

APPENDIX 11.8 - OUTLINE LANDSCAPE AND ECOLOGY MANAGEMENT PLAN



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Introduction

- 11.7.1 This Outline Landscape and Ecology Management Plan (OLEMP) forms part of the Landscape and Visual Impact Assessment (LVIA) as part of the Environmental Statement (ES). It includes provision for the creation, successful establishment and future management of biodiversity and landscaping measures for the Proposed Development. The OLEMP forms the basis of future detailed LEMPs, which may be secured by planning condition, by setting out the overall strategy for management and maintenance.
- 11.7.2 This OLEMP sets out the measures and practices that will be implemented to establish, monitor, and manage landscape and ecology measures that are embedded in the design.

Purpose of the Outline Landscape and Ecology Management Plan

- 11.7.3 The Proposed Development at GA2 would create considerable new habitats and interrelated green and blue infrastructure which is essential to delivering multifunctional environmental, social and ecological benefits, as shown on the Illustrative Masterplan and Landscape Strategy. The plans show how new areas of green infrastructure and public open space will be provided across the Site and highlight the various landscape character areas that will be provided within the design. The OLEMP provides an additional layer of information that will help to ensure the functionality of these green and blue spaces is secured, whilst ensuring appropriate habitats are successfully established through the lifespan of the Proposed Development.
- 11.7.4 The overarching aim of this OLEMP is to set out the measures and prescriptions for:
- The retention of existing vegetation and habitats to maintain integral green corridors and to minimise the loss of habitats used by legally protected and notable species. Although, it is noted that a large proportion of the Site currently comprises intensively managed arable land, there are also large areas of woodland and Ancient woodland within the Site and along its boundaries;
 - Mitigation measures that are embedded within the design to mitigate against the effects of the Proposed Development on the landscape, biodiversity and heritage features off Site;
 - The creation and enhancement of biodiversity, recreation, landscape and green infrastructure value within the Site;
 - Securing compliance with relevant national and local planning policies;
 - Habitat creation and management with the aim of providing considerable biodiversity enhancements while strengthening green infrastructure within the area; and
 - Reinforcing local distinctiveness and ensuring the landscape character is maintained and enhanced by creating habitats that are typical of the surrounding landscape, and usable for both the community and local wildlife.

- 11.7.5 The Proposed Development has been designed, as far as possible, to avoid or reduce effects on landscape, heritage, and biodiversity features through the implementation and provision of planting, habitat creation, and enhancements appropriate to the landscape character of the area.

General Implementation Prescriptions

- 11.7.6 All landscape works will adhere to the details and specifications outlined in this report and any subsequent detailed LEMPs produced by Contractors as part of detailed design stages. During construction, measures set out within the Construction Environmental Management Plan (CEMP) and those found within Appendix 14.2, Soil Handling Guidance (see **Chapter 14: Soil and Agricultural Land**), will be adhered to.
- 11.7.7 The installation schedule will depend on the construction timeline and a more detailed programme will be developed prior to construction starting. Opportunities for advanced planting should be considered to allow trees to mature as early as possible, in accordance with the relevant planting seasons.
- 11.7.8 The landscape contractor will be responsible for maintaining the planting for at least 12 months post-installation, replacing any defective plants by the end of the first year (or earlier).
- 11.7.9 After this period, it is expected that the appointed Management Company (ManCo) will undertake all management tasks described in this report. Any planting areas transferred to individual private dwellings or allotments will be the responsibility of the occupiers.
- 11.7.10 Prescriptions contained within this report make reference to a 'Contractor' assumed to be either the originally appointed landscape contractor who installed the planting scheme, or a suitably qualified contractor as appointed by the ManCo.
- 11.7.11 The contractor will be proficient in identifying plant species, including those in seeded and planted mixes, as well as undesirable species, and experienced in the necessary habitat creation and enhancement works for this project. Specialist work, such as habitat creation within SuDS features, may be performed by specialist subcontractors appointed by the Contractor, when specific skills, equipment, and/or experience are required.

General Management Prescriptions

- 11.7.12 Maintenance of the landscape areas will be carried out by a qualified Landscape Contractor. In this report, the appointed landscape contractor is referred to as 'The Contractor.'
- 11.7.13 Maintenance visits will occur at least once a month (12 visits per year). The frequency of visits may need to increase at certain times of the year to ensure all specified operations are properly executed.

- 11.7.14 During each visit, the following tasks will be performed:
- I. Regularly pick up litter across the landscape areas to keep planting and amenity areas clean.
 - II. Rake up and remove leaf litter from the Site.
 - III. Protect adjacent areas affected by maintenance operations using hoardings, boards or tarpaulins. Do not place excavated or imported materials directly on grass or hard surfaces.
 - IV. Weed planted areas.
 - V. Water as needed to ensure healthy plant growth, especially from May to August or during prolonged droughts, which may require more frequent visits.
 - VI. Sweep all communal hard surfaces to keep them free from litter and leaves.
 - VII. Perform all necessary landscape, ecological and SuDS maintenance, as outlined in the Outline Management Prescriptions below.
- 11.7.15 All soft landscape areas will be maintained according to BS7370-4:1993 standards, or similar approved.
- 11.7.16 The Contractor will maintain the entire Site in accordance with the schedules and specifications in this document, ensuring high standards of landscape maintenance at all times.
- 11.7.17 The Contractor will keep a record or log of all maintenance visits, which will be compiled every six months and submitted to the ManCo for review.
- 11.7.18 Any chemical applications will be performed by trained personnel, following the manufacturer's recommendations. All chemical use will be noted in the maintenance records. The use of herbicides and pesticides within 5m of open water is strictly prohibited.
- 11.7.19 The Contractor will ensure the Site is left tidy and safe after each visit, as specified in the schedules. All debris will be removed from the Site as per the schedules.
- 11.7.20 The Contractor will schedule and adjust visit times to match appropriate weather conditions for performing operations, particularly when using chemicals and mowing grass. Mowing during excessively wet conditions or after prolonged rain is strictly prohibited.

- 11.7.21 The Contractor will notify the ManCo of any significant pest or disease problems affecting the plants and provide a suitable treatment strategy for approval.
- 11.7.22 The Contractor will inform the ManCo of any dead, dying, vandalized, or severely stressed trees and plants. Any failed or defective plants within the first 12 months of installation will be replaced by the Contractor during the next planting season, ensuring continuous growth coverage. Replacement plants will match the species and specifications of the original plants, unless there is good reason not to, for example due to unforeseen pest or disease.
- 11.7.23 If mammalian pests become a significant issue, the Contractor will submit control or eradication proposals for approval by the ManCo.
- 11.7.24 The Contractor will ensure an adequate water supply is available to perform the required operations. In case of water restrictions, such as during a drought, the Contractor will propose alternative water sources (e.g., a trailer-mounted bowser) to the ManCo.
- 11.7.25 Consideration will be given to the use of environmentally friendly landscape maintenance plant and machinery. This will be stored on an on-site maintenance hub.

Outline Management Prescriptions

- 11.7.26 This section describes how existing and proposed habitats, as illustrated on the Proposed Habitats Plan in the **Outline Habitat Management and Monitoring Plan**, will be protected or implemented during the construction period, maintained during the establishment period, and managed in perpetuity.
- 11.7.27 The retained habitat types are:
- Hedgerow with trees;
 - Trees;
 - Ponds;
 - Ditches;
 - Watercourses;
 - Ancient Woodland; and
 - Woodland.
- 11.7.28 The proposed habitat types to be created are:
- Hedgerow with trees;

- Woodland and native tree belts;
- Individual trees;
- Street trees;
- Mixed scrub/Thicket planting;
- Woodland edge;
- Modified grassland;
- Neutral grassland;
- Allotments;
- Orchards;
- Ponds; and
- SuDS.

Ancient Woodland

Function

- 11.7.29 Ancient woodlands are irreplaceable habitats that support a rich diversity of flora and fauna. They provide critical ecological functions, including carbon sequestration, soil stabilization, and habitat continuity for wildlife. They also contribute to the cultural and historical landscape of the Site. To maintain these functions, ancient woodland will be protected from encroachment, disturbance, and degradation. Where appropriate, restoration efforts will focus on enhancing woodland structure, species diversity, and connectivity with adjacent habitats.

Protection and Enhancement

- 11.7.30 During construction, retained ancient woodland areas will be safeguarded through clearly defined buffer zones, in accordance with Natural England's Standing Advice and the Forestry Commission's best practice guidelines. An adequate buffer will be maintained from any development activities to prevent root damage, soil compaction, and hydrological disruption. Protective fencing will be installed to demarcate these buffers, and access will be limited.
- 11.7.31 All woodland management activities will comply with the Wildlife and Countryside Act 1981ⁱ (as amended) and the Countryside and Rights of Way Act 2000ⁱⁱ to avoid disturbance to protected species. Works that may affect nesting birds, bats, or other protected species will only be conducted following appropriate ecological surveys and under relevant licenses, if required. Any deadwood or veteran trees will be retained in situ where safe to do so, providing valuable habitat for invertebrates, fungi, and other woodland species.
- 11.7.32 Where necessary, invasive non-native species such as Rhododendron (*Rhododendron ponticum*) and Himalayan balsam (*Impatiens glandulifera*) will be controlled through targeted removal and monitoring, in accordance with the Invasive Alien Species Order 2019ⁱⁱⁱ. Any replanting or natural

regeneration efforts will use locally sourced, native tree and shrub species characteristic of the ancient woodland community.

Establishment (if relevant)

- 11.7.33 Natural regeneration will be encouraged as the primary means of woodland establishment. In areas where regeneration is insufficient, supplementary planting with appropriate native species, such as oak (*Quercus robur*), hazel (*Corylus avellana*), and holly (*Ilex aquifolium*), will be undertaken between October and March.
- 11.7.34 Newly planted trees and shrubs will be protected using biodegradable tree guards where necessary to prevent browsing by deer and rabbits. These will be monitored monthly for the first two years and removed once trees are established. Adequate watering will be completed by the installing contractor during the first growing season as needed, particularly in dry periods, as part of their obligations during the defects liability period.

Management

- 11.7.35 Annual monitoring will be conducted to assess tree health, structural integrity, and biodiversity. Any management interventions will be in line with best practice guidance for ancient woodland conservation, such as those provided by the Woodland Trust and Forestry Commission.
- 11.7.36 Selective thinning may be undertaken where necessary to promote natural regeneration and enhance the woodland structure. Deadwood will be retained as much as possible, with only hazardous trees removed where safety concerns arise.
- 11.7.37 Invasive species will be controlled through a long-term management plan, with regular assessments to ensure effective suppression. Weed control around young trees will be maintained until establishment, avoiding the use of herbicides where possible.
- 11.7.38 Public access, where applicable, will be managed to minimize trampling, soil compaction, and disturbance to wildlife. Signage and designated pathways will be maintained to guide visitors while protecting sensitive habitats.
- 11.7.39 Any felling or woodland operations will be conducted in accordance with the UK Forestry Standard 2024 (UKFS)^{iv} and the Environmental Impact Assessment (Forestry) Regulations 1999 (as amended)^v.

An existing Forestry Management Plan provides essential considerations and management techniques and should be reviewed alongside both the HMMP and OLEMP to ensure best practice management of existing woodland on site.

Hedgerow with trees

Function

- 11.7.40 Hedgerows with trees serve as valuable habitats and important wildlife corridors through the Site. They also form the existing landscape structure of the Site and provide some visual screening. To maintain these functions, hedgerows will be kept at a minimum height of 2-3m and any gaps in existing hedgerows will be filled. Additional hedgerow trees will be planted to provide structure and to help plan for succession of existing trees.

Protection and Enhancement

- 11.7.41 During construction, the retained hedgerows will be protected using several measures. These include establishing clearly defined stand-off zones, maintaining the structure and integrity of the hedgerows, and conducting any necessary pruning outside the bird breeding season in accordance with the Hedgerow Regulations^{vi}. An arboriculturist will periodically inspect the retained trees found within the hedgerows. For construction activities near these trees, a monitoring process will be in place to record root loss and recommend additional arboricultural work, if needed. Fencing and ground protection mats will be used to limit damage to tree rooting areas.

Establishment (if relevant)

- 11.7.42 Existing hedgerows will be gapped up to expand the existing network of hedgerows across the Site and to provide better connectivity. Existing hedgerows and areas that have been infilled will be monitored for any signs of defects or poor health, or after inclement weather. Newly planted sections will be planted into well-prepared ground, with appropriate protection such as spiral rabbit guards or shrub shelters to avoid harm by local wildlife. Tree and shrub shelters will be monitored on a monthly basis for the first 2 years and, where required, will be replaced as necessary. Once shelters are deemed too small, they are to be removed and disposed of off-site. Adequate watering will be required for newly planted sections during the establishment period (year 1) and growing season (April-September), as required, and especially during periods of dry weather. This will be completed by the installing contractor as part of their obligations during the defects liability period.
- 11.7.43 New hedgerow trees will be planted between October to March, inclusive, within existing gaps in the hedgerow. New trees will be staked on either side, with ties only being removed once trees are established and no longer need support. All new hedgerows will be species-rich, meaning they will comprise of five or more species. Where there is gapping up of hedgerows, species will be chosen to diversify the mix of existing species present.
- 11.7.44 New development will allow space for the mechanical cutting of existing hedges, and new hedges will be planted in locations where they can be cut by tractor-mounted hedge cutters. Hedge cutting activities will be scheduled to avoid the UK bird nesting season.

Management

- 11.7.45 Existing established hedgerows will be managed with annual monitoring for ill health/damage, with remedial action taken as required. These sections will be cut every three years between January and February.
- 11.7.46 New sections of hedgerow planted into established sections will be pruned over winter in order to encourage bushy growth and good health. Weeds will be controlled around new tree and hedgerow planting until established. Once established, new sections of hedgerow will be managed to a similar level as already established hedgerow. New hedgerow trees will have their stakes removed once they no longer require support.

New Woodland

Function

- 11.7.47 Proposed areas of native woodland will be planted strategically across the development to provide visual and physical screening to more sensitive receptors on the edge of the Proposed Development and also meaningful contributions to Biodiversity Net Gain targets. These will also provide better connectivity and habitat for local wildlife. Trees will be managed to achieve their maximum mature height, in order to better provide biodiversity enhancements and screening, where necessary. The species chosen will be native varieties and where possible will be of local provenance.

Implementation

- 11.7.48 A specification for proposed woodland will be developed as part of the detailed LEMP, based on the indicative species, sizes and percentages presented in **Table 11.7.1**. Trees should be planted approximately 2.5m apart to allow the canopy to close sooner. Specific species will be determined through future detailed design work to ensure mixes are reflective of local character, whilst also building in climate resilience.

Table 11.7.1 Indicative mix for proposed woodland

Botanical Name	Common Name	Root	Form	Percentage Mix (%)
<i>Acer campestre</i>	Field Maple	BR	Transplant	10
<i>Carpinus betulus</i>	Hornbeam	BR	Transplant	10
<i>Cornus sanguinea</i>	Dogwood	BR	Transplant	10
<i>Corylus avellana</i>	Hazel	BR	Transplant	10
<i>Crataegus monogyna</i>	Hawthorn	BR	Transplant	15

<i>Ilex aquifolium</i>	Holly	Cell grown	1L	5
<i>Prunus padus</i>	Bird Cherry	BR	Transplant	10
<i>Quercus robur</i>	English Oak	BR	Transplant	15
<i>Tilia cordata</i>	Small Leaved Lime	BR	Transplant	5
<i>Torminalis glaberrima</i>	Wild Service tree	BR	Transplant	10

Establishment

- 11.7.49 New areas of woodland will be planted in well-prepared ground, with protection such as spiral rabbit guards or shrub shelters to avoid harm by local wildlife. Where larger specimens have been specified, suitable anchoring will be necessary with tree stakes and ties to avoid root rock and/or displacement of trees. Once shelters and ties are deemed too small, they are to be removed and disposed of off-site. Any growth around the base of the newly planted trees will be removed, leaving the base clear and free from weeds and litter. Watering will be required during the establishment period (year 1) and growing season (April-September), as required, and especially during periods of dry weather. This will be completed by the installing contractor as part of their obligations during the defects liability period.

Management

- 11.7.50 New woodlands and tree belts will be managed and monitored for signs of disease and damage, particularly after periods of inclement weather. Where trees are found to be in particularly poor health and require removal, they will be replaced with suitable species at the first available planting season and managed according to relevant guidance. Tree and shrub shelters will be monitored on a monthly basis for the first 2 years and, where required, will be replaced as necessary.

Individual Trees (within the landscape)

Function

- 11.7.51 Individual trees within the landscape will be placed singularly or in groups. They provide structure in larger, wide spanning landscapes, whilst also breaking up long distance views. Individual trees are particularly characteristics of parkland settings and provide colour and interest throughout the seasons. Individual trees provide valuable shelter for various nesting birds and other wildlife, whilst also linking larger areas of woodland, hedgerows and linear belts of trees. Trees will be managed to achieve their maximum mature height in order to better provide biodiversity enhancements and screening, where necessary.

Implementation

- 11.7.52 A specification for proposed individual trees will be developed based on the indicative species and sizes presented in **Table 11.7.2**. The use of semi-standard specification trees will be considered where immediate impact is needed within the landscape, for example at key gateways, junctions or as placemaking features. This will be determined through future detailed design work and set out within the detailed LEMP.

Table 11.7.2 Indicative species selection for proposed individual trees

Botanical Name	Common Name	Root	Form
<i>Acer campestre</i>	Field Maple	BR	Feather
<i>Alnus glutinosa</i>	Black Alder	BR	Feather
<i>Prunus padus</i>	Bird Cherry	BR	Feather
<i>Quercus robur</i>	English Oak	BR	Feather
<i>Tilia cordata</i>	Small Leaved Lime	BR	Feather
<i>Torminalis glaberrima</i>	Wild Service tree	BR	Feather

Establishment

- 11.7.53 Individual trees will be planted in well-prepared ground, with protection such as spiral rabbit guards or shrub shelters to avoid harm by local wildlife. Where larger specimens have been specified within the detailed LEMP, suitable anchoring will be necessary with tree stakes and ties to avoid root rock and/or displacement of trees. Once shelters and ties are deemed too small, they are to be removed and disposed of off-site. Any growth around the base of the newly planted trees will be removed, leaving the base clear and free from weeds and litter. Watering will be required during the establishment period (year 1) and growing season (April-September), as required, and especially during periods of dry weather. This will be completed by the installing contractor as part of their obligations during the defects liability period.

Management

- 11.7.54 Individual trees will be managed and monitored for signs of disease and damage, particularly after periods of inclement weather. Where trees are found to be in particularly poor health and require removal, they will be replaced with suitable species and managed according to relevant guidance. Tree and shrub shelters will be monitored on a monthly basis for the first 2 years and, where required, will be reattached and/or replaced as necessary.

Street Trees

Function

- 11.7.55 Street trees are to be planted along all streets, including residential streets, mews and edge lanes. These will provide numerous ecological, aesthetic, and social benefits to the more urban environment. Select species will be used to improve wayfinding and legibility, as well as to create characterful neighbourhoods.
- 11.7.56 Street trees will help to soften the built form and integrate it into the wider landscape. They will deliver multiple ecosystem services, including improving air quality, regulating temperature in urban areas, improving biodiversity and working towards a sustainable drainage strategy.

Implementation

- 11.7.57 A specification for proposed street trees will be developed based on the indicative species, sizes and percentages presented in **Table 11.7.3**. Specific species will be determined through future detailed design work to ensure mixes are reflective of local character, can tolerate urban conditions, have an appropriate size and form for their intended position within the built form, and build in climate resilience to the tree stock. The use of larger specimens at implementation will be considered for key gateways and junctions, or where the tree will play an important placemaking role, to ensure early impact is achieved.

Table 11.7.3 Indicative species selection for proposed street trees

Botanical Name	Common Name
<i>Acer campestre</i>	Field Maple
<i>Acer monspessulanum</i>	Montpellier Maple
<i>Acer platanoides</i>	Norway Maple
<i>Carpinus betulus fastigiata</i>	Fastigate beech
<i>Celtis australis</i>	European nettle tree
<i>Ginkgo biloba</i>	Maidenhair tree
<i>Liquidambar styraciflua</i>	Sweet Gum
<i>Prunus padus</i>	Bird Cherry
<i>Quercus robur</i>	English Oak
<i>Quercus rubra</i>	Red Oak
<i>Tilia cordata</i>	Small Leaved Lime
<i>Torminalis glaberrima</i>	Wild Service tree
<i>Ulmus 'New Horizon'</i>	Elm

Establishment

- 11.7.58 Street trees will be planted into high specification tree pits with good quality topsoil. For stability, root balls will be secured with underground guying. The interface between utilities and street trees will be

determined at an early stage in the detailed design process. Any growth around the base of the newly planted trees will be removed, leaving the base clear and free from weeds and litter. Community-led watering schemes will be explored to encourage year-round stewardship and care for street trees, as well as reporting of any issues to the ManCo. This will help to foster a sense of community ownership of public spaces.

Mixed Scrub/Thicket Planting

Function

- 11.7.59 Scrub will be used to create a diverse mosaic and structure within grassland and woodland edge habitats. It will provide shelter and food resources for birds and other wildlife. These areas will further increase biodiversity on Site and provide habitat and breeding sites.
- 11.7.60 Scrub should have no single species as dominant, however, the composition of the scrub mix will favour dense, shrubby growth which is typical of bushes and small tree species. This will create a thicket-like environment which better caters for local wildlife and can be used to deter public access to spaces such as wildlife only areas or SuDS.

Implementation

- 11.7.61 A specification for the proposed scrub mix will be developed based on the indicative species, sizes and percentages presented in **Table 11.7.4**. Specific species will be determined through future detailed design work to ensure mixes are reflective of local character, serve local wildlife, and build in climate resilience.

Table 11.7.4 Indicative mix for proposed scrub

Botanical Name	Common Name	Root	Form	Percentage Mix (%)
<i>Cornus sanguinea</i>	Dogwood	BR	Transplant	10
<i>Corylus avellana</i>	Hazel	BR	Transplant	10
<i>Crataegus monogyna</i>	Hawthorn	BR	Transplant	25
<i>Ilex aquifolium</i>	Holly	Cell grown	1L	10
<i>Malus sylvestris</i>	Crab Apple	BR	Transplant	5
<i>Prunus spinosa</i>	Blackthorn	BR	Transplant	20
<i>Rosa canina</i>	Dog Rose	BR	Transplant	5
<i>Ulmus procera</i>	Disease resistant Elm	BR	Transplant	5

<i>Viburnum opulus</i>	Guelder Rose	BR	Transplant	10
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Establishment

11.7.62 The goal of establishment maintenance is to support early growth stages by promoting bushy development and encouraging canopy closure. This will reduce future management needs and address weed competition. Maintenance activities will be scheduled to avoid the bird nesting season.

11.7.63 Establishment maintenance will follow these principles and prescriptions:

- I. Maintain a 1-meter weed-free circle around shrubs using mechanical control.
- II. Water new plants during drought periods to minimize failures.
- III. Remove litter, rubbish, and debris from planted areas year-round.
- IV. Re-firm soil around roots in spring to ensure plants are supported and upright.
- V. Inspect and adjust guards in spring and autumn.
- VI. Annually check and record failed or defective plants in September.
- VII. Replace failed or defective plants with matching species of the same size during the next planting season.
- VIII. Conduct quarterly checks of plants to record their growth and condition.

Management

11.7.64 The long-term management of new scrub will focus on the following interventions:

- Conduct an annual condition assessment of all scrub planting plots and develop an appropriate program of works to address any changes in condition and site requirements.
- Between years 7 and 10, review and thin planted areas as necessary to remove poor or weak specimens, allowing other specimens to flourish and providing space for shrubs to further establish.
- Retain arisings from thinning or other scrub management functions on-site as dedicated brash and wood piles, or wind-rows, benefiting fungi, lichen, and invertebrates.

Woodland Edge

Function

11.7.65 Woodland Edge will be used strategically on Site to provide a buffer zone and limit access into the existing woodland within the Site. The planting of trees, shrubs and herbaceous plants at the margins of these woodland blocks will create a transitional zone between dense woodland and open habitats/the built environment. This habitat will support a diverse range of wildlife and plant species and will contribute towards biodiversity and the ecological health of the woodland in general. This

transitional zone will be made up of traditional woodland species with some thorny species mixed in to provide adequate cover and to deter access, therefore preserving existing woodland areas.

- 11.7.66 Woodland Edge planting will provide an environmental gradient/ecotone between the open grassland through the woodland edge and into the existing woodland. Varying light levels, moisture, temperature and soil composition will create an array of habitats for various different species and wildlife.

Implementation

- 11.7.67 A specification for proposed scrub mix will be developed based on the indicative species, sizes and percentages presented in **Table 11.7.5**. Specific species will be determined through future detailed design work to ensure mixes are reflective of local character, serve local wildlife, and build in climate resilience.

Table 11.7.5 Indicative mix for woodland edge planting

Botanical Name	Common Name	Root	Form	Percentage Mix (%)
<i>Cornus sanguinea</i>	Dogwood	BR	Transplant	15
<i>Corylus avellana</i>	Hazel	BR	Transplant	15
<i>Crataegus monogyna</i>	Hawthorn	BR	Transplant	20
<i>Ilex aquifolium</i>	Holly	Cell grown	1L	10
<i>Quercus robur</i>	Oak	BR	Feathered	5
<i>Prunus spinosa</i>	Blackthorn	BR	Transplant	20
<i>Rosa canina</i>	Dog Rose	BR	Transplant	10
<i>Ulmus procera</i>	Disease resistant Elm	BR	Transplant	5

Establishment

- 11.7.68 The goal of establishment maintenance is to support early growth stages by promoting bushy development and encouraging canopy closure. This will reduce future management needs and address weed competition. Maintenance activities will be scheduled to avoid the bird nesting season.
- 11.7.69 Establishment maintenance will follow these principles and prescriptions:
- Maintain a 1-meter weed-free circle around shrubs using mechanical control.
 - Water new plants during drought periods to minimize failures.

- iii. Remove litter, rubbish, and debris from planted areas year-round.
- iv. Re-firm soil around roots in spring to ensure plants are supported and upright.
- v. Inspect and adjust guards in spring and autumn.
- vi. Annually check and record failed or defective plants in September.
- vii. Replace failed or defective plants with matching species of the same size during the next planting season.
- viii. Conduct quarterly checks of plants to record their growth and condition.

Management

11.7.70 The long-term management of woodland edge will focus on the following interventions:

- Conduct an annual condition assessment of all woodland edge planting plots and develop an appropriate program of works to address any changes in condition and site requirements.
- Between years 7 and 10, review and thin planted areas as necessary to remove poor or weak specimens, allowing other specimens to flourish and providing space for shrubs to further establish.
- Retain arisings from thinning or other woodland edge management functions on-site as dedicated brash and wood piles or wind-rows, benefiting fungi, lichen, and invertebrates.

Modified Grassland

Function

11.7.71 Areas of modified grassland will include amenity grassland, play spaces and mown paths. This short mown grass will provide space for formal and informal recreation for the benefit of residents. Although providing less biodiversity interest than other types of long grassland, it will encourage a different range of bird and invertebrate species. Modified grassland will be utilised in areas where heavy use will be likely with grass species chosen for their durability and low maintenance qualities.

Implementation

11.7.72 A specification for proposed modified grassland will be developed during future detailed design work. Consideration will be given to the use of other types of 'lawn' that permit informal recreation, whilst delivering heightened ecological interest, for example flowering lawns or clover lawns.

Establishment

11.7.73 After initial seeding or turfing, appropriate signage will be installed to discourage entry for at least 6 weeks, or until the grass is sufficiently established to withstand foot traffic.

11.7.74 Turf or amenity seeded areas will be allowed to establish to a minimum height of 35mm before the first cut. Once established, a height of 25mm will be maintained by cutting fortnightly, or as needed

throughout the growing season, and as required during winter to maintain approximately 30mm. Arisings will be collected and removed.

- 11.7.75 Before mowing, all litter, including fallen leaves, will be removed from grass areas. The use of mowers or trimmers will be avoided within 100mm of tree stems. Other nylon filament rotary cutters or other handheld machinery will be used to prevent bark damage. Any other obstructions will be trimmed around.

Management

- 11.7.76 All amenity grassland areas and verges will be established and maintained at a height of approximately 25mm to 35mm by cutting as needed throughout the growing season. Typically, cuts will be required every 2-3 weeks.
- 11.7.77 A proprietary granular slow-release fertiliser will be applied to all amenity grassed areas twice yearly, in the spring and autumn.
- 11.7.78 Edges adjacent to footpaths will be tidied after each maintenance visit. All amenity grassed areas will be scarified annually in the autumn to remove thatch and dead grass buildup. After scarifying, the grassed areas will be thoroughly spiked to aerate the soil and improve drainage. Bare patches and areas of dead grass will be rectified by over-seeding and/or re-turfing at the earliest suitable planting season.
- 11.7.79 Grass cutting will be avoided in areas planted with bulbs during late winter and early spring when bulbs are growing. Cutting will continue to be avoided for 6-8 weeks after flowering to allow bulbs to regain nutrients, after which normal mowing will resume. A separate maintenance routine will be required for grass sports pitches to ensure longevity and function.

Other Neutral Grassland

Function

- 11.7.80 Other Neutral Grassland encompasses a variety of different habitats on Site, with species-rich grassland, wildflower grassland, wet grassland and rough grassland all falling under neutral grassland. The different management techniques are listed below. As such a wide-ranging habitat, other neutral grassland features a diverse mix of grasses, herbs and wildflowers and is a valuable habitat for a wide range of wildlife, including birds, small mammals and insects. The mix of grass species found in each location will be dependent on soil composition, proximity to wetland areas, light levels and management techniques.

Implementation

- 11.7.81 A specification for proposed wet grassland, species-rich grassland, wildflower grassland and rough grassland will be developed during future detailed design work and set out within the detailed LEMP.

This will be determined and based upon existing and proposed conditions, as well as mixes of local provenance, particularly those that reflect any SSSI sites nearby.

Establishment

11.7.82 The objective of establishment maintenance is to foster the development of a diverse sward of grasses and herbs. Maintenance will follow these guiding principles and procedures:

- I. After sowing, the area will be left undisturbed and without watering to promote natural establishment of the grassland.
- II. In the first year, mowing will occur in June or September, with subsequent cuts in April and September. Cuttings of rough and wildflower grassland will be raked into piles and left for seven days before being collected and taken to an on-site green waste composting facility. Cuttings taken from wetland grassland will be collected and removed after a period of 24 hours, so as to not cause nutrient overload or smothering of grassland habitat.
- III. Mowing frequency for wetland areas will differ and will be based on seasonal water levels, for instance in the late summer when water levels are lower. Mowing will be avoided during bird nesting season to avoid disruption.
- IV. Regular visual inspections will be conducted throughout the growing season.
- V. Control measures for undesirable species, such as arable and injurious weeds, will be implemented to prevent their dominance. This may involve additional mowing or, if necessary, the use of selective herbicides.
- VI. Botanical surveys will be conducted in late spring to assess the success of the grassland in meeting its objectives. Spot checks by a qualified ecologist will take place in years 1, 3, and 5 to document plant species, their distribution, and the overall condition of the grassland. Any issues requiring remedial action will be noted. For wetland grassland areas, monitoring for signs of water stress or excessive vegetation growth which might affect wetland dynamics will be undertaken at regular intervals.
- VII. Should remedial measures be necessary, the ManCo will consult with a qualified ecologist to determine the appropriate actions, including re-seeding of identified areas.

Management

11.7.83 The long-term management of other neutral grassland aims to sustain a stable grassland community with a diverse sward height, and to prevent areas from evolving into tall, dense, grass-dominated landscapes.

11.7.84 Management strategies for the three subtypes of other neutral grassland will include:

- **Mowing:** Conduct mowing once annually in September. After mowing, arisings will be raked into piles and left for seven days before being collected and transported to an on-site green

waste composting facility. For wet grassland habitat, cut back will be done on a rotational basis to allow for areas of longer grassland to be maintained. Completion of works will be undertaken between March to October, which is during the active period for species such as Great Crested Newts. Arisings will be left for 24 hours before being transported to an on-site composting facility.

- **Inspections:** Perform visual inspections throughout the growing season.
- **Weed Control:** Manage undesirable species, such as arable and injurious weeds, to prevent their spread and dominance using selective herbicides suitable to the grassland in which they are found. Wetland habitats will see limited use of herbicides or chemical management practices, with only products suited to the wetland environment being used.
- **Meadow Margins:** Allow meadow margins adjacent to woodland, thicket planting and hedgerows to remain unmowed for a year or more between cuts. This will provide dense ground cover for fauna such as amphibians, small mammals, and invertebrates.
- **Monitoring and Adjustment:** Use the results from annual monitoring surveys to refine the management practices and enhance biodiversity.

Allotments

Function

- | | |
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| 11.7.85 | Allotments have been provided on Site to establish community growing practices and allow local residents to grow their own produce and benefit from being outside. The varied produce found on individual plots, including both fruits, vegetables and flowering plants will bring an added boost to biodiversity. It will also help to harbour a sense of ownership and cooperation within the community. |
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Implementation

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| 11.7.86 | Plots will be managed privately by plot holders with maintenance of individual plots not undertaken by the ManCo. |
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Establishment

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| 11.7.87 | N/A |
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Management

- | | |
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| 11.7.88 | N/A |
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Ponds

Function

- 11.7.89 The existing ponds on the Site provide some aquatic habitat and are a valuable resource for local wildlife. They are distinctive landscape features within the Site with the potential to contain species that are uncommon within the wider landscape and provide already established habitats. They will be retained and enhanced where necessary to increase aquatic habitat, floral diversity and visual interest.

Protection and Enhancement

- 11.7.90 Invasive species will be removed and/or managed in order to maintain a good diversity of aquatic plants and marginals. No chemicals shall be used within 5m of the pond in order to reduce risk of spills and possibility of harm to the aquatic environment.

Establishment

- 11.7.91 New marginal and aquatic planting will supplement the existing ponds and help to give them a naturalised feel. Invasive species will be managed and controlled to either eradicate or reduce numbers significantly, thereby reducing their impact on the aquatic community. Monitoring will take place annually to make sure that a diverse plant community is present within the pond and prevents dominance of more aggressive species.

Management

- 11.7.92 Vegetation surrounding the pond will need to be managed to prevent clogging up of the water with plants or dead organic matter. If required, management of the pond should occur in autumn, with different areas cut back and cleared in a rotational manner over a number of years. Any arisings taken from emergent vegetation will be left on the pond edge to allow invertebrates to escape, before they are collected and removed.

Watercourses

Function

- 11.7.93 There are several watercourses on Site which feature predominantly in the form of drainage ditches. These drainage ditches across the Site collect surface water runoff and discharge it into the watercourses and main rivers and streams within the wider landscape.

Protection and Enhancement

- 11.7.94 The condition of the watercourses varies significantly across the Site, although most show steep side slope profiles and are relatively straight. This is likely to be a result of the agricultural practices.

- 11.7.95 During construction, any machinery will be stored more than 6m from the bank of the watercourses. Surface water runoff generated during the construction phase shall be managed and pollution to the watercourses be prevented.
- 11.7.96 Green corridors will be provided for the watercourses with a minimum easement of 6m for maintenance access. Some of the existing drainage ditches will be infilled, with new drainage ditches being established across the site.
- 11.7.97 Bankside vegetation, which does not impede maintenance will be allowed to regenerate naturally.

Establishment

- 11.7.98 N/A

Management

- 11.7.99 The ongoing maintenance will be the responsibility of several parties. The watercourses will need dredging and vegetation cut back on a regular basis and in line with the EA's / LLFA's requirements. Culverts and cross span bridge crossings will need to be cleared. Care will be taken when maintaining surrounding open space, ensuring that any cuttings do not enter the watercourses and rivers, potentially causing issues with eutrophication or impact on flows.

SuDS

Function

- 11.7.100 SuDS will provide multifunctional spaces, and the design of these features will balance many factors, including amenity, biodiversity, water quality, and mitigation for flooding from pluvial (rainfall) events.
- 11.7.101 The SuDS best suited for the Site are those that best mimic natural systems and natural processes. Planting in and around the SuDS will be specific to each individual feature. In dryer areas with more well drained SuDS and soils, planting suited to drought resistant environments will be used. For more wetland environments, plants suited to wetter and more seasonally saturated soils will be used. Microhabitats will also be constructed within many of the SuDS which may serve various functions, including ecologically, as well as for improving the SuDS performance with respect to pollutant control and silt management.
- 11.7.102 The SuDS have been designed to account for drought resistance, in addition to managing surface water runoff during extreme rainfall events. This means that during droughts, water is concentrated within larger centralised features and maintains the environments in these wilder wetter locations. Smaller SuDS within parcels will be subject to greater variation in rainfall and drought and therefore, require more drought resistant planting.

- 11.7.103 The Eastern drainage basin will be designed to be dry at most times of year and be used for a “kick-around” area.

Implementation

- 11.7.104 A specification for each of the proposed SuDS environments will be developed further during the detailed design work. This specification will take into consideration the function of the SuDS, conditions in which the SuDS are located, quality of water draining into the SuDS feature, and the features suitability for different habitats or as amenity space. For areas accessible by the public or where SuDS border paths or areas of public amenity, safety features including suitably wide aquatic benches and shallow slopes will be provided. Barrier planting will also be used to minimise the likelihood of public access to the sides of SuDS that are not overlooked or have steeper slopes and deeper water.
- 11.7.105 The specification will be determined and based upon existing and proposed site conditions, and design of each SuDS will be led by a multidisciplinary team, including; ecologists, landscape architects, and drainage engineers.
- 11.7.106 Following construction, the SuDS will either be handed over to a ManCo or adopted by the LLFA (assuming Schedule 3 of the Flood and Water Management Act is implemented). Maintenance tasks for the SuDS will be independent of the maintaining body, however, should LLFA adoption occur, an agreement or commuted sum may be required.

Establishment

- 11.7.107 Additional inspections and temporary maintenance tasks will be carried out during the establishment period for each of the SuDS. These will follow guidance outlined in CIRIA C753 or alternative more contemporary guidance should this be available at the time of construction. Tasks will include more frequent inspections, recording siltation rates, and monitoring of planting to ensure it has established properly. Where issues are detected, remediation and repair operations will be carried out, for example reseeded. Typical maintenance schedules for the SuDS have been included within the **Interim Flood Risk and Drainage Strategy (Appendix 9.1)** and provide more detail on the inspection and maintenance frequencies, including during the establishment period.

Management

- 11.7.108 Ongoing management will be carried out at frequencies dictated by CIRIA C753^{vii}, or best practice guidance at the time of implementation, manufacturer specific specifications, and detailed factors determined from inspections during the establishment period. e.g. growth rates for vegetation, and intervals between the desilting of sediment traps and forebays. Typical maintenance schedules based on those found in C753 have been included within the **Interim Flood Risk and Drainage Strategy (Appendix 9.1)** and provide additional detail on the regular maintenance tasks that will need to be carried out for the SuDS and associated landscaping.

Monitoring for Success

- 11.7.109 Monitoring is required to determine that the functions set out within the OLEMP are being achieved and whether remedial management is required. A post-construction monitoring programme will be formalised and included within the detailed LEMP. Walkover surveys of all habitats will be undertaken between April and June in years 2, 4, 6 and 10, and every 5 years after that. These surveys will involve the inspection of woodland, wetlands, grasslands, SuDS and hedgerows to ensure they are being managed according to the LEMP. Newly planted vegetation will be monitored monthly for the first 2 years, bi-annually for up to five years (with at least one visit in spring/summer) and annually during the summer for five to ten years to ensure proper establishment. The monitoring programme will also be used to validate the BNG to ensure that 10% BNG is being achieved for at least 30 years. The findings of these walkover surveys would be fed into the management plan, which will be amended accordingly.

References

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<https://www.legislation.gov.uk/uksi/2019/527/contents>
- ^{iv} UK Government (2024). The UK Forestry Standard. Available at:
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