providing a variety of different positions to offer a range of climatic conditions). Boxes should be placed as high as possible (2m and above), ensuring the entrance is free from obstruction.	During construction phase	Once



	<p>Swift tower with at least 10 x nest chambers and mounted on a metal/wooden pole to be installed in the parklands area.</p> <p>To be installed as development progresses in accordance with the approved phasing plans for the site.</p>		
	All boxes and the swift tower should be inspected annually for presence, damage, obstruction and if necessary, should be cleaned. Inspection and cleaning should be conducted during the winter months to avoid impact on nesting birds.	Oct-March	Annually
Monitoring: Suitably qualified Ecologist	All created and enhanced habitats on site will be monitored to ensure they reach target condition as set out in BIC and EA.	Anytime	Annually (year 1 to 5), then every 5 years.



Section 8: Hard Landscaping Maintenance Works Schedule

Component	Task	Time of Year	Frequency
<p><i>Visits every month throughout the one-year defects and liability period. Management and maintenance operations will be monitored and reviewed annually on an on-going basis and where required modified if the operations and frequencies set out do not deliver the required results or meet the specific aims and objectives.</i></p>			
Hard landscape surfaces	Weeding/litter picking/sweeping.	Throughout	Hard surfaces within the landscape areas should be maintained in a clean and tidy appearance free from weeds and litter, and this will include a general sweep, and occasional spray of surfaces if required.
	Repairs to cracked or worn surfaces.	Throughout/weather permitting	Hard landscape road and footways should be checked quarterly; any areas of wear that may become a safety concern should be assessed and repaired.



Component	Task	Time of Year	Frequency
Street Furniture	Check/assessment of street furniture.	Throughout	Undertake regular checks, maintenance, and repairs as necessary to ensure furniture and boundary treatment remains safe, in a usable condition and in a good state of repair. Empty litter bins at intervals appropriate to level of use.
	Litter collection.	Throughout	Empty litter and dog bins at intervals appropriate to level of use.

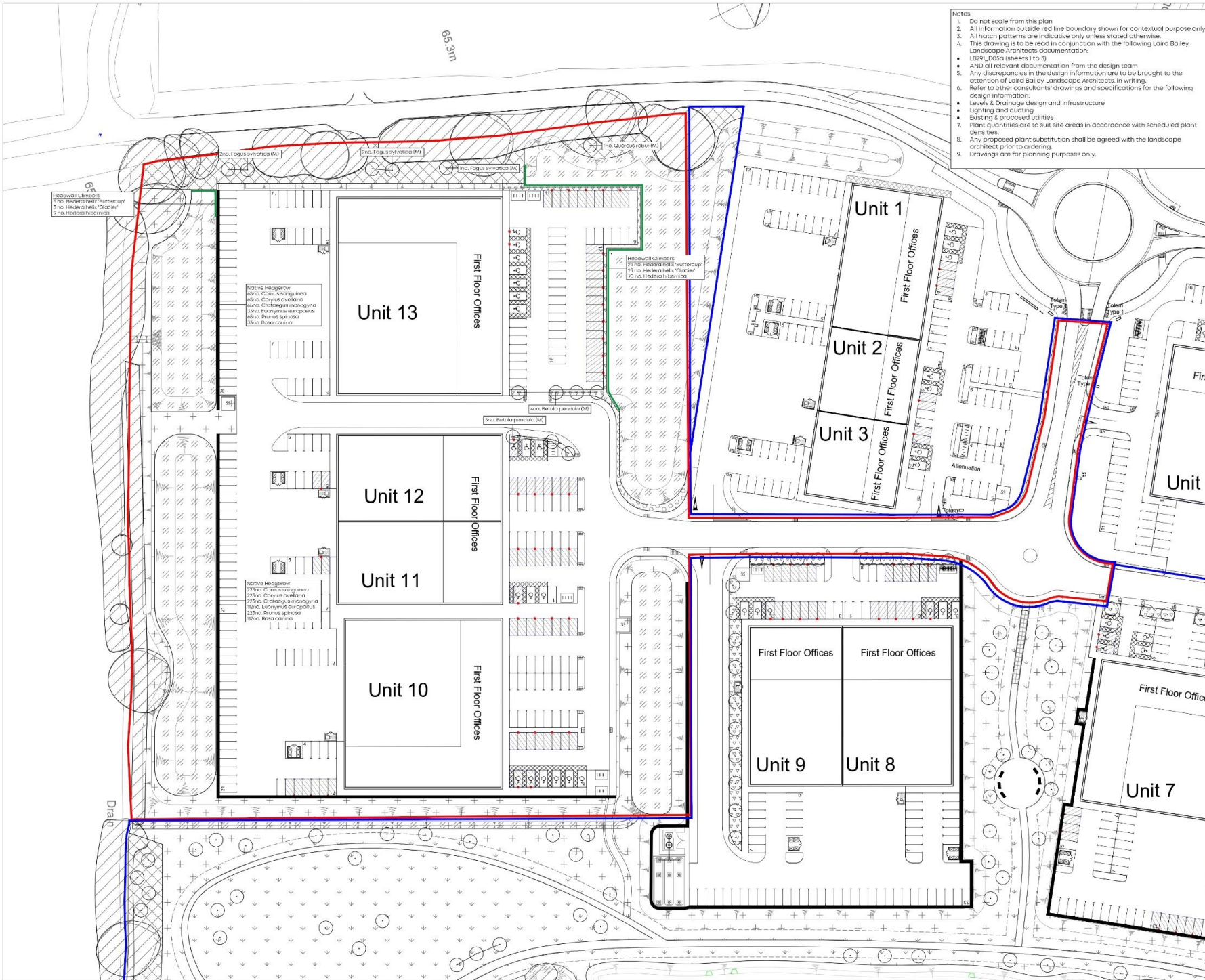


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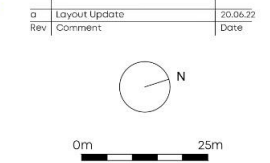
LB291_D05a – RM5- Soft Landscaping Proposals (Sheets 1 – 3)

11920_P08b_Ecological Enhancement Plan





- Site Boundary
- Land Under Applicants Ownership
- Existing Vegetation to be Retained
- Proposed Tree
- Proposed Native Woodland Planting
- Proposed Hedgerow
- Proposed Headwall Climbers
- Proposed Amenity Planting Mix
- Proposed Native Shrub Planting
- Proposed Wildflower Meadow Mix
- Proposed Swale Seed Mix



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Client:
Albion Land

Project Title:
Catalyst Bicester

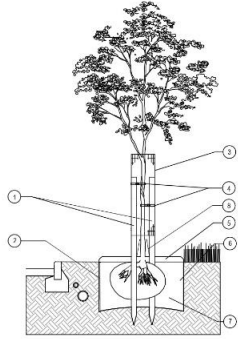
Drawing Title:
RMS - Soft Landscape Proposals
(Sheet 1 of 3)

Date: 15 April 2022
Drawing Number: LB29L_D05
Scale: 1:500 or A1

Drawn By: AL
Checked by: DB
Revision: a

Tree Pit Detail (for trees in proximity to hard landscaping)

1. 2x tanalised timber tree stakes 2m, 75mm Ø driven into backfilled pit to provide support to the tree.
2. ReRoot root barrier with root deflecting ribs installed between tree root ball and hard surfaces/services where there is a risk of root damage as the tree grows outward. As a general rule, root barriers should be installed in locations where hard surfaces and/or services are located within four metres of the tree stem. Install closer to the paving/service than the tree, to allow space for the tree roots to grow into the space available, with the ribs facing the tree. Note this may mean not placing the barrier within the tree pit, but further away within its own trench. Root barriers must extend a minimum of 2m lengthways beyond the expected canopy of the mature tree. The top of the root barrier should be set as close to the soil surface as possible without being visible.
3. Tubex Treeguard Mesh Roll or similar approved. 12mm mesh roll cut to size and bent in circle 320mm Ø and tied to tree stake to protect tree from damage by people and animals. Bottom of mesh should be 300mm above ground level to allow strimmer guard to be fitted and prevent litter and grass/weeds building up around the base of the tree. Top of mesh should be below the first lateral branch.
4. Use 2x Tree Ties GLB25A with GLPFA spacer sleeves or similar to secure tree to support post.
5. 75mm deep bark mulch layer to be spread evenly over a circular area 1000mm Ø around the tree to prevent weed growth and retain moisture. Alternatively, a suitable mulch mat can be used covering the same area.



6. Excavate tree pit to sufficient size to accommodate tree root ball. Loosen any compaction in base of excavated pit to aid drainage. The tree should be planted at a depth where the root flare is still visible, just breaching the soil surface, following backfilling.
7. Backfill tree pit with subsoil and topsoil excavated from pit if this is regarded as of sufficient quality to promote the healthy establishment of the tree. If either the top soil or sub soil excavated from the pit is of poor quality, then soil ameliorants may be used sparingly or imported topsoil compliant with BS3882 should be used.
8. Strimmer guard by Arbortech or similar to be fitted around base of tree to protect from damage by grass maintenance machinery primarily, but also to provide an additional layer of defense against animal browsing.

Immediately after planting, water the tree, saturating the tree pit to field capacity.

The notes above are intended as a basic guide only. For further guidance on tree planting refer to BS8545:2014 Section 10.

Products suggested in italics above are available from Green Blue Urban (<http://greenblueurban.com/>) and Arbortech (www.arbortech.co.uk).

GENERAL PLANTING SPECIFICATIONS:

- Proposals to be read in conjunction with Architect's and Engineers Drawings.
- All landscape operators to be in accordance with BS5428:1989 & BS 3936:1992 and all amendments to date;
- Plant material to conform to the National Plant Specification;
- Any plant material planted outside the recognised planting season (Nov-Feb), to be containerised stock and supplied at the sizes specified;
- Plant handling and planting operations to be in accordance with HTA 'Handling and Establishing Landscape Plants parts 1 - III';
- All planting to be maintained and guaranteed for 12 months to include watering, weeding, pest & disease control;
- The landscape sub-contractor is to take all safety precautions to prevent any injury to any persons. The landscape sub-contractor shall comply with the requirements of the Health and Safety at Work Act 1974, and current Construction, Design and Management Regulations.
- The landscape sub-contractor shall confirm the location of all underground services before commencement of planting and report where trees/hedges are suggested within 2m of underground services and 5m of buildings.

SOIL AND MULCH

- Existing topsoil (if present and suitable) to be stripped and stored on site in heaps not exceeding 2m in height and kept weed free;
- Any compacted subsoil to be broken up to allow free drainage and to enable topsoil to key into surface;
- Any imported topsoil to be to BS3882, medium texture, neutral PH value, reasonably stone free with no stones over 20mm in size;
- Soil for meadow/grassland to be composed of prepared sub-soil (nutrient poor);
- Topsoil depths to be 300mm for shrubs, hedges, climbers and groundcover planting;
- Finished topsoil levels to be 25mm above adjacent paved surfaces, and 300mm wide hard surfaced mowing margin to be provided where lawn adjoins buildings;
- All planting areas to be covered with a 75mm depth of medium grade bark mulch.

PLANT MATERIAL TREATMENT

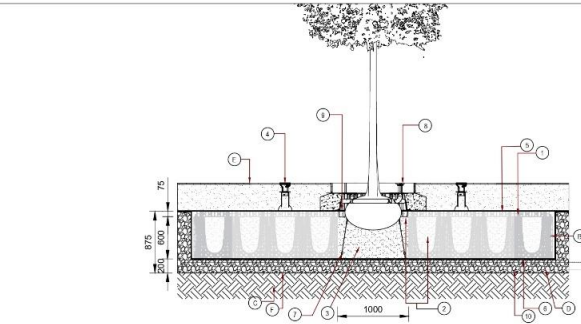
- All to be British grown stock and fully hardened off;
- Root Dip - Proprietary Root Dip applied to all bare root stock at time of lifting at nursery and prior to planting;
- Anti-Desiccant - Proprietary anti-desiccant to be applied to foliage of all containerised/rootballed material in leaf, specimen confiders and evergreens etc. prior to transportation and during any delay in planting;
- Pruning - Allow for pruning of all deciduous trees and shrubs by 1/3rd following planting at Landscape Architect's direction or as indicated in the planting schedule;
- Tree Stakes and Ties - Stakes to be pressure treated, round, smooth and peeled Larch or Chestnut, not less than 100mm in diameter. Advanced nursery stock - double stacked with cross bar.

EXISTING TREES AND SHRUBS

- Avoid damage to branches, trunks and roots of trees. All existing trees and hedges to be retained are subject to BS5837 (2005 and all amendments to date) 'Trees in relation to Construction - Recommendations', and should be fully fenced off, prior to the commencement of any works.
- Where existing trees and shrubs are to be retained they should be subject to a full Arboricultural inspection for safety;
- Any surgery required shall be in accordance with BS3998 (2010 and all amendments to date) 'Tree Work - Recommendations', shall comply with any existing T.P.O requirements and shall require the prior approval of the Landscape Architect;
- No storage of materials, disposal of rubbish, site fires, spillage of oil and chemicals, ground compaction, excavation or changes in level shall be carried out within existing tree/hedge canopies.

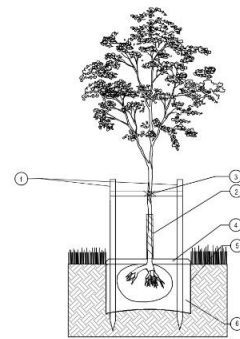
TREES

- No trees to be planted within 3 metres of sewers or services or other easement recommended by the relevant statutory undertaker without the use of tree root barriers eg Greenleaf ReRoot 600/100 placed between the tree and services;
- All trees shown to be planted ensuring that they are at least 5 metres away from buildings;
- Contractor to ascertain the location of all sewers and services prior to tree planting;
- Root barrier to be installed in planting pits in near proximity to underground services;



Tree pit detail (for trees in car parking areas)

- 1 Rootsace @600mm depth (1 unit deep) c/w twin walled geonet & open reinforcing mesh - gbur50a -
 - 2 Ropsoil for use within top 600mm of soil profile
 - 3 Subsoil for use within soil profiles 600mm or deeper
 - 4 Roottrain arborvent cast aluminium trafficable aeration inlet with 150mm square top and manifold - rrrarv150b (or acceptable equivalent)
 - 5 Twin walled structural geonet (or acceptable equivalent)
 - 6 20mm Open reinforcing mesh
 - 7 Arbrguy anchorplate strapped anchor system - sasap06a (or acceptable equivalent)
 - 8 Roottrain arborvent irrigation system - castle12a (or acceptable equivalent)
 - 9 Medium rootdirector with root deflecting ribs - rrd100-rsa (or acceptable equivalent) set at edge of planting area
 - 10 10 - 20mm Clean angular drainage aggregate - gbdusa (or acceptable equivalent)
- Notes:
- Allow 20% additional for geotextile and reinforced geogrid for overlap and cutting requirements
 - Install rootspace side panels to installation as directed by engineer
 - Existing ground
 - Positive drainage pipe (10mm perforated pipe)
 - Build-up to suit engineer designs and requirements
- Structural engineer's note:
- Additional twinwalled geonet (gltwgna) to be installed where sub-base is installed below 3% cbr - minimum 2% cbr of formation level to be assessed by engineer



Tree Pit Detail (for trees in open space)

1. 2x tanalised timber tree stakes 2m, 75mm Ø and crossbar driven into backfilled pit to provide support to the tree.
2. Clear spiral guard to be fitted to trunk to protect against animal browsing.
3. Use 2x Tree Ties GLB25A with GLPFA spacer sleeves or similar to secure tree to support post.
4. 75mm deep bark mulch layer to be spread evenly over a circular area 1000mm Ø around the tree to prevent weed growth and retain moisture. Alternatively, a suitable mulch mat can be used covering the same area.
5. Excavate tree pit to sufficient size to accommodate tree root ball. Loosen any compaction in base of excavated pit to aid drainage. The tree should be planted at a depth where the root flare is still visible, just breaching the soil surface, following backfilling.
6. Backfill tree pit with subsoil and topsoil excavated from pit if this is regarded as of sufficient quality to promote the healthy establishment of the tree. If either the top soil or sub soil excavated from the pit is of poor quality, then soil ameliorants may be used sparingly or imported topsoil compliant with BS3882 should be used.

Immediately after planting, water the tree, saturating the tree pit to field capacity.

The notes above are intended as a basic guide only. For further guidance on tree planting refer to BS 8545:2014 Section 10.

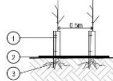
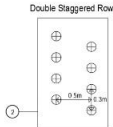
Native Hedgerow Planting Detail

1. Tubex shrub shelter with supporting cane or stake.
2. 2m wide biodegradable weed mat roll pegged down with biodegradable pegs along line of hedgerow to prevent weed growth and retain moisture.
3. Whip to be notch planted following clearance of any existing vegetation.

Immediately after planting, water the whip, saturating the ground around its base to field capacity.

The notes above are intended as a basic guide only. For further general guidance on planting refer to BS8545:2014 Section 10 and BS4428:1989 Section 9.

Products suggested in italics above are available from Tubex (<http://www.tubex.com/>).



- Allow for the use of container grown stock during the periods 1 April to 31 October, and field grown stock from 1 November to 31 March unless otherwise specified in the planting schedule;
- Trees planted within grassed areas to be provided with appropriate conical strimmer guards;
- Feathered trees (up to and including 1/4-16cm girth) to be planted in topsoil pits 900 diameter x 600mm deep, supported by a single stub stake;
- Multi-stem trees to be planted in topsoil pits 2000mm diameter x 750mm depth or larger as necessary to allow 500mm soil ground rootball with angled stakes;
- Standard trees (up to and including 10-12cm girth) to be planted in topsoil pits 900 diameter x 600mm deep, supported by a single stub stake;
- Heavy standard trees (12-14cm girth) to be planted in topsoil pits 1200 diameter x 900mm deep, supported by double stakes;
- Tree pits of extra heavy standard trees to be underground guyed. Detailing of tree pit to include tree pit irrigation 'Root rain precinct' or similar approved; 'Green leaf root director; Underground 'Deadmen' guying system 'Platipus' attached to 2 no concrete kerbs and pit backfilled with urban tree sand or similar approved. Base of pit to be broken up to 150mm depth beneath 150mm clean coarse angular gravel;
- Where necessary increase tree pit dimensions to ensure that tree pits are at least 75mm deeper and 150mm wider than rootball. Break up bottom of pits to a depth of 150mm. Compacted glazed sides of pits should be roughened.

SHRUBS (ORNAMENTAL AND SPECIMEN)

- All specimen shrubs to be planted in pits twice the size of the pot in depth and width and backfilled with a 50 -50 topsoil and shrub planting mix.

SEEDING

- Grass seeding cultivation to be brought to a fine tilth and all stones over 25mm in all directions removed. Areas to be uniformly firmed.
- Apply approved herbicide to control perennial weeds and allow period of time to elapse as recommended by manufacturer before final cultivation.
- Grass seed to be sown at rates shown below and as per Emorsgate recommendations.
- Amenity Grass areas to be seeded with Germinol Amenity A19 All purpose Landscaping Mixture (or similar approved), sown at 50g/m²;
- Other Meadow grassed areas to be seeded with Emorsgate EM1 'Basic General Purpose Meadow (approved), sown at 30g/m²;
- Other Meadow grassed areas to be seeded with Emorsgate EM2 'Standard General Purpose Meadow Mixture' (or similar approved), sown at 4g/m²;
- Swale areas to be seeded with Emorsgate E68 'Meadow Grass Mixture for Wetlandscapes' sown at 5g/m²;
- Roll the seeded area with a ribbed crinkie or Cambridge roller upon completion;
- When grass is between 40-75mm high remove stones and debris exceeding 50mm in any dimension. Cut grass to approximately 35mm high. Meadow grass to be cut twice a year in March and October.
- Remove and dispose of all arisings.

TURF

- Turf supplied to be according BS3969 standards from an approved source;
- When topsoil is reasonably dry and workable, grade to smooth, flowing contours removing all minor hollows and ridges;
- Cultivate soil to full depth and break up any compacted topsoil;
- Apply approved herbicide to control perennial weeds and allow period of time to elapse as recommended by manufacturer before final cultivation. Apply proprietary fertiliser;
- Reduce top 25mm topsoil to a fine tilth by further cultivation. Remove stones exceeding 50mm in any dimension;
- Lay turf with broken joints. Well butted up, working from planks laid on previously laid turfs, during appropriate season and weather condition;
- Adjust levels by raking out or filling of fine soil under turfs;
- Consolidate by lightly and evenly firming with wooden beaters as laying proceeds. Do not use rollers;
- Dress turf with fine topsoil and brush in to fill joints;
- Thoroughly water completed turf within 24 hours of laying;
- When grass is 50mm high remove debris, litter and any stones, in dry conditions cut grass to between 25-30mm;
- Remove and dispose of all arisings.

Notes

- Do not scale from this plan
- All information outside red line boundary shown for contextual purpose only.
- All hatch patterns are indicative only unless stated otherwise.
- This drawing is to be read in conjunction with the following Laird Bailey Landscape Architects documentation:
 - LB29_D05a (sheets 1 to 3)
 - AND all relevant documentation from the design team
- Any discrepancies in the design information are to be brought to the attention of Laird Bailey Landscape Architects, in writing.
- Refer to other consultants' drawings and specifications for the following design information:
 - Levels & Drainage Design and Infrastructure
 - Lighting and ducting
 - Existing & proposed utilities
 - Plant quantities are to suit site areas in accordance with scheduled plant densities.
- Any proposed plant substitution shall be agreed with the landscape architect prior to ordering.
- Drawings are for planning purposes only.

Rev	Layout Update	20.06.22
1	Comment	Date



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Client:
Albion Land

Project Title:
Catalyst Bicester

Drawing Title:
RMS - Soft Landscape Proposals (Sheet 2 of 3)

Date: 20 June 2022 Drawn By: AL
 Drawing Number: LB29_D05 Checked by: DB
 Scale: 1:500 at A1 Revision: a




Legend

Ecological Enhancements

Bat Boxes

-  Vivara Pro Harlech Box
-  Vivara Pro Large Multichamber

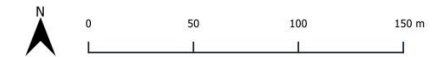
Bird Boxes

-  Woodstone Alicante Open Nest Box
-  Woodstone Seville 32mm Box
-  Woodstone Seville 28mm Box
-  Swift Nest Box Tower

Swift Box

Bespoke Swift Tower mounted on a telegraph or metal pole. Specification will be as per the following:

- Lowest box at least 7m from ground level;
- Clear flyway in front of and below the nest chamber entrances;
- Minimum of 10 x nest chambers;
- Each nest chamber should have dimensions of 200mm width, 400mm length, and 200mm height;
- Next entrances should be 30mm x 65mm to exclude larger bird species;
- Long lasting weatherproof materials should be used;
- Rough materials should be used for the interior and exterior of the nest chambers to ensure swifts can obtain a grip with their claws; and
- An anti-squirrel baffle should be placed at the bottom of the pole to prevent potential predation.



Project	Bicester Gateway
Drawing Title	Ecological Enhancement Plan
Scale	As Shown (Approximate)
Drawing No.	11920/P08b
Date	November 2022
Checked	WW/AG



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