

Gateway 36, Rockingham **Unit 6**

Landscape and Ecological Management

Rev. A - 24 Nov 2025

Prepared by



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1. INTRODUCTION

- 1.1

The following Landscape and Ecological Management Plan (LEMP) has been prepared by Urban Wilderness Ltd in collaboration with Smeeden Foreman Ltd and FPCR Environment and Design Ltd on behalf of the Harworth Group in accordance with BS42020 & the BNG Good Practice Principles (CIEEM, IEMA & CIRIA).
- 1.2

The document has been produced to support a Reserved Matters application for Unit 6 of the development at Gateway 36, Rockingham, Barnsley. The LEMP provides details which promote the successful establishment and maintenance of the landscape proposals within the phase boundary and should be read in conjunction with the Planting Proposal shown on drawing 12006-6-SFW-XX-XX-DR-L-1001, the Arboricultural Impact Assessment (TEP, 2020) and both the Habitat Creation, Biodiversity Mitigation and Enhancement Scheme (FPCR, 2024) and Biodiversity Impact Assessment (FPCR, 2024). The drawn planting proposals detail the positioning and extent of the soft landscape features within the site-wide areas of the Reserved Matters application boundary including scrub, mature trees, hedgerows, meadow, grasses and ornamental shrubs. Also submitted as part of the Reserved Matters application and of relevance to this document is:

 - 334-UW-P-004 - Rendered Landscape Masterplan

The off-plot landscape drawing 334-UW-P-007 rev.H (Site-Wide Planting Plan) is an approved drawing and does not form part of this Reserved Matters application. A copy is appended to this LEMP for information and cross-reference only (Appendix, p.26)
- 1.3

The on-plot landscape proposals have been developed by Smeeden Foreman Ltd in collaboration with FPCR Environment and Design Ltd (Ecologists). The management of the on-plot landscape features will be completed in accordance with the agreed prescriptions within this document and will be undertaken by a specific management company with the aim of achieving long-term ecological and placemaking benefits on site. The LEMP has been produced to cover a 30-year period demonstrating the Biodiversity Net Gain over this period. Within this document, a
- working programme of an initial 15-year period is detailed. Following this period, the works should be reviewed at the end of the fifteenth year following an assessment of the site.
- 1.4

A further 15-year working programme should be created based on the results of that assessment if it is considered that any element within this document needs updating to best achieve and maintain the desired habitat condition.
- 1.5

This LEMP will be revised / and or supplemented alongside the subsequent landscape phases of the development to come forward (later phases within Phase 2).
- 1.6

The following points outline the site-specific landscape aspirations addressed within this management plan, in conjunction with the wider landscape strategy:

 - The establishment of well-managed scrub areas to support a range of wildlife and managed to create a rich mosaic with varied age, species and structure;
 - The creation of meadows, grassland, and flowering lawns to provide a setting to the car park areas, enclosed by native hedgerow planting and pockets of ornamental shrub planting to provide visual interest and a sense of enclosure; and
 - A range of specimen trees will be planted across the site to provide focal features and assist in

2. BACKGROUND

- 1.7 The Reserved Matters application site covers an area of approximately 2.36Ha, and previously comprised of established woodland planting and compartmentalised open pasture. The earthworks have now been completed, and majority of the landscape infrastructure planting outside the red line boundary (Phase 2B) was carried out during the spring of 2025.

3. VISION & SITE WIDE AIMS

- 3.1 The overarching aim of the report is to ensure that the high-quality environment embodied within landscape drawings is implemented and maintained. This document is a key part in ensuring the successful establishment and enduring success of the landscape proposals.
- 3.2 The management of the landscape typologies described in Section 4 below will be completed in accordance with the prescriptions agreed within this document (Section 5, Management Prescriptions) and will be undertaken by a suitably qualified landscape management company.
- 3.3 There are four long-term landscape and ecological management aims for the site:

Aim 1: Create new habitats to increase site-wide diversity, compensate for the loss of previous habitats; and provide habitat connectivity to the wider landscape, which supports the aims of the BREEAM UK Strategic Ecology Framework.

Aim 2: To monitor and manage the created landscape features and habitats throughout the management period to ensure increasing ecological diversity is maintained in the long-term; and

Aim 3: Provide landscape structure through appropriate hard and soft landscape interventions. These will provide

- a strong sense of place;
- visual containment for the individual commercial sites; and
- visual screening over the medium to long term to mitigate visual impacts identified in the Landscape and Visual Impact Assessment and associated Landscape Mitigation Strategy.

screening the development as well as providing greater structural diversity at Year-0.

4. LANDSCAPE CHARACTER AREAS

- 4.1 The landscape proposals include areas of grassland, flowering lawn, shrubs and scrub. These will be supplemented with mature tree planting and lengths of native hedging. These Landscape Typologies are

shown on the Illustrative plan below, with further detailed planting shown on drawing 12006-6-SFW-XX-XX-DR-L-1001 by Smeeden Foreman Ltd.

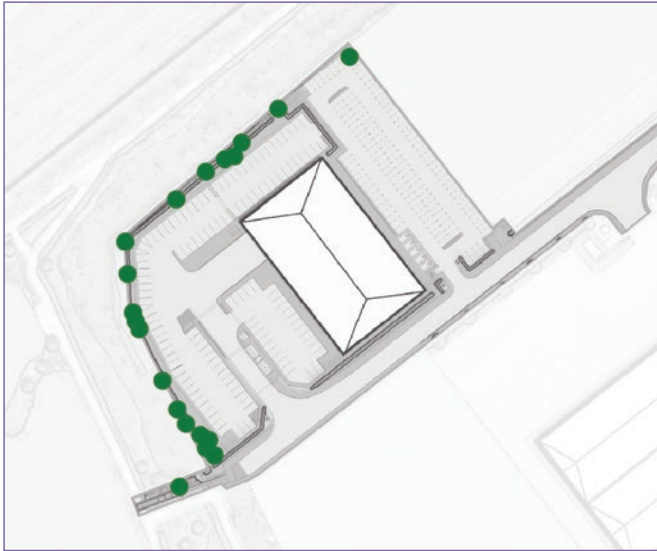
- 4.2 This section of the document outlines the



Landscape Typologies

- | | | |
|-------------------------|--|-------------------------------|
| Specimen Trees | Species rich flowering lawn grassland/
Mown grass | Native scrub planting |
| Specimen Shrub Planting | Shade tolerant flowering grassland | Wildflower Meadow
planting |
| Ornamental Planting | Native hedge planting | |

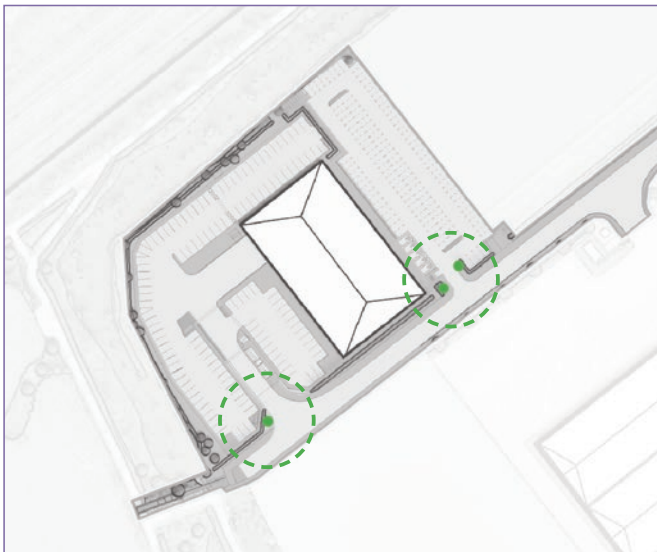
SPECIMEN TREES



The use of mature tree stock (select standards and heavy standards) will provide instant impact and frame the car parking areas on site. Mature trees will help provide valuable habitat and connectivity for a range of bat and bird species from an early stage, prior to other habitats establishing.

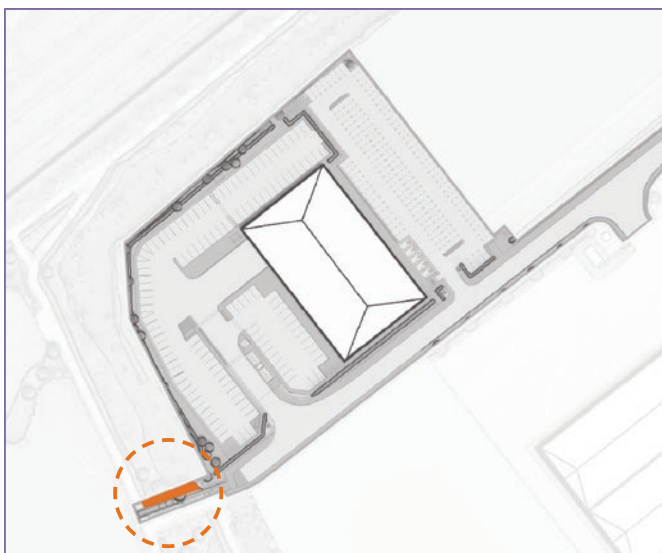
- Used along the northern and western boundaries of the site in clusters or as individual specimens to provide immediate screening along the development plateau; and
- Mature trees will be strategically positioned and maintained to enhance amenity value and ecological connectivity.

SPECIMEN SHRUB PLANTING



Specimen shrubs punctuate car park entrances, offering immediate structure through their distinctive form, flowers, or foliage. Although low in BNG value, they will offer habitat and connectivity while other habitats establish.

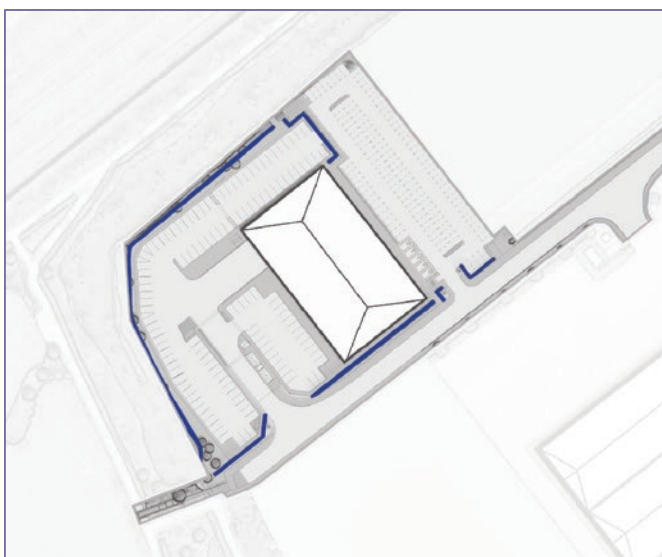
- Located at car park entrances, at the turning radii of the proposed road junction, they provide structure without impairing visibility of vehicular movement.



This small area of scrub integrates with the adjoining scrub habitat within the wider landscape proposals. Well-managed scrub and its margins support a diverse range of wildlife. The most valuable scrub habitats exhibit variation in age, species composition, and structure. It is important to maintain all growth stages, from bare ground through young and mature growth to decaying wood.

- Establish a naturalistic woodland edge habitat;
- Establish a diverse mosaic of native scrub which forms the transition between woodland and the ground layer vegetation; and
- Provide structural diversity through the inclusion of glades and rides, and a varied age structure.

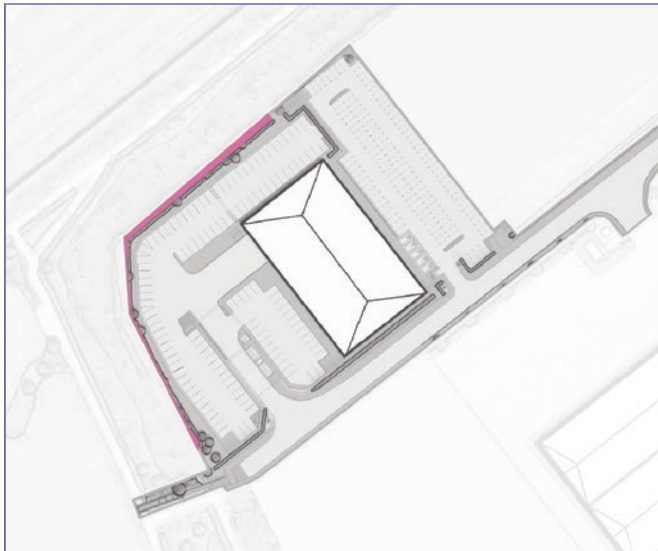
NATIVE HEDGEROW (SINGLE AND SPECIES-RICH)



Native hedgerows will form key structural elements within the landscape, helping to define spaces, enclose landscape typologies, and create valuable wildlife corridors. The use of native species is prioritised throughout the site. Hedgerow planting should incorporate pollinator-friendly species to enhance habitat connectivity and strengthen long-term, site-wide biodiversity.

- New hedgerow planting along the access road will provide structure and, together with associated ditches, create valuable seasonally wet habitats for local amphibian species; and
- Native hedging along the site boundary will establish a natural edge, helping to deter littering and fly-tipping.

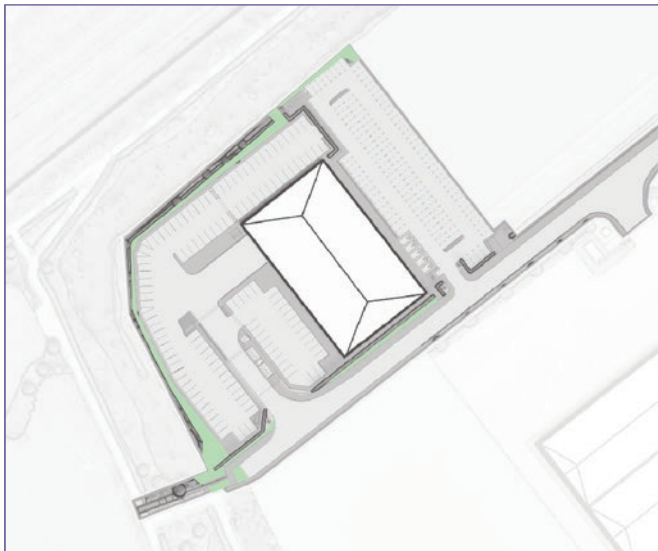
SHADE TOLERANT FLOWERING GRASSLAND



Shade-tolerant grassland provides a soft transition between the native scrub and proposed hedgerow. When left uncut or ungrazed each year, this vegetation develops a rough, tussocky character, creating valuable refuge habitat along site margins and corners.

- Shade-tolerant grassland is proposed between the native hedgerow and native scrub mix. This typology achieves the highest structural diversity when left uncut for extended periods; and
- Areas located further from the margins and in more open positions may be managed as species-rich grassland habitat.

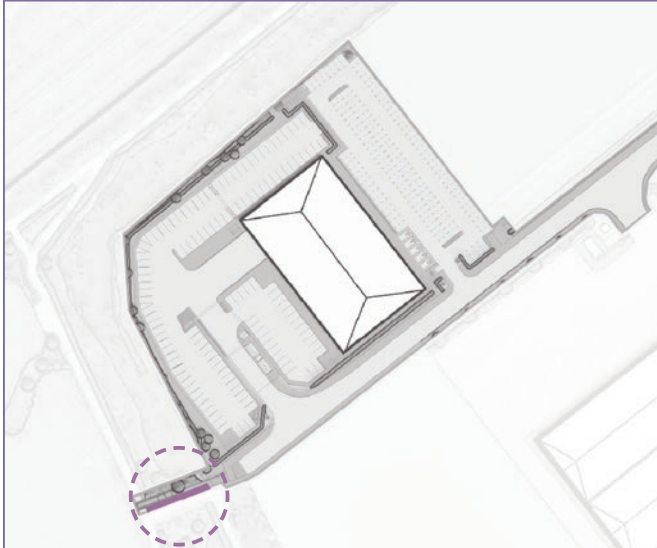
SPECIES RICH FLOWERING LAWN GRASSLAND / MOWN GRASS



Mown areas along pedestrian routes and parking areas increase openness and prevent overspill from the neighbouring planted areas in between maintenance visits.

- Maintain a mown grass verge along perimeter edges of fencing, paths and roadways to maintain clear visibility and create a 'tidy' appearance; and
- Mown areas located away from the main site access will be allowed to grow longer to enhance biodiversity.

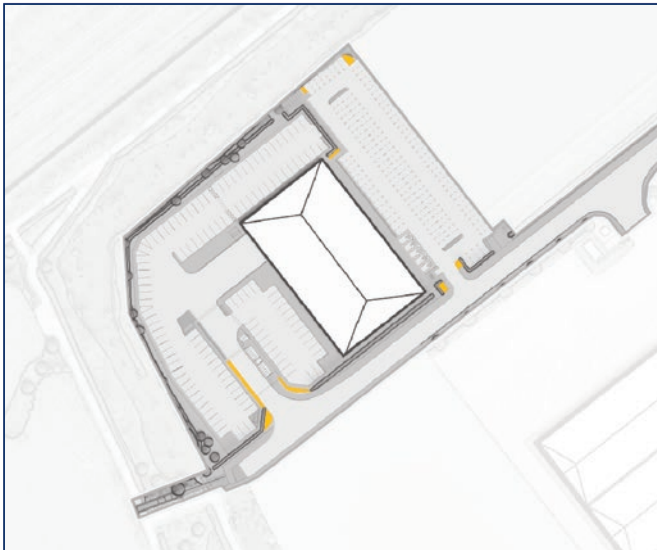
WILDFLOWER MEADOW



The wildflower meadow flanks the steps leading to the SuDs pond. It provides a soft transition from the scrub defining the 1:3 slope. It will be managed as part of a differential mowing regime to maintain habitat diversity and visual structure.

- The meadow will naturally grow to a maximum height of approximately 600mm. This will ensure clear sightlines and ensure safety as one walks down; and
- The meadow mixture needs to be varied to ensure that as some species decline others thrive. Wildflower and grassland mixes should be sourced from within the UK.

ORNAMENTAL PLANTING



Ornamental planting provides limited biodiversity value compared to other habitat typologies; however, it contributes to ecological diversity by offering food and shelter for species such as birds, bats, and invertebrates through a balanced mix of native and non-native species.

- It enhances year-round visual interest and amenity value; and
- In addition, ornamental planting creates a welcoming and dynamic setting, defining and enlivening spaces, and is used to highlight key areas such as parking corners and entrances.

5. PRESCRIPTIONS

- 5.1 The management prescriptions that follow set out practically the operations and regimes required to achieve the site wide aims and the objectives set out above. The following sections should be read in conjunction with the Planting Proposals (12006-6-SFW-XX-XX-DR-L-1001 and 334-UW-P-007).
- 5.2 The Landscape and Ecological objectives are detailed in Table 1 along with a monitoring regime and indicators that the Ecological Objective has been achieved.

Table 1

Landscape Feature	Landscape Ecological Objective	Monitoring Regime and Indicators that Ecological Objective has been achieved
Mature Specimen Trees	A healthy tree resource is being maintained that provides potential suitability for foraging and commuting bats as well as foraging and nesting birds. The trees will be managed to target moderate condition in the BNG Metric.	<u>Monitoring Regime</u> - every year - The trees will be managed to meet all the criteria stated on page. 2 of the Habitat Creation, Biodiversity Mitigation and Enhancement Scheme. <u>Indicators that the Objective is being achieved:</u> - Trees are healthy and will achieve their target size (< 300mm Diameter at Breast Height). - Grouped trees should maintain a continuous canopy, with gaps <10% of the total - The trees will be protected from damage during establishment. <u>Remedial actions</u> - Trees are not healthy – remove diseased/dead wood – arisings to be removed from site. - Dead tree – replace with an appropriate native species that will achieve the target size. - Should a tree become diseased and need to be replaced, a replacement tree should be planted so that the above conditions will be met once the tree is 1/3 of its expected fully mature height. - Appropriate tree management as described on p. 18 of this document.

Table 2

Landscape Feature	Landscape Ecological Objective	Monitoring Regime and Indicators that Ecological Objective has been achieved
Specimen Shrubs	Specimen shrubs to be maintained to provide early habitat and connectivity during the establishment of other habitats. Target condition under the BNG metric is poor.	<u>Monitoring Regime</u> • Every year <u>Indicators that the Objective is being achieved:</u> • Specimens are healthy and will achieve their target size. • Specimens will be protected from damage during establishment. <u>Remedial actions</u> • Specimens are not healthy – remove diseased/dead wood – arisings to be removed from site. • Dead specimen – replace with an appropriate native species that will achieve the target size. • Should a specimen shrub become diseased and need to be replaced, a replacement should be planted so that the above conditions will be met once the tree is 1/3 of its expected fully mature height. • Appropriate management as described on p.19 of this document

Table 3

Landscape Feature	Landscape Ecological Objective	Monitoring Regime and Indicators that Ecological Objective has been achieved
Native scrub	To create a habitat with a diversity of structure to provide potential resources for wildlife. The mixed scrub will be managed to target good condition in the BNG Metric.	<u>Monitoring Regime</u> Every two years in the first five years (years 1, 3 and 5). Every five years after that. The scrub will be managed to meet all the criteria stated on page. 3 of the Habitat Creation, Biodiversity Mitigation and Enhancement Scheme <u>Indicators that the Objective is being achieved:</u> • Healthy plants with more than 3 native species within habitat • Structurally diverse • Pernicious weeds and invasive species NB3 make up less than 5% of the ground cover. • The scrub has a well-developed edge with un-grazed tall herbs. <u>Remedial actions</u> • Plant is not healthy – remove diseased parts – replace if necessary with native species. Ensure that there are more than 3 native species present. • The habitat benefits from being structurally diverse - employ more severe pruning where necessary. • No one species to dominate over 75% of species composition – remove and replant with alternative native species as necessary. • Undesirable and invasive species to be spot treated, following any invasive species regulations if applicable. • Appropriate tree management as described on p.19 of this document

Table 4

Landscape Feature	Landscape Ecological Objective	Monitoring Regime and Indicators that Ecological Objective has been achieved
Native Hedgerow (Single and Species-Rich)	A healthy native boundary hedgerow will be maintained to provide structural definition to the development and suitable habitat for foraging and commuting bats, as well as foraging and nesting birds. The hedgerow will be managed to achieve a moderate condition in accordance with the BNG Metric.	<u>Monitoring Regime</u> • Every year in the first five years. Every three years after that. • A failure rate of up to 5% will be acceptable; however, if losses exceed this threshold, replacement planting of the same species will be undertaken, with the aim of achieving an overall establishment success rate of 85% after five years. • The hedgerows will be managed to meet all the criteria stated on page.2 of the Habitat Creation, Biodiversity Mitigation and Enhancement Scheme. <u>Indicators that the Objective is being achieved:</u> • The hedge has an average height of at least 1.4 m along its length and width. • The hedgerow should not be excessively short or gappy, nor should it develop into a linear formation of trees. • The hedgerow has not been damaged. • There are no invasive species present. <u>Remedial actions</u> • Ensure hedgerow has only native woody species– replace plants as necessary to achieve this. • Maintain hedgerow to a height of 1.5m and maintain a width of at least 750mm for single row hedgerows and 1.5m for double row hedgerows. • Ensure that the hedgerow has an A shape profile – review trimming techniques if it has not been achieved. • Not too short, gappy or developing into a line of trees. If necessary, gaps to be filled on a 2 for 1 basis with appropriate native species. • If the hedgerow has been damaged such as from excessive cutting, pollution and dumping of rubble etc., review management techniques, remove sources of pollution. • Invasive species should be removed following current regulations. • Appropriate hedgerow management as described on p. 20 of this report.

Table 5

Landscape Feature	Landscape Ecological Objective	Monitoring Regime and Indicators that Ecological Objective has been achieved
Shade tolerant flowering grassland	To create a biodiverse grassland that develops into a tussocky habitat supporting a wide range of wildlife. The proposed grassland will be managed to achieve a moderate condition in accordance with the BNG Metric.	<u>Monitoring Regime</u> Every year in the first five years. Every five years after that. <u>Indicators that the Objective is being achieved:</u> • The grassland should comprise 20% native wildflowers and 80% slow growing grasses. • Encroachment of undesirable species less than 5% ground cover. <u>Remedial actions</u> • Most sown meadow species are perennial and slow to establish. Shortly after sowing, a flush of annual weeds may emerge from the existing soil seed bank. Although these weeds can appear unsightly, they provide shelter for developing seedlings and valuable resources for invertebrates. They will naturally die back by the end of the first growing season; therefore, cutting should be avoided until mid to late summer. • The grassland will require minimal management during establishment. • If grassland does not maintain its diversity, management should be reviewed, depending on what species is becoming prominent. • Encroachment of undesirable species may require a change to the management regime or targeted removal. • Appropriate grassland management as described on p. 21 of this document

Table 6

Landscape Feature	Landscape Ecological Objective	Monitoring Regime and Indicators that Ecological Objective has been achieved
Species rich flowering lawn/ Mown Grass	To maintain mown areas along pedestrian routes to provide openness and prevent encroachment from adjacent scrub and woodland between maintenance visits. Mown areas located away from main site access points will be allowed to grow longer to enhance biodiversity. The target condition for this habitat under the BNG Metric is poor.	<u>Monitoring Regime</u> Every two years in the first five years. Every five years after that. Mown area closest to the building should have a maximum height of 70mm. <u>Indicators that the Objective is being achieved:</u> - A healthy grassland sward should be maintained, characterised by limited presence of undesirable plants, invasive non-native species, and scrub encroachment. <u>Remedial actions</u> - Where grass is not healthy it may need resowing to maintain its visual objective. - Encroachment of unwanted species (see BNG criteria) may require a change to the management regime or targeted removal. - If range of species is becoming dominated by a few perennial grasses review management regime. - Refer to Mown areas on p. 22 of this document for management detail.

Table 7

Landscape Feature	Landscape Ecological Objective	Monitoring Regime and Indicators that Ecological Objective has been achieved
Ornamental Planting	To provide a visually striking landscaping scheme to building entrances, which enhance user experience. Species diversity will provide benefits for insects. Target condition under the BNG metric is poor.	<u>Monitoring Regime</u> - Every two years in the first five years (years 1, 3 and 5). Every five years after that. <u>Indicators that the Objective is being achieved:</u> - Healthy and bushy growth and desirable ornamental features, e.g. flowers, fruit, autumn colour, stem colour. <u>Remedial actions</u> - Replace any dead shrubs - Prune to encourage healthy growth, removing suckers and dead plant material, broken and damaged stems. - Appropriate management as described on p. 22 of this document

Table 8

Landscape Feature	Landscape Ecological Objective	Monitoring Regime and Indicators that Ecological Objective has been achieved
Wildflower meadow	To provide floristic diversity and suitability for invertebrates, birds and mammals. The proposed meadow will be managed to target moderate condition in the BNG Metric.	<u>Monitoring Regime</u> Every two years in the first five years. Every five years after that. The meadow will be managed to meet all the criteria stated on page. 2 of the Habitat Creation, Biodiversity Mitigation and Enhancement Scheme under Neutral Grassland. <u>Indicators that the Objective is being achieved:</u> • Grassland contains diverse species, with wildflowers and sedges no more than 30% of total area. • Rye-grass cover is less than 25% cover. • Encroachment of undesirable species less than 5% ground cover. <u>Remedial actions</u> • If grassland does not maintain its diversity, management should be reviewed, depending on what species is becoming prominent. • Encroachment of unwanted species (see BNG criteria) may require a change to the management regime or targeted removal. • Refer to Wildflower meadow on p. 21 of this document for management detail.

General Maintenance Prescriptions

5.3 The appointed contractor will visit the site a minimum of once a month throughout the year, and additionally as necessary, to undertake the operations required to fulfill the prescriptions listed below and the management objectives of the site.

5.4 Management and maintenance operations will be carried out by competent landscape contractors, to the highest possible standards and in accordance with industry best practice, all relevant codes of practice and British Standards. All tools and machinery employed will be fit for purpose, suitable for site conditions and only used in accordance with the manufacturer's recommendations. All operations are to fully comply with relevant Health & Safety regulations.

Cleanliness

5.5 At the end of each visit, the contractor shall remove from site all litter/rubbish, arisings, trimmings, and superfluous materials, leaving the works in a clean and tidy condition. Particular attention shall be paid to ensuring all areas of hard surfacing, drains and gullies are left in a clean condition, free from any soil, mud, leaves, cuttings and plant prunings. In the event of reported and substantial litter accumulation (e.g., fly tipping) the contractor shall remove material from site within two days.

Weed and Pest Control

5.6 All areas shall be kept free from weeds, pests and diseases. Planting is to be inspected on a monthly basis and any remedial action taken immediately. Weeding and the removal of self-set seedlings (within the meadow areas) may be carried out by hand, with chemical, or through a combination of both methods in a manner consistent with the requirements of this management plan. Chemical treatments are to be applied in accordance with manufacturer's instructions and relevant safety regulations. Application of chemicals must be restricted to affected areas and spray drift or spillage must be prevented. Weeds and other debris will be removed from site at the end of each visit.

Mulch

5.7 Mulch is to be applied to the base of mature tree planting and should be inspected on a monthly basis and restored to the original depth (50mm) where levels have diminished. Medium grade

bark mulch should be maintained to original levels (50mm) in perpetuity.

Watering

5.8 Planting (particularly Mature Trees) should be monitored for signs of drought stress every two weeks during dry periods for the first five years of planting. Specimen trees showing signs of drought stress are to be watered to field capacity until signs of drought stress are no longer visible.

5.9 Replacement Planting: An audit of all planting should be made in August/September of each year in the first five years. Where plants fail, they should be replaced in accordance with the original specification. Planting should be replaced in suitable weather conditions during the next winter planting season.

Fertiliser

5.10 An approved and appropriate fertiliser shall be applied to the planted areas listed below in Years 1, 2 and 3 in early spring to ensure rapid establishment.

- Native hedgerow
- Specimen Tree planting

5.11 The wildflower meadow and shade-tolerant flowering grassland should be avoided.

Replacement Planting/Hard Landscape Defects

5.12 An audit of all planting should be made in August/September of each year in the first five years. Where plants fail, they should be replaced in accordance with the original specification on the drawings. Planting should be replaced in suitable weather conditions during the next winter planting season and maintained in accordance with this report.

5.13 Damaged furniture and surfaces to be made good within one month, with areas made safe in the meantime.

PROPOSED LANDSCAPE FEATURES

Aim 1: Create new habitats to increase site-wide diversity, compensate for the loss of previous habitats; and provide connectivity to the wider landscape.

5.14 The following are general management operations that apply to all soft landscape features within the site:

- All clippings and grass cuttings are to be either composted on site at a designated location or removed to a composting area off site; and
- All specimen trees are to be watered as required during the summer months of years 1-5, particularly during periods of drought.

SPECIMEN TREES

5.15 Specimen trees will be planted within the development for amenity and to provide habitats associated with mature open grown trees. Species selection will be in accordance with the Planting Proposals shown on drawing 12006-6-SFW-XX-XX-DR-L-1001 and 334-UW-P-007.

5.16 The size of the Specimen trees will be as specified in the softworks schedule. A range of sizes will be used, depending on their location and context. For some species, feathered specimens may be appropriate.

5.17 Specimen trees will be bareroot or rootballed. They will be fixed in position using underground guying with an ornamental bark mulch applied to a depth of 50mm for a 1m diameter around the trees.

5.18 Trees will be inspected at least three times per year and any failures replaced during the next planting season. Bark mulch will be topped up and herbicide spray used as required to prevent weed growth through the mulch. Trees will be watered as necessary during the first 2 years to ensure full establishment. Stakes, tubes and ties will be removed as appropriate.

5.19 Specimen trees will be formatively pruned to develop a clear stem (or stems) to at least 2.5m.

5.20 The recommended planting period for woody species is between November and March, avoiding times of flooding or prolonged ground frost.

5.21 Detailed descriptions of management operations for Year 1-5 are set out below:

- Specimen trees should be watered as required to ensure that they establish and thrive. During the first 5 years following planting, trees will be watered during periods of extreme drought (2 or more weeks without substantial rainfall). Water in the morning or in the evening to restrict water evaporation;
- Top up mulch levels annually to original levels (50mm);
- Prune back any diseased or rotten wood back to sound wood. A suitably skilled and qualified Arboriculturist shall carry out such pruning. All cut material will be used on the site for hibernaculum;
- Keep trees upright and examine stability and guying fixings for their effectiveness; and
- Any tree that dies or is necessarily felled as a result of storm damage, vandalism, mechanical damage, fungal decay or other such cause, shall be replaced like for like. Such replacement shall be with a tree of either the same species or similar species as those existing. This is to allow some flexibility and to avoid problems encountered with 'Same Tree Disease.'

5.22 Detailed descriptions of management operations for Year 6-15 are set out below:

- After establishment continue to water only if deemed to be required;
- Checks on safety and condition of trees annually, or as required (e.g., after high winds) to ensure continued health of trees and safety of site;
- Safe removal of dangerous or potentially dangerous trees; and
- All checks and reports on trees to be carried out by a qualified Arboriculturist. Undertake works as recommended to ensure continued health and safety of trees.

Special Measures (Long Term – post 15 years)

5.23 Standard trees adjacent to the car parking areas should be allowed to grow to be above the level of vehicle movement. The lower branches of such trees should be regularly pruned back to the trunk in order to ensure that the most suitable flight line is above the maximum traffic height.

5.24

SPECIMEN SHRUB PLANTING

- 5.25 Specimen shrubs will be planted within the development for amenity value, with species selection in accordance with the Planting Proposals shown on drawing 12006-6-SFW-XX-XX-DR-L-1001. The size of the specimen shrubs will be as specified in the softworks schedule.
- 5.26 Specimen shrubs will be container-grown or rootballed. Each shrub (Amelanchier) will be planted with an ornamental bark mulch applied to a depth of 50 mm within a 1m diameter to assist moisture retention and suppress weed growth.
- 5.27 Shrubs will be inspected at least once per year, with any failures replaced during the next planting season. Mulch levels will be topped up annually, and herbicide applied as required in a controlled manner to prevent weed competition. Shrubs will be watered during the first two years to ensure successful establishment.
- 5.28 Formative pruning will be undertaken to develop the desired natural canopy shape, appropriate to Amelanchier lamarckii.
- 5.29 The recommended planting period is between November and March, avoiding times of waterlogging or prolonged ground frost.
- 5.30 Annual pruning will take place in late November (after leaf fall for Amelanchier) to maintain healthy growth and clear visibility along pedestrian routes.
- 5.31 Detailed descriptions of management operations for Year 1-5 are set out below:
- Water as required to promote establishment. During prolonged dry periods (two weeks or more without rainfall), provide supplementary watering in the early morning or evening to minimise evaporation;
 - Top up mulch annually to maintain a 50 mm depth around each shrub;
 - Remove any diseased, damaged or dead material, cutting back to healthy tissue. All pruning must be carried out by a suitably skilled and qualified horticultural contractor. Amelanchier should be lightly thinned to maintain an open structure; Phormium should have dead or damaged leaves removed at the base;

- Check any temporary supports for Amelanchier (if used) until fully established. Adjust or remove supports when no longer required. Phormium typically does not require staking; and
- Any specimen shrub that fails or becomes damaged due to vandalism, disease, or environmental factors will be replaced on a like-for-like basis during the next planting season.

- 5.32 Detailed descriptions of management operations for Year 6-15 are set out below:

- Water only during exceptional drought conditions;
- Inspect shrubs annually, and additionally following extreme weather, to ensure continued health and structural stability;
- Undertake selective pruning as required to maintain healthy form and prevent overcrowding; and
- Remove any shrub that becomes hazardous, unstable, or severely diseased, and replant with an appropriate replacement of the same species or equivalent value.

NATIVE SCRUB

- 5.33 Scrub management for wildlife should create and maintain a range of features; a diversity of shrub species, age and structure is essential. Scrub areas require periodic maintenance to retain its character and value to wildlife and if left unmanaged, scrub will develop into woodland.

Spot Spraying

- 5.34 During the first-year spot spraying should be undertaken around each plant to suppress weed competition (to a one-metre radius). Avoid spraying any self-set wildflowers as they are important for nectar-feeding. Instead, consider using a herbicide that only controls grasses.
- 5.35 The list of approved herbicides is constantly changing so always seek up-to-date professional advice. Herbicide use must follow label instructions, comply with the Control of Substances Hazardous to Health (COSHH) Regulations 2002 and only by done by people with Certificates of Competence for spraying.

Protection Against Damage by Grazing Animals

- 5.36 Shrubs are vulnerable to browsing by livestock, deer and rabbits during establishment. Use of tree shelters and biodegradable spirals fixed to a wooden stake will protect plants from grazing. They have the added benefit of creating a greenhouse effect that encourages rapid growth.
- 5.37 Shelters should be inspected regularly, as they may become damaged by weather or vandalism. If a shelter becomes loose or a stake is broken, it can cause the plant to lean and develop poor form
- 5.38 Fencing the scrub areas is a very effective method of protecting young woodlands from wildlife damage, as long as they are well maintained. Check the fence line for damage as often as you can.
- 5.39 If there is evidence of wildlife (specifically, rabbit and deer) inside the fenced area, they need to be removed and the fence repaired.
- 5.40 Cutting most species of scrub encourages re-growth and is useful for maintenance and restoration. Cut areas of scrub in a rotation, aiming to retain all ages. Detailed descriptions of management operations for Year 6-15 are set out below:
- Trimming following establishment period including maintenance of a sinuous edge with a graded margin down to field layer;
 - Following establishment (Year 5) introduce glades/clearings/rides and apply woodland seed mix to these opened up areas;
 - Selective thinning of some stands and creation of open areas within/between stands to allow light to reach ground flora and promote regeneration of young shrubs;
 - Selective clearing of scrub edge (roughly 1/3 to 1/5 every 2-3 years) down to ground to reduce dominance of species such as blackthorn and hawthorn and promote regeneration of young shrubs/ herb edge. Cut between September and February, to avoid the bird breeding season; and
 - Annual mowing of herb/grass margin at scrub edge to maintain herb margin free of scrub growth and encourage flowering herbs.

NATIVE HEDGEROWS (Single & Species-Rich)

- 5.41 New hedgerows will be planted during the planting season (October to March inclusive) and will comprise of species that attract wildlife, planted at a densities detailed within Smeedon Foreman Ltd drawing (12006-6 SFW XX XX DR L 1001).
- 5.42 The following are management operations that apply to the proposed native hedgerow (Years 1-5).
- 5.43 Undertake to ensure the creation and maintenance of healthy, attractive and dense boundary, with seasonal interest and and ecological value.
- Individual spiral guards and canes will be required to prevent damage to saplings by browsing wildlife;
 - Apply herbicide to base of hedge using knapsack sprayer. Extra care needs to be taken when applying systemic herbicides to avoid contact with the plant. One application made in spring and, depending on the vigour of the weeds, another in mid-late summer;
 - Trim hedge to a height not greater than 1.4m during the establishment period to encourage dense growth;
 - Prune between October to March, ideally in January and February to ensure that fruiting bodies can be used by local fauna;
 - Remove any dead, damaged, or diseased growth; and
 - Trim hedge in February (outside of bird nesting season and allowing for fruit to remain over winter) to a height not greater than 1.4m. During the establishment period trim to encourage dense growth; and
- 5.44 Detailed descriptions of management operations for Year 6-15 are set out below:
- Apply herbicide spray to areas only where required to keep base of planting free of weeds;
 - Prune in spring and autumn as necessary to remove any dead, damaged or diseased growth;
 - Trim hedge in February (outside of bird nesting season and allowing for fruit to remain over winter) to a height of 1.5m; and
 - Maintain a width of at least 750mm for single row hedgerows and 1.5m for double row hedgerows.

SHADE-TOLERANT FLOWERING GRASSLAND & WILDFLOWER MEADOW

Sowing

- 5.45 Seed is best sown in the autumn or spring but can be sown at other times of the year if there is sufficient warmth and moisture. The seed must be surface sown and can be applied by machine or broadcast by hand. Do not incorporate or cover the seed, but firm in with a roll, or by treading, to give good soil/seed contact.

First Year Management

- 5.46 Most sown meadow wildflower and grass species are perennial; they will be slow to germinate and grow and will not usually flower in their first growing season. There will often be a flush of annual weeds from the soil in the first growing season which may grow up and obscure the meadow seedlings beneath. This annual weed growth is easily controlled by topping or mowing.
- 5.47 Mow newly sown meadows regularly throughout the first year of establishment to a height of 40-60mm (for wildflower meadow) and height of 70mm (for shade-tolerant grassland), removing cuttings if dense. This will control annual weeds and help maintain balance between faster growing grasses and slower developing wildflowers.
- 5.48 Dig out any residual perennial weeds such as docks.

Management once Established

- 5.49 In the second and subsequent years, sowings can be managed in a number of ways which, in association with soil fertility, which will determine the character of the grassland. The best results are usually obtained by traditional meadow management based around a main summer hay cut in combination with autumn and possibly spring mowing or grazing.
- 5.50 Meadow grassland is not cut from spring through to late July/August to give the sown species an opportunity to flower. After flowering in July or August, cut back with a petrol trimmer or tractor mower to c.50mm (for wildflower meadow) and c.70mm (for shade-tolerant grassland). Leave the arisings to dry and shed seed for 1-7 days then remove from site.

- 5.51 Mow the re-growth through to late autumn/winter to c.50mm (for wildflower meadow) and c.70mm (for shade-tolerant grassland) and again in spring if needed.

Wildflower Meadow management

- 5.52 Management and maintenance during the establishment period for the meadow varies depending on the method used to plant the area. The techniques all have advantages and disadvantages. Each site needs to be assessed and the techniques chosen on a site-by-site basis, with water level and degree of control (as well as the time of year) often determining the technique used. The techniques include:
- Sowing seed
 - Planting seedlings
 - Planting cuttings
 - Spreading rhizomes
 - Turf transplants
- 5.53 Detailed descriptions of management operations for Year 1-5 are set out below:
- The meadows will require minimal management during establishment. Excessive growth of unwanted plants can be removed by hand to allow establishment of sown/planted species;
 - They should be monitored annually for their establishment;
 - Base levels may need to be re-dug if meadow area is permanently dry and re-seeding may be required if establishment does not occur within two years (10% of bed only); and
 - Following successful establishment (expected approximately 2 year) growth should be checked annually.
- 5.54 Detailed descriptions of management operations for Year 6-15 are set out below:
- Removing dead plants to prevent decomposition, litter build-up and nutrient enrichment and to keep some reed young and healthy.

SPECIES-RICH FLOWERING LAWN & MOWN AREAS

5.55 The following are management operations that apply to the amenity grassland areas. Undertake as required to achieve a good sward of even colour and a maximum height of 70mm.

5.56 Detailed descriptions of management operations for Year 1 post seeding are set out below:

- Once seedling grasses are established, (typically in good growing conditions about three to four weeks after sowing), lightly roll or tread to firm and level the soil around the grass roots ready for the first cut. (Do not roll if the ground is wet and saturated with water);
- When the grass has picked up (typically after a few days), the lawn will be ready for its first cut. Cut with the mower set on a high setting (+50mm), aiming to trim the sown grass back by about one-third of its height;
- Thereafter, mow the new lawn regularly as needed, progressively reducing the mowing height over its first spring/summer to the desired height;
- A new sown lawn will take a full year or more to reach full strength, complete ground cover and knit together as a turf. It can be walked on during this establishment phase but avoid heavy use that might cause excessive wear and tear;
- Mow newly sown flowering lawns regularly (every 7-10 days during growing season) throughout the first year of establishment. Cut to a height of 40-60mm, removing cuttings if dense; and
- Carefully dig out or spot treat any residual perennial weeds such as docks.

5.57 Detailed descriptions of management operations for Year 2 onwards are set out below:

- Remove litter and debris at every visit before each cut;
- Mow regularly as a lawn but not too short (25-40mm). To permit flowering, mowing to be relaxed from late april.
- Cut again when the sward gets untidy (after 4-12 weeks).
- Repair eroded areas as required. Rotovate to 150mm, 100mm topsoil and reseed between May-September;

- Lightly scarify in March annually as required;
- Grass areas may be treated to control invasive or unsightly weed growth in spring and late summer;
- Water as required during dry spells to ensure establishment; and
- Fertilise in spring (up until Year 3).

ORNAMENTAL PLANTING

5.58 The following are management operations that apply to the ornamental mixed planting areas. Undertake to ensure the creation and maintenance of healthy, attractive plant mixes, with seasonal and ecological interest.

5.59 Detailed descriptions of management operations for Year 1-5 are set out below:

- Any dead or dying plants should be removed and replaced during the next available planting season;
- Planted areas to be weed-free throughout summer where appropriate, clear weeds by hand and remove arisings. Where herbicide application is needed, it is recommended that an appropriate herbicide is applied in small, controlled areas;
- Herbicides must be listed on the HSE Pesticides Register of UK Authorised Products, and herbicide application must conform to the 'Pesticides: Code of Practice for Using Plant Protection Products' (DEFRA);
- Thinning at the end of each year as necessary to maintain healthy plant growth;
- Prune shrubs to encourage the best display of given species, taking into account of natural habitat and form. Prune winter flowering shrubs in spring, shrubs flowering between March and July immediately after flowering, and shrubs flowering between July and October back to old wood in winter;
- Cut back old growth of perennials and shrubs in March, avoiding damage to new growth. Remove arisings; and
- Check for root firmness after high winds and in spring and autumn of every year until the plants are wind firm.

5.60 Detailed descriptions of management operations for Year 6-15 are set out below:

- To maintain the appearance of the plant areas the management applied in Years 1-5 should be continued; and
- Full assessment of site after 20 years at which many plants are to be replaced.

PROPOSED HARD LANDSCAPE ELEMENTS

Fencing and Gates

5.61 Ensure all fencing and gates are secure, undamaged and in a good state of repair. Should any part of a fence or gate be deemed below standard obtain guidance and/or repair or replace as required. Carry out a twice annual inspection in spring and autumn. Record inspections/any actions arising from inspections.

Pathways and Hard Surfacing:

5.62 General: ensure all pathways and hard surfaces are free from weeds, trip hazards, debris, litter, chewing gum, snow and ice or other obstructions throughout the year. Carry out inspections at each site visit and as required by the weather/likely conditions on site.

5.63 Make good damaged surfaces to maintain safe and accessible routes that are fit for use throughout the year as required.

5.64 Pathways which are bound by a 1m mown grass strip should be mown regularly to maintain a sward height of 50mm. All cuttings to be removed.

Structures

5.65 Ensure bird and bat boxes are structurally sound. Make good any damage that has occurred due to weathering or vandalism. Maintain visual appearance, any graffiti to be removed.

6. ENHANCEMENTS FOR NOTABLE SPECIES

- 6.1 Habitat creation and enhancement specific to Unit 6 will have the following aims:
- Retain habitat connectivity for a range of species
 - Provide habitat connectivity to the wider landscape through hedgerow.
 - Provide a sensitive and diverse planting scheme to attract a range of invertebrates, especially lepidoptera (butterflies and moths).
 - Further enhancements will include bird box and bat box provision.
 - Biodiversity condition targets for new and retained habitats are provided in the Habitat Creation, Biodiversity Mitigation and Enhancement Scheme (FPCR, 2024).
 - The ecological value will be developed over time. e.g. as the planting matures, opportunities for invertebrates such as beetles and butterflies will increase due to the increase in food sources such as nectar. This will in turn create additional foraging opportunities for the local bird and bat populations. Generalist bird species will also benefit as tree and shrub planting matures and provides nesting and nutrient resources. The maturing habitats will also provide foraging, commuting and shelter resources for small mammals and herptofauna.
- Bats**
- 6.2 Enhancement measures will aim to increase potential roosting opportunities, this will comprise of telegraph style pole mounted bat boxes. The bat boxes should be placed facing South to provide decent exposure to sunlight in an area sheltered from the wind where possible. Recommended boxes comprise:
- 2x suitable size wooden poles (minimum height 3m above ground) each supporting:
 - 1x Schwegler 2F Bat Box or similar, suitable for smaller bat species
 - 1x Vincent Pro Bat Box or similar, suitable for a range of bat species.
- 6.3 Bat boxes will be checked bi-annually to ensure that they are functional and structurally sound, but also to assess their occupancy rate. These will need to be undertaken by a licenced bat ecologist between May to August. Where they are damaged, they will be replaced on a like for like basis, or if they are not be used a different type or position maybe required.
- 6.4 The creation of and hedgerow pollinator corridors will maintain bat foraging opportunities within the site, and the successful management will ensure that resources are available in the future.
- 6.5 Refer to the 12006-6-SFW-XX-XX-DR-L-1001 for locations of the features.
- Birds**
- 6.6 The provision of meadow species, flowering grassland, and a new native hedgerow will provide breeding and foraging habitat for a range of bird species.
- 6.7 1no. 1B Schwegler Nest Box with 26mm Holes and 1no. 1B Schwegler Nest Box with 32mm Holes boxes will be placed within the flowering grassland at a height of c.1.5m facing between North and East to prevent exposure to the prevailing wind and rain. These boxes generally have a high uptake rate.
- 6.8 Refer to the 12006-6-SFW-XX-XX-DR-L-1001 for locations of the features.
- Hedgehogs**
- 6.9 Wildlife friendly boundaries will be installed within the Green Infrastructure, this is to allow the free movement of hedgehog and other small mammals. This can be achieved by removing a section of timber or cutting a hole in the bottom of fences. Holes should be approximately 13cm² and provide linkages to the wider areas. Each hole will have an attached sign, designating the holes purpose.
- 6.10 Holes will be instated immediately following the erection of the fence boundaries. The site occupier will be issued with information about management of the site for wildlife including information about hedgehog highways.

7. MONITOR SITE FOR BIODIVERSITY IN THE LONG TERM

Aim 2: To monitor and manage the created landscape features and habitats throughout the management period to ensure increasing ecological diversity is maintained in the long term.

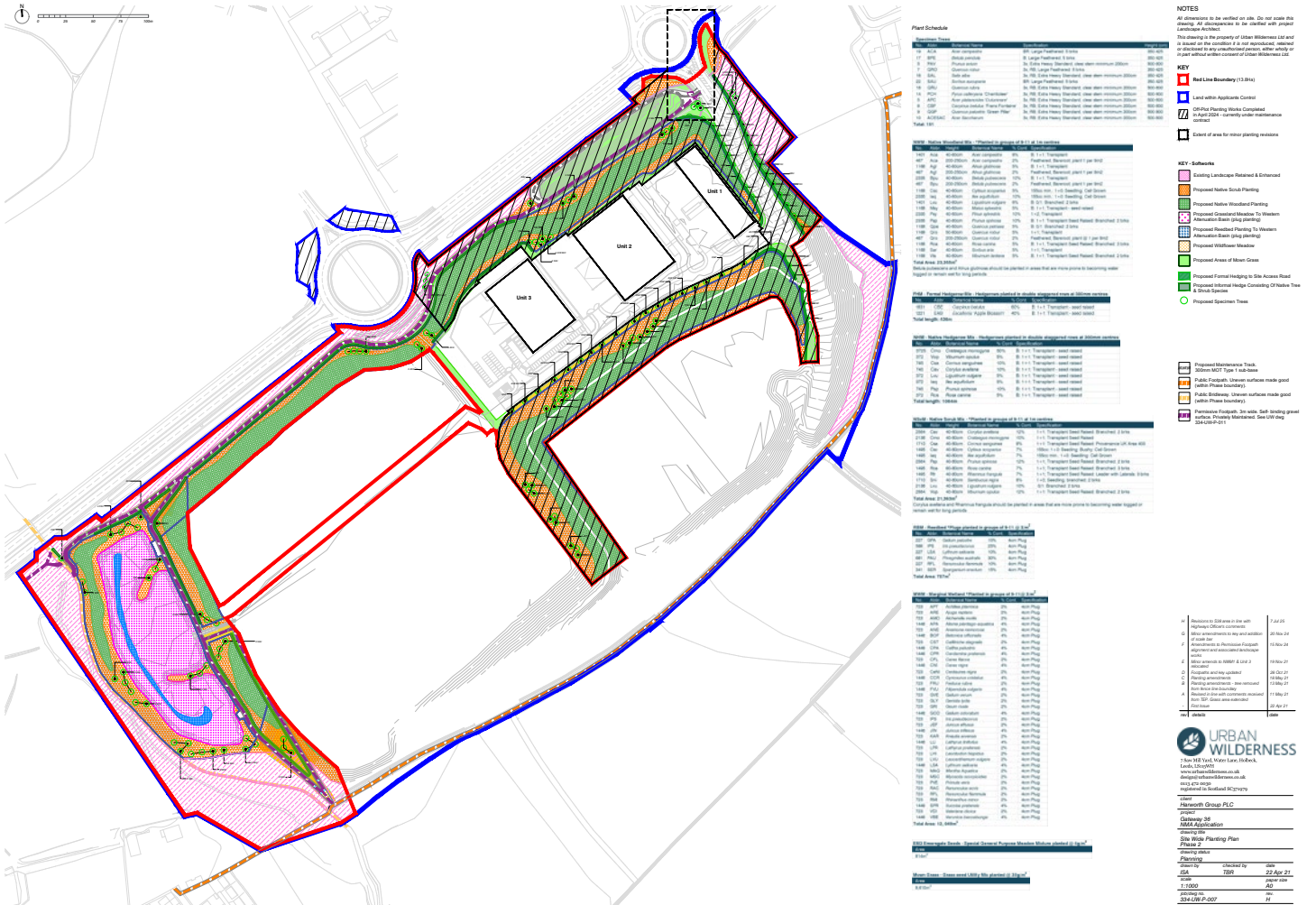
- 7.1 In order to ensure that the landscape features created within the site reach and maintain their maximum aesthetic value, all landscape features are recommended to be monitored annually by a qualified landscape architect.
- 7.2 In order to ensure that habitat created within the site reaches and maintains its maximum value to nature conservation, habitat should be monitored every year by a qualified ecologist.
- 7.3 Conditions will be assessed as set out in the Biodiversity Metric 2.0 guidance and technical supplement (Natural England Joint Publication JP029, 2019), by a suitably qualified ecologist, with recommendations made to inform annual management practices.
- 7.4 Results of this monitoring should be used to inform changes to the management plan and five-year work programme.

- 7.5 The prescriptions provided here should be altered if required to reflect any change in needs of the local community or habitats and species of interest. Changes to the procedures that have been set out in this report must ensure the site wide aims set out in this report are achieved.
- 7.6 The management plan will operate over an initial fifteen-year period, with progress reviewed every five years by a suitably qualified and experienced ecologist, arboriculturist, and landscape architect working collaboratively. Five-year monitoring reports will be submitted to Barnsley Council throughout this period.
- 7.7 Following the initial fifteen years, the Landscape and Ecological Management Plan (LEMP) will be reviewed and updated to cover a subsequent fifteen-year period, maintaining the overall 30-year management framework. The updated programme should incorporate findings from the initial phase to ensure that all habitats continue to achieve and maintain the desired condition in line with Biodiversity Net Gain objectives.

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The implementation and delivery of this management plan will be the responsibility of the Developer - Harworth Group PLC's Asset Management Team - up until practical completion.
- 8.2 Upon practical completion, the appointed landscape contractor will be responsible for addressing any site defects during the standard 1-year liability period. It is the responsibility of the landscape architect to ensure that the landscape works have been executed in accordance with the landscape proposal and meet all statutory requirements.
- 8.3 During this liability period, the landscape contractor will address any identified site defects. Once the landscape architect deems the works satisfactory, and all parties agree that the contractor has completed the work, the handover process will take place.
- 8.4 Harworth and CBRE, appointed as the property manager, will integrate the management plan items outlined here into a future landscape management contract.
- 8.5 As mentioned in points 7.1 to 7.7, it will be the responsibility of the appointed landscape architect and the ecologist to monitor and assess the BNG metric and amend prescriptions on an annual basis prior to handover.
- 8.6 After handover, it will become the responsibility of the future development owner, to ensure the ongoing management plan measures are upheld.

9. APPENDIX FIGURES



334-UW-P-007 rev.H - Site Wide Planting Plan - 7 Jul 25

Gateway 36, Rockingham

Unit 6

Landscape and Ecological Management
Rev. A - 24 Nov 2025

Prepared by



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