



```
const function(a, b) {
  var c, d, e;
  e = a.length;
  a = Math;
  if (a) {
    if (a < 2) {
      for (i = 0; i < e; i++) {
        if (c = t.apply(a[i], a), r == 1) break
      } else {
        for (i in a) {
          if (c = t.apply(a[i], a), r == 1) break
        } else if (a) {
          for (i = 0; i < e; i++) {
            if (r = t.call(a[i], i, a[i]), r == 1) break
          } else {
            for (i in a) {
              if (r = t.call(a[i], i, a[i]), r == 1) break;
            }
            return e
          }
        }
      }
    }
    trim: b && !b.call("u00ffu0000") ? function(e) {
      return null == e ? "" : b.call(e)
    } : function(e) {
      return null == e ? "" : (e + "").replace(C, "")
    };
    toArray: function(e, t) {
      var n = t || [];
      return null != e && (N(Object(e)) ? x.merge(n, "string" == typeof e ? e : t) : n);
    }
  }
}
```

East Havering Data Centre Campus Local Development Order



DRAFT LANDSCAPE AND ECOLOGICAL MANAGEMENT AND MONITORING PLAN

March 2026

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1 Introduction

- 1.1 The Landscape and Ecological Management and Monitoring Plan (LEMMP) forms part of the East Havering Data Centre Campus Local Development Order and must be read in conjunction with it.
- 1.2 The Habitat Strategy Plan details the habitat types to be both retained and created in the Data Centre Campus and Ecology Park (see Figure 1.1). The phasing of delivery of the Ecology Park is detailed in Figure 1.2.
- 1.3 The LEMMP provides a framework for the establishment and maintenance of habitats to meet the target conditions detailed in Table 2.1. For some habitat types, there is a longer-term target condition as the habitat will take time to create. For these habitat types, the LEMMP sets out an interim habitat condition to be achieved within a defined period and the target condition to be achieved in the longer-term.
- 1.4 The LEMMP also provides a framework for the enhancement of some existing hedgerows and watercourses (Refer to table 2.2).
- 1.5 The LEMMP identifies:
 - when and how monitoring shall be undertaken to track progress toward meeting target habitat conditions;
 - when and how monitoring results shall be reported to the Local Planning Authority (LPA); and
 - the mechanism for agreeing any necessary changes to management practices with the LPA to ensure that agreed outcomes are met.
- 1.6 The estate management team shall be responsible for the establishment and maintenance of habitats to achieve the required target condition. This obligation is secured in the s106 agreement accompanying this LDO.
- 1.7 The East Havering Data Centre Campus Design Code sets out the specification for planting within the site and the required ecological mitigation features (e.g. bird and bat boxes).
- 1.8 The ongoing maintenance requirements for ecological mitigation features is set out in Section 4 of the LEMMP.
- 1.9 The overall objective of the LEMMP is to:
 - retain and enhance the value of existing landscape features;
 - successfully establish and integrate new planting with the surrounding landscape;
 - ensure that all planting will establish and mature to reach the target condition for each habitat type retained and/or created within the LDO site; and
 - set out the required monitoring obligations.

Figure 1.1: Habitat Strategy

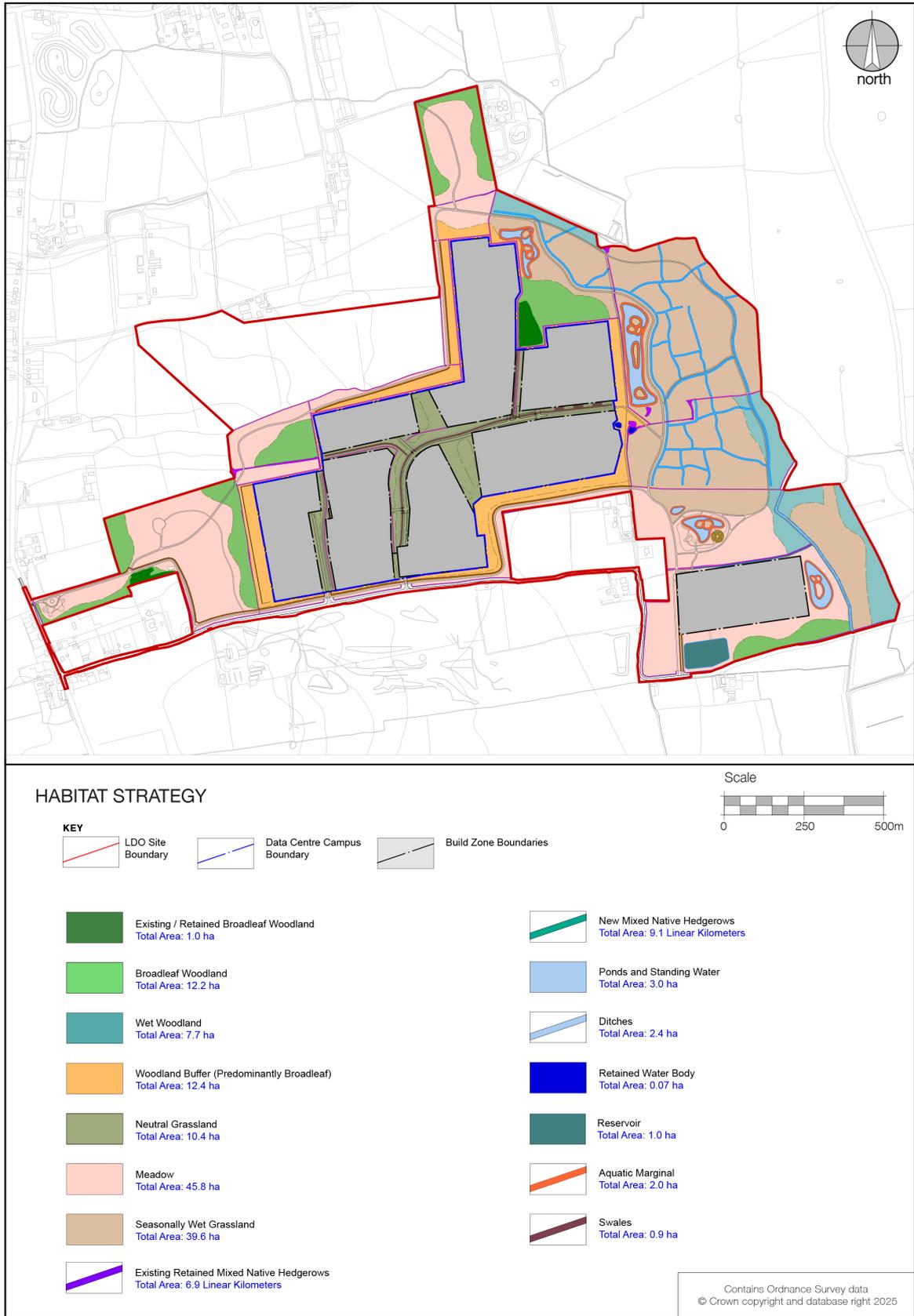
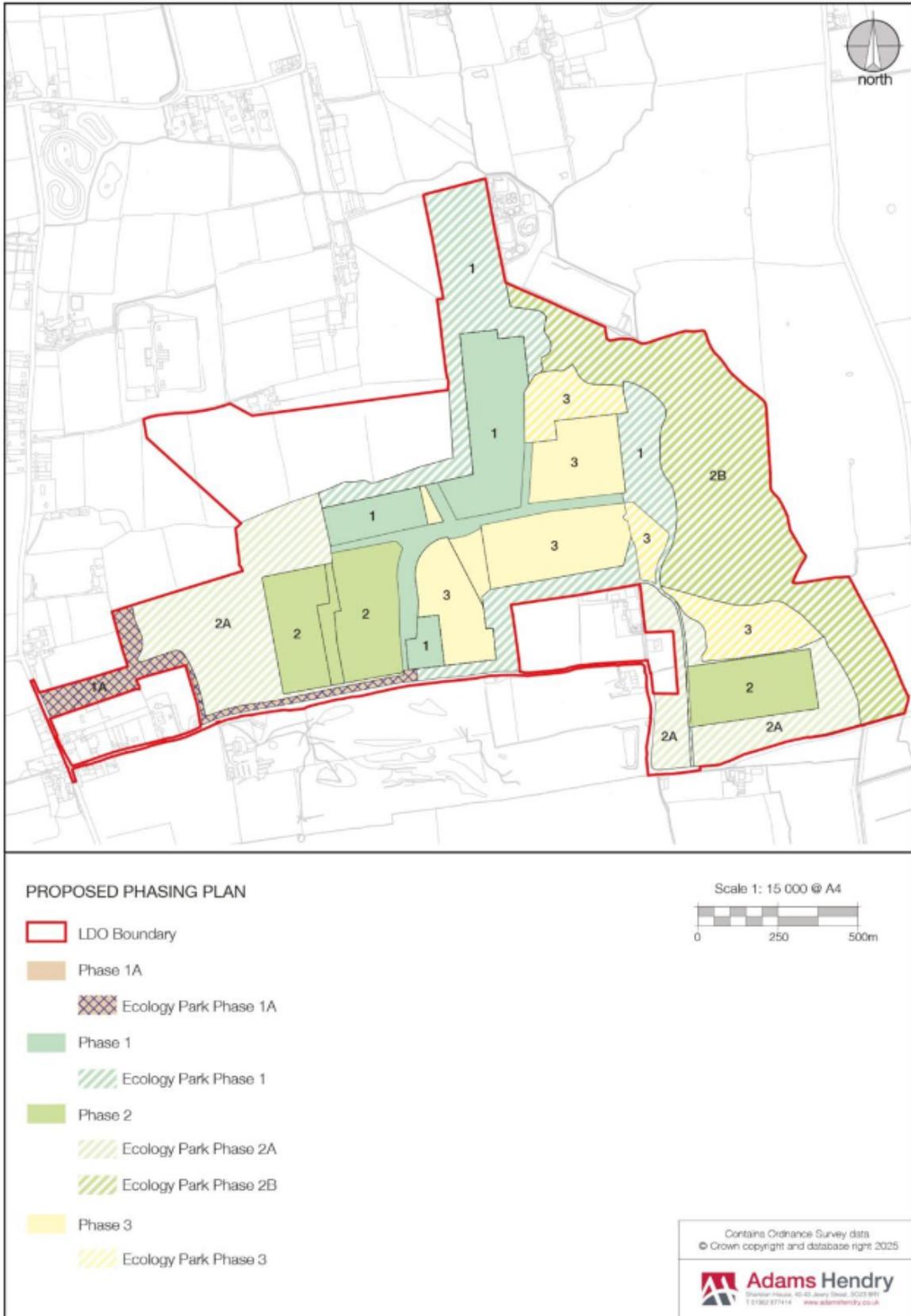


Figure 1.2: Phasing Plan



2 Habitat Classification and Target Conditions

- 2.1 The site currently comprises agricultural land in arable use, with associated grassland, hedgerows, surface water drainage ditches, ponds, a section of the Mardyke River tributary, woodland, mature trees, scrub, and some small agricultural buildings and vehicular access tracks/roads.
- 2.2 Post development habitat classifications and habitat condition targets for created habitats on the site are set out in Table 2.1. The combination of habitat classification and condition shall be used to assess delivery against these targets.
- 2.3 A description of each habitat classification is provided in Appendix 1 and condition assessment sheets to measure the state of each habitat are provided in Appendix 2.

Table 2.1: Habitat Type and Condition Targets for Created Habitat

Habitat Type	Habitat Classification	Target Condition	Estimated Time to Target Condition (years)	Long-term Condition
Broadleaf Woodland	w1g – Other Broadleaf Woodland	Moderate	15	w1f – Lowland Mixed Deciduous Woodland
Wet Woodland	w1d – Wet Woodland	Moderate	15	-
Woodland Buffer	w1g – Other Broadleaf Woodland	Moderate	15	-
Neutral Grassland	g3c – Other Neutral Grassland	Moderate	5	-
Meadow	g3c – Other Neutral Grassland	Good	10	g3a - Lowland Meadows
New Mixed Native Hedgerows	h2a – Native Hedgerow	Moderate	5	-
Seasonally Wet Grassland	f2f55 – Other Wetlands and g3c55 Other Neutral Grassland Floodplain Wetland Mosaic	Moderate	10	-
Ponds and Standing Water	r1g 41 – Other Standing Water Pond	Moderate	3	-
Ditches	r1g 50 – Other Standing Water Ditch	Poor	1	-
Reservoir	r1g 45 – Other Standing Water reservoir	Moderate	5	-

Aquatic Marginals	f2d – Aquatic Marginal Vegetation	Moderate	7	-
Swales	f2d 848 – Aquatic Marginal Vegetation – Sustainable Drainage Systems	Moderate	3	-

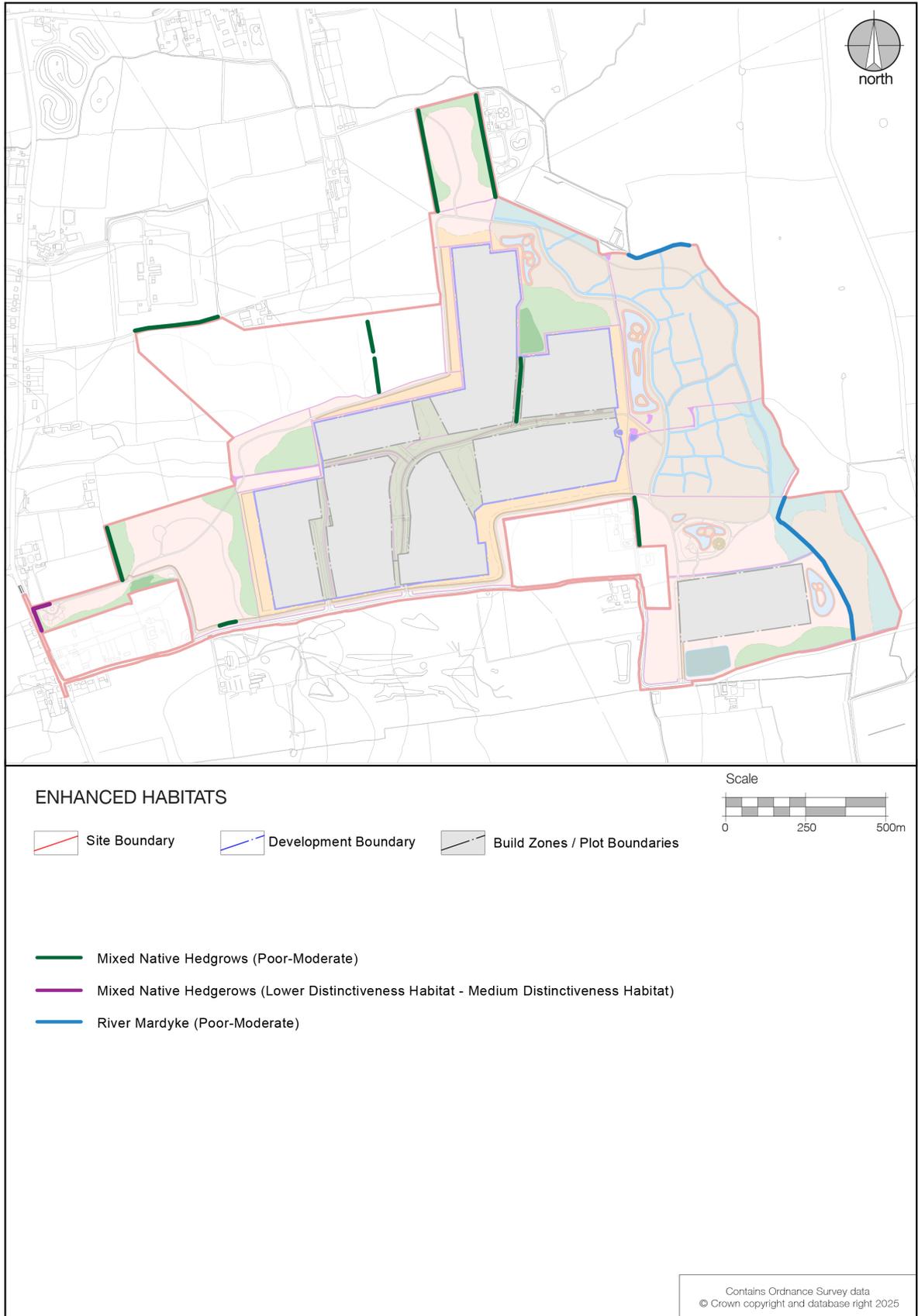
- 2.4 The existing hedgerows and sections of the Mardyke River tributary to be enhanced are shown on Figure 2.1 and the condition targets for enhanced habitats are set out in Table 2.2.

Table 2.2: Condition Targets for Enhanced Habitats

Habitat Type	Habitat Classification	Existing Condition	Target Condition	Estimated Time to Target Condition (years)
Mixed Native Hedgerows	h2a – Native Hedgerow	Poor	Moderate	3
Mixed Native Hedgerows	h2a – Native Hedgerow	Lower distinctiveness habitat - moderate	Medium distinctiveness habitat – moderate	5
River Mardyke	r2b – Other Rivers and Streams	Poor	Moderate	2

- 2.5 The distinctiveness of the Mixed Native Hedgerow shall be increased by supplemental planting in accordance with soft landscaping specification in Appendix 2 of the Design Code. An assessment of the distinctiveness shall be carried out in accordance with guidance set out in the Hedgerow Survey Handbook 2nd edition published by the Department for Environment, Food and Rural Affairs (Defra), or as updated.
- 2.6 If any of the Mixed Native Hedgerow is removed to facilitate works, the section removed shall be replanted in the next planting season in accordance the soft landscaping specification in Appendix 2 of the Design Code.
- 2.7 A River Condition Assessment (RCA) shall be carried out by a MoRPH accredited surveyor to measure condition of the watercourse. No direct works are required to the River Mardyke to meet the target condition as it will naturally improve once land is taken out of arable production.

Figure 2.1: Enhanced Habitats



3 Maintenance Framework for Soft Landscaping

3.1 A maintenance framework for the soft landscaping is set out below.

3A Broadleaf Woodland/ Wet Woodland/ Woodland Buffer

Tree Planting - Bare-root Tree Whips, Standard and Semi Mature Trees

3A.1 When planting trees, a hole wider than the root spread shall be dug to allow roots to expand without crowding. The hole shall be deep enough so that the root flare is at or slightly above ground level. The tree shall be watered thoroughly to settle the soil around the roots.

Establishment Maintenance

3A.2 The following maintenance requirements shall be carried out during the first 24 months post-planting to ensure healthy growth and longevity:

- The soil moisture shall be consistently maintained during dry periods, especially between May and August.
- A 5cm to 10cm layer of organic mulch, such as wood chips or composted bark, shall be applied around the base of the tree but away from the trunk to prevent rot.
- Trees shall be staked or tree anchors used as necessary to provide stability against wind. Flexible ties shall be used to avoid damaging the trunk. Plastic ties should be avoided. The ties shall be regularly checked (at least once a year) and adjusted to prevent girdling. Should plastic guards be unavoidable they shall be removed and disposed of responsibly once no longer needed.
- For whip planting, guards shall be maintained upright and pressed firmly into the soil to prevent small herbivores from accessing the young trees. Tree guards shall be checked in spring and autumn for stability, signs of damage, or intrusion by pests. Any vegetation growing inside the guard shall be removed.
- The interior of tree guards be regularly inspected for signs of pests or diseases. The area shall be kept weed-free to reduce competition for nutrients and water and guards shall be properly installed to help deter pests.
- Weeds shall be hand pulled or appropriate mulch applied to suppress growth.
- Any broken, diseased, or crossing branches shall be removed.
- Heavy pruning shall be avoided during the first year.
- Trees shall be watered as necessary (May to August).
- Established habitats and tree planting areas shall be trimmed to prevent scrub encroachment (November to March).

Ongoing Maintenance

3A.3 After the initial establishment phase, the following maintenance activities shall be carried out as needed during years 3 to 12+ following planting:

- Watering shall continue in year 3 during dry spells, especially in the period May to August. Supplemental watering will be required during prolonged dry periods after year 3.
- Organic mulch, such as wood chips or composted bark, shall be replenished annually to maintain a 5cm to 10cm layer, ensuring it does not touch the trunk to help conserve soil moisture, regulate soil temperature, and suppress weeds.
- Guards, stakes and ties shall be regularly inspected and adjusted as necessary.

- Soil tests shall be undertaken every 3 years to determine nutrient needs.
- Standard and semi-mature trees shall be regularly pruned to help maintain the desired shape and structural integrity.
- Formative pruning of specimens shall be undertaken to promote optimal growth rates and maintain a shape that is clear of any vehicular or pedestrian circulation routes.
- Following strong winds, frost, heave, or other disturbance plants shall be checked and action taken to ensure they remain firmly in place.
- Fertilisers shall be avoided unless deficiencies are identified.
- Trees shall be inspected annually for the first 5 years for signs of pests, diseases, or structural issues and any problems promptly addressed to prevent escalation. Structural pruning shall be undertaken during the dormant season to remove dead, diseased, or crossing branches.
- Stakes shall be removed after the first year unless the tree still requires support.
- Tree guards shall be removed after 5 years or as soon as they split and before they start to disintegrate.
- If the woodland becomes overcrowded and the condition of the trees and/or habitat is being impacted (around year 10, or when trees are about 7m tall), approximately 1 in every 5 trees should be felled to reduce competition for light, water, and nutrients to help the remaining trees to develop a better shape and grow stronger and more resilient.
 - Any vandalised, unhealthy, or dead trees shall be removed and replaced with new plants of the same specification during the next available planting season.

Woodland and Understorey Planting

Establishment Maintenance

3A.4 The following maintenance requirements shall be carried out during the first 12 months post-planting:

- Prior to planting of any trees, the area of proposed woodland planting shall be pre-seeded with suitable seed tolerant native woodland seed mix to enable establishment of ground flora and understorey.
- The woodland and understorey planting areas shall be kept free from weeds. Translocated herbicide and slow-release fertiliser should be avoided wherever possible.
- A low-maintenance, shade tolerant seed mix shall be used under the proposed woodland areas in preference to using mulch alone.
- Treatments for pests and diseases should avoid the use of chemical pesticides e.g. by using spraying and dusting methods.
- Fertilisers should be avoided unless deficiencies are identified.
- Grow tubes, stakes, and ties, shall be inspected, adjusted, and maintained, and repairs shall be made as needed.
- Spirals and guards shall be used where appropriate to protect plants from animal damage.
- Following strong winds, frost, heave, or other disturbance plants shall be checked and action taken to ensure they remain firmly in place.
- Litter and any harmful materials from the planting areas shall be removed.
- Plants should be watered to maintain appropriate moisture levels for optimal growth.
- Any vandalised, unhealthy, or dead shrubs shall be replaced with plants of a similar size to those nearby during the next available planting season.

Ongoing Maintenance

3A.5 The following maintenance requirements shall be carried out as necessary during years 2 to 12+ months post-planting:

- A low-maintenance, shade-tolerant mix shall be seeded under the proposed woodland areas (as part of a seeding maintenance strategy) in preference to organic mulch to encourage the vegetation growth. Should organic mulch be required, this should be replenished annually.
- The selected seed mix shall include species that thrive in shaded conditions, suppress weed growth, and contribute to soil stabilization. Minimal intervention, such as occasional overseeding or selective weeding, may be necessary to ensure successful establishment and sustainability of the woodland understory.
- Fertilisers shall be avoided unless deficiencies are identified.
- Spirals and guards shall be removed when no longer required, or within 5 years.
- Spot treatment for invasive weeds (e.g., brambles) shall be undertaken or invasive weeds shall be removed by hand if necessary.
- Treatments for pests and diseases should be implemented by using spraying and dusting methods that avoid the use of chemical pesticides.
- Fertilisers shall be avoided unless deficiencies are identified.
- Grow tubes, stakes, and ties, shall be inspected, adjusted, and repaired as necessary to ensure the optimum health of individual plants;
- Following strong winds, frost, heave, or other disturbance plants shall be checked and action taken to ensure they remain firmly in place.
- Litter and any harmful materials from the planting areas shall be removed.
- Plants should be watered to maintain appropriate moisture levels for optimal growth until year 2.
- Pruning shall be undertaken to achieve optimum growth rates and maintain a good shape, clear of any vehicular or pedestrian circulation routes.
- Cleaning out and dead-wooding operations shall be undertaken as required.
- Planting shall be thinned (approximately every 10 to 15 years) to ensure that <20% canopy cover of coniferous trees is maintained as the trees reach maturity. This shall be reviewed at intervals with an ecologist to ensure targeted thinning of woodlands to establish long term strategic habitat targets.
- 1/3 of hazel stock shall be coppiced on a 5 year rotational basis.
- Any vandalised, unhealthy or dead plants shall be removed and replaced with plants of a similar size to those adjacent, during the next available planting season, until year 5.
- A minimum of 25 % open space shall be maintained within woodland areas as tree planting matures to allow for the development of a mosaic of shade, dappled shade and sunny glades of open grassland habitats favoured by many reptile species.

Shrub and Groundcover Planting

Establishment Maintenance

3A.6 The following maintenance requirements shall be carried out during the first 12 months post-planting:

- Fertilisers should be avoided where possible to avoid encouraging nettle and bramble growth.

- Pests and diseases should be treated using appropriate spraying and dusting methods that avoid the use of chemical pesticides.
- Shrubs shall be pruned to enhance floral, foliage, and stem colour effects and weak, dead, and diseased branches should be removed to ensure they maintain the correct form and encourage flowering and berry production.
- Dead growth should be removed and herbaceous perennial plants trimmed while avoiding damage to any new shoots that have emerged.
- Litter and any unwanted materials shall be cleared away.
- Beds should be forked over as needed to keep the soil loose, ensuring gentle cambers and avoiding hollows, while taking care not to disturb the depth or effectiveness of organic mulch.
- Following strong winds, frost, heave or other disturbance, plants shall be checked and action taken to ensure they remain firmly in place.
- Plants should be watered to ensure moisture levels are adequate for optimal growth.
- Any vandalised, unhealthy, dead, or short-lived plants shall be promptly removed and replaced with plants of a similar size to those nearby during the next available planting season.
- A Glycosphate based herbicide or other means of chemical control should only be used as a last resort. Mechanical approaches such as strimming and hand pulling is preferred.

Ongoing Maintenance

3A.7 The following maintenance requirements shall be carried out as necessary during years 2 to 12+ months post-planting:

- Mulch shall be replenished annually until year 3.
- Fertilisers should be avoided unless absolutely necessary as it encourages nettle and bramble growth.
- Treatment for pests and diseases should be carried out through spraying and dusting methods that avoid the use of chemical pesticides.
- Shrubs shall be pruned to enhance floral, foliage, and stem colour effects and weak, dead, and diseased branches shall be removed to ensure they maintain the correct form and encourage flowering and berry production.
- Wall shrubs and climbers shall be trained and tied to walls or frames for optimal support. All frames and ties shall be maintained and replaced as necessary.
- Dead growth should be removed and herbaceous perennial plants trimmed, taking care to avoid damaging any new shoots that have emerged.
- Litter and any unwanted materials shall be cleared away.
- Beds should be forked over as needed to keep the soil loose, ensuring gentle contours and avoiding hollows while maintaining the depth and effectiveness of the mulch until year 3.
- Plants should be watered to ensure moisture levels are adequate for optimal growth until year 3.
- Heavy pruning of overgrown shrubs and climbers shall be undertaken.
- A Glycosphate based herbicide or other means of chemical control should only be used as a last resort. Mechanical approaches such as strimming and hand pulling is preferred.
- Where possible, an element of 'rewilding' should be allowed to occur, with natural colonisation of habitats as well as prescribed planting. There should be minimal

human activity to allow colonisation to take control. These species are likely to be pioneer plants, followed by wider ruderal plants and eventually scrub.

- Standard biosecurity protocols should be followed to control and prevent the spread of invasive plants, including snowberry. This shall include washing and disinfecting tools, vehicles, equipment, footwear, clothing after visiting or working at infected sites, and before visiting or working at new sites.

Existing Vegetation (to be retained)

General Maintenance

3A.8 Existing vegetation should be subject to a high level of protection to ensure its health is maintained throughout the life of the development. The following operations in relation to retained trees shall be undertaken:

- Pruning shall be selective to ensure the satisfactory development of the trees for their ecological value, without the trees becoming elongated as a result of overcrowding.
- Some deadwood should be allowed to develop, to provide niches for bats, birds and invertebrates.
- Crown reduction, shaping, lifting and thinning shall be undertaken (as required).
- Cleaning out and dead-wooding operations shall be undertaken (as required).
- Thinning shall be undertaken to ensure a desirable woodland character (approximately every 10 to 15 years).
- All works to trees shall be undertaken in accordance with BS 3998 *Tree Work Recommendations*.

3B Neutral Grassland

3B.1 The following maintenance requirements shall be carried out:

Establishment Maintenance

- In the first six months, watering shall be undertaken on a weekly basis during dry spells. Watering can be reduced after the plants are well-established.
- Checks shall be carried out for bare patches in the first year and if germination is patchy, overseeding shall be carried out in the autumn or early spring.
- Monthly inspections shall be carried out for invasive species and unwanted weeds.
- Weeds shall be hand-pulled or spot treated before they spread.
 - Mowing shall be avoided for the first 8–12 weeks to allow grasses to develop strong roots. Where necessary, mowing shall be at 15cm-20cm high to suppress weeds while protecting young grass. Over-mowing shall be avoided as it can weaken young grasses.
- After the first 8-12 weeks and up to year 2 mowing shall be carried out every two months, maintaining the sward at 50mm to encourage strong root establishment, prevent aggressive species from dominating, and support biodiversity by allowing slower-growing species to develop.
- Mowing shall be avoided in excessively wet conditions to prevent soil compaction, and excessive cuttings shall be removed to prevent nutrient buildup.
- Mulch, straw or coir matting shall be used to prevent erosion in steep areas
- Annual inspections shall be carried out for pest infestations (e.g. grasshoppers, aphids) and signs of fungal diseases. Biological treatment shall be used to control as required. Chemical treatment shall be used as a last resort.

- Natural predators (birds, beneficial insects) shall be encouraged to control pests.
- Native grass and wildflower species suited to the site conditions shall be used.

Ongoing Maintenance

- Checks shall be carried out annually for bare patches up to year 5. Reseeding if necessary shall take place in years 2-5 in autumn or early spring.
- A mowing regime shall be implemented in the aftercare period (year 3 onward). On low fertility soils, an annual cut shall be sufficient, whereas on higher-fertility soils where there is vigorous grass growth, a biannual cut (twice a year) may be necessary. The first cut shall take place in late summer (August-September) after flowering, while the second cut (if required) should be in late winter (February-March) to control early growth to maintain species diversity, prevent aggressive grasses from taking over, and ensure that organic matter does not accumulate excessively, which could alter soil conditions.
- Mowing should always be done carefully to avoid scalping, with some areas left uncut to promote habitat diversity. Cutting should be avoided during prolonged wet periods to minimise soil damage and compaction.
- For low fertility soils, where an annual mowing regime is followed, 10-20% of the site shall be left uncut in rotational patches each year. These patches shall be rotated annually to prevent scrub encroachment while maintaining habitat diversity. In higher-fertility soils, where biannual mowing may be required, a larger proportion of 20-30% shall remain uncut, with rotational sections left undisturbed to enhance structural variation in vegetation.
- Uncut areas shall be distributed across the site rather than concentrated in a single location to maximise ecological benefits. These areas should be positioned near wetland edges, ditches, or naturally undisturbed sections to provide refuge for pollinators, birds, and small mammals.
- To prevent excessive woody vegetation buildup, uncut patches shall be rotated every 2-3 years, unless scrub development aligns with specific ecological objectives.
- All arisings shall be removed after setting seed to prevent soil enrichment.
- Seasonal inspections shall be conducted for invasive grasses and weeds. Invasive grasses and weeds shall be hand-pulled, mown, or spot-treated before they dominate to help rejuvenate native grasses, control invasive species, and reduce thatch.
- Fertilizing shall be avoided unless necessary to avoid encouraging weed growth.
- If soil health declines, a thin layer of compost or organic matter shall be applied.
- Excessive mowing to protect ground-nesting birds and pollinators should be avoided. If thatch buildup becomes excessive, raking or mowing shall be carried out to prevent smothering.
- A mosaic of plant heights shall be maintained to support diverse wildlife.
- Disturbance should be reduced to allow natural succession where appropriate. If grassland health declines, reseeding native species shall be considered.
- Overseeding shall be carried out after initial establishment to ensure there is a diversity of native grasses and wildflowers, after disturbances such as erosion or trampling, or to help outcompete invasive species. In low-fertility areas, overseeding shall be undertaken to encourage a more balanced plant mix by introducing species struggling to establish naturally. If required, overseeding shall be undertaken in autumn (September-October) to mimic natural seed dispersal and take advantage of winter moisture, or in early spring (March-April) to benefit from warming temperatures and reduced competition from fast-growing grasses.

The seed mix shall include locally sourced, native wildflowers and grasses suited to the habitat, ensuring a diverse and sustainable ecosystem.

- When seeds struggle to establish due to strong competition from existing vegetation, plug planting may be necessary which can be particularly effective for introducing slow-growing or rare species that may not successfully thrive from seed alone. Plug planting shall be especially useful in small, targeted areas, such as pathways, where direct seeding may be less effective to quickly enhance diversity in regions with low floral abundance.
- Plug planting shall be carried out in spring (March-May) to allow root establishment before summer droughts, or autumn (September-October) to enable plants to establish before winter dormancy. The species selected shall be perennial wildflowers, grasses, or sedges that complement the existing flora without allowing aggressive species to dominate. Mowing shall be delayed for at least 6-8 weeks after plug planting to allow seedlings and young plants to establish properly. Invasive species that could hinder growth shall be removed.

3C Meadow

3C.1 The following maintenance requirements shall be carried out:

Pre-Establishment

- Before seeding of wildflower and grass species, soil testing shall be undertaken to establish nutrient levels of the existing soils to ensure suitability for high quality grassland establishment.
- Where nutrient levels are not suitable for high quality grassland establishment, either nutrient stripping through soil inversion (other than in soils with a high percentage of clay) or via cropping shall be used to reduce nutrients to suitable levels.
- These methods shall be implemented following detailed analysis of the site conditions prior to establishment of meadow areas.

Establishment Maintenance

- In the first six months, watering shall be undertaken on a weekly basis during dry spells. Watering can be reduced after the plants are well-established.
- Checks shall be carried out for bare patches in the first year and if germination is patchy, overseeding should be carried out in the autumn or early spring.
- Monthly inspections shall be carried out for invasive species and unwanted weeds.
- Weeds shall be hand-pulled or spot treated before they spread.
- Mowing should be avoided for the first 8–12 weeks to allow grasses to develop strong roots. Where necessary, mowing shall be at 15cm - 20cm high to suppress weeds while protecting young grass. Over-mowing shall be avoided as it can weaken young grasses
- After the first 8-12 weeks and up to year 2, mowing shall be carried out every two months, maintaining the sward at 50mm to encourage strong root establishment, prevent aggressive species from dominating, and support biodiversity by allowing slower-growing species to develop.
- Mowing shall be avoided in excessively wet conditions to prevent soil compaction, and excessive cuttings shall be removed to prevent nutrient buildup.
 - Mulch, straw or coir matting shall be used to prevent erosion in steep areas.

- Annual inspections shall be carried out for pest infestations (e.g. grasshoppers, aphids) and signs of fungal diseases. Biological treatment shall be used to control as required. Chemical treatment shall be used as a last resort.
- Natural predators (birds, beneficial insects) shall be encouraged to control pests.
- Native grass and wildflower species shall be used which are suited to the site conditions.

Ongoing Maintenance

- Checks shall be carried out annually for bare patches up to year 5. Reseeding if necessary shall take place in years 2-5 in autumn or early spring.
- A mowing regime shall be implemented in the aftercare period (year 3 onward). On low fertility soils, an annual cut shall be sufficient, whereas on higher-fertility soils where there is vigorous grass growth, a biannual cut (twice a year) may be necessary. The first cut shall take place in late summer (August-September) after flowering, while the second cut (if required) should be in late winter (February-March) to control early growth to maintain species diversity, prevent aggressive grasses from taking over, and ensure that organic matter does not accumulate excessively, which could alter soil conditions.
- Mowing should always be done carefully to avoid scalping, with some areas left uncut to promote habitat diversity. Cutting should be avoided during prolonged wet periods to minimise soil damage and compaction.
- For low fertility soils, where an annual mowing regime is followed, 10-20% of the site shall be left uncut in rotational patches each year. These patches shall be rotated annually to prevent scrub encroachment while maintaining habitat diversity. In higher-fertility soils, where biannual mowing may be required, a larger proportion of 20-30% shall remain uncut, with rotational sections left undisturbed to enhance structural variation in vegetation.
- Uncut areas shall be distributed across the site rather than concentrated in a single location to maximise ecological benefits. These areas should be positioned near wetland edges, ditches, or naturally undisturbed sections to provide refuge for pollinators, birds, and small mammals.
- To prevent excessive woody vegetation buildup, uncut patches shall be rotated every 2-3 years, unless scrub development aligns with specific ecological objectives.
- All arisings shall be removed after setting seed to prevent soil enrichment.
- A 1m-wide closely mown buffer shall be maintained on both sides of the primary and secondary footpath/cycleways, creating a clear and neat transition between the pathways and the surrounding meadow areas.
 - Along the footpath, a 2m wide mown meadow path shall be integrated within the grassland while preserving the natural landscape. Regular mowing, typically once a week during spring and summer months, shall be carried out to provide a clear and inviting route for visitors while minimising disruption to the surrounding meadow.
- Seasonal inspections shall be conducted for invasive grasses and weeds. Invasive grasses and weeds shall be hand-pulled, mown, or spot-treated before they dominate to help rejuvenate native grasses, control invasive species, and reduce thatch.
- Fertilisers should be avoided unless necessary to avoid encouraging weed growth.
- If soil health declines, a thin layer of compost or organic matter shall be applied.
- Seasonal review of botanical diversity shall be undertaken to ensure a diversity of native grasses and wildflowers is maintained. If grasses become too dominant,

seeding *Rhinanthus Minor* (yellow rattle) shall be undertaken to suppress grass species, combined with reseeding with additional native wildflower seeds to maintain diversity and replenish the meadow.

- Excessive mowing to protect ground-nesting birds and pollinators should be avoided. If thatch buildup becomes excessive, raking or mowing shall be carried out to prevent smothering.
- A mosaic of plant heights shall be maintained to support diverse wildlife.
- Disturbance should be reduced to allow natural succession where appropriate. If grassland health declines, reseeding native species should be considered.
- Overseeding shall be carried out after initial establishment to ensure there is a diversity of native grasses and wildflowers, after disturbances such as erosion or trampling, or to help outcompete invasive species. In low-fertility areas, overseeding should be undertaken to encourage a more balanced plant mix by introducing species struggling to establish naturally. If required, overseeding shall be undertaken in autumn (September-October) to mimic natural seed dispersal and take advantage of winter moisture, or in early spring (March-April) to benefit from warming temperatures and reduced competition from fast-growing grasses. The seed mix shall include locally sourced, native wildflowers and grasses suited to the habitat, ensuring a diverse and sustainable ecosystem.
- When seeds struggle to establish due to strong competition from existing vegetation, plug planting may be necessary which can be particularly effective for introducing slow-growing or rare species that may not successfully thrive from seed alone. Plug planting is especially useful in small, targeted areas, such as pathways, where direct seeding may be less effective to quickly enhance diversity in regions with low floral abundance.
- Plug planting shall be carried out in spring (March-May) to allow root establishment before summer droughts, or autumn (September-October) to enable plants to establish before winter dormancy. The species selected shall be perennial wildflowers, grasses, or sedges that complement the existing flora without allowing aggressive species to dominate. Mowing shall be delayed for at least 6-8 weeks after plug planting to allow seedlings and young plants to establish properly. Invasive species that could hinder growth shall be removed.

3D Mixed Native Hedgerows

3D.1 The following maintenance requirements shall be carried out during the first 12 months post-planting:

Establishment Maintenance

- A 2m wide undisturbed buffer strip shall be left to encourage regrowth.
- Pleached (partially cut and bent) stems shall be checked for strong regrowth.
- Gaps shall be addressed by encouraging natural regeneration or gapping up with native hedge species.
- Invasive weeds (e.g., brambles, nettles, thistles) shall be prevented from overtaking young regrowth, including light trimming of excessive bramble growth if necessary.
- Young regrowth should receive adequate moisture in dry conditions.
- Mulch should be applied around new plants to retain moisture.
- Up to 30% of the hedgerow shall be trimmed/cut per year.
- Spirals and guards shall be used where appropriate to protect hedges from animal damage. Plastic guards shall be avoided wherever possible.

Ongoing Maintenance

3D.2 Once established, hedgerows shall require periodic care to maintain their function and biodiversity value.

- Traditional laid hedges shall be re-laid every 10–20 years depending on growth rate and species.
- Staggered management shall be implemented across different hedge sections to maintain structural diversity.
- Hedges shall be laid in late autumn to early winter when plants are dormant and should not all be re-laid at the same time to prevent loss of wildlife habitats.
- Up to 30% of the hedgerow shall be trimmed/cut per year avoiding the period between February and August to protect nesting birds and as late in the season as possible, to provide forage in the form of berries and shelter for animals through the winter months. Excessive cutting shall be avoided as it may weaken the hedge.
- Lighter hedge trimming may be done every 2–3 years using a rotational approach to maintain shape and density.
- If certain sections become too thick or overgrown, coppice may be undertaken to help encourage fresh basal growth and prevent over-dominance of woody parts.
- Hedges shall be inspected for signs of fungal infections (e.g., honey fungus) or pest damage (e.g., aphids, scale insects) and plants which are severely affected should be removed and replaced if necessary.
- Spirals and guards shall be removed when no longer required or within 5 years.

Enhancement

3D.3 Existing hedgerows shall be enhanced by:

- Supplementary planting.
Improved maintenance as detailed in 3.13.

3E Seasonally Wet Grassland

3E.1 The following maintenance requirements shall be carried out during the first 12-24 months post-planting:

Establishment Maintenance

- Existing flora and fauna shall be surveyed and documented annually.
- Outlets and weirs shall be inspected and maintained to manage water levels, ensuring the annual flooding or waterlogging essential for wetland functions. Maintenance requirements shall include removing debris accumulation from outlets and weirs; and addressing any structural deficiencies to ensure the proper functional operation of the wetland necessary to support its ecological health.
- Invasive species shall be removed or managed to reduce competition and support native plant establishment.
- Varied surface features like mounds and hollows shall be developed to increase habitat diversity.
- During the first 1–2 years, mowing shall be conducted every two months (6 times per year).

- Throughout the establishment phase, the sward shall be maintained at 50mm, promoting strong root development, preventing the dominance of aggressive species, and supporting biodiversity by allowing slower-growing species to thrive. Mowing should be avoided in excessively wet conditions to prevent soil compaction, and excess cuttings shall be removed to prevent nutrient buildup.

Ongoing Maintenance

- Water levels shall be continuously assessed, and control structures shall be adjusted to mimic natural hydrological regimes.
- Mowing shall be implemented to prevent succession to scrub or woodland, maintaining the open character of wet grasslands.
- In the aftercare period (year 3 onward), the mowing frequency shall depend on soil fertility. On low fertility soils, an annual cut shall be sufficient. On higher-fertility soils where there is vigorous grass growth, a biannual cut (twice a year) may be necessary. The first cut shall take place in late summer (August-September) after flowering, while the second cut (if required) should be in late winter (February-March) to control early growth, maintain species diversity, prevent aggressive grasses from taking over, and ensure that organic matter does not accumulate excessively, which could alter soil conditions.
- Mowing shall always be done carefully to avoid scalping, with some areas left uncut to promote habitat diversity. Additionally, cutting shall be avoided during prolonged wet periods to minimise soil damage and compaction.
- For low fertility soils, where an annual mowing regime is followed, 10-20% of the site shall be left uncut in rotational patches each year. These patches shall be rotated annually to prevent scrub encroachment while maintaining habitat diversity. In higher-fertility soils, where biannual mowing may be required, a larger proportion of 20-30% shall remain uncut, with rotational sections left undisturbed to enhance structural variation in vegetation.
- Uncut areas shall be distributed across the site rather than concentrated in a single location to maximise ecological benefits. Ideally, these areas should be positioned near wetland edges, ditches, or naturally undisturbed sections to provide refuge for pollinators, birds, and small mammals. To prevent excessive woody vegetation buildup, patches shall be rotated every 2-3 years, unless scrub development aligns with specific ecological objectives.
- All arisings shall be removed after setting seed to prevent soil enrichment.
- Invasive species shall be regularly inspected, and appropriate control measures shall be applied promptly.
- Overseeding shall be undertaken following initial establishment to ensure there is a diversity of plant species, after disturbances such as erosion or trampling, or to help outcompete invasive species. Additionally, in low-fertility areas, overseeding shall encourage a more balanced plant mix by introducing species that might struggle to establish naturally. Overseeding shall be undertaken in autumn (September-October) to mimic natural seed dispersal and take advantage of winter moisture, or in early spring (March-April) to benefit from warming temperatures and reduced competition from fast-growing grasses. The seed mix shall include locally sourced, native wildflowers and grasses suited to the habitat, ensuring a diverse and sustainable ecosystem.
- When seeds struggle to establish due to strong competition from existing vegetation, plug planting may be necessary particularly where slow-growing or rare species are to be introduced that may not successfully thrive from seed alone. Plug planting where necessary should be targeted in small areas where direct seeding may be less effective. Plugs shall be planted in spring (March-May) to allow root establishment before summer droughts, or autumn (September-October) to enable plants to

establish before winter dormancy. The species selected shall be perennial wildflowers, grasses, or sedges that complement the existing flora without allowing aggressive species to dominate.

- Mowing shall be delayed for at least 6-8 weeks after planting to allow seedlings and young plants to establish properly.
- Maintenance shall be undertaken annually for the first 10 years to assess success and remove any invasive species that could hinder growth.

3F Aquatic Marginal / Permanent Water Body and Ditches

Establishment Maintenance

- Adequate water levels shall be maintained, especially in the first 3–6 months, until roots establish.
- Extreme water fluctuations should be avoided that could expose or drown young plants.
- For potted or plug plants, the soil shall be kept consistently moist until well-rooted.
- Monthly weeding shall be carried out to prevent competition from aggressive plants.
- Unwanted plants shall be hand-pulled or cut below the waterline to prevent regrowth.
- Invasive species (e.g. reed canary grass) should be removed promptly.
- A check for wilting, yellowing, or uprooted plants should be carried out monthly. Any missing vegetation shall be replanted to maintain coverage.
- Overgrown species shall be thinned out to prevent dominance.

Ongoing Maintenance

- If signs of erosion, overgrowth, or dead vegetation are identified, then conditions within or surrounding the watercourse should be changed.
- Seasonal water levels shall remain suitable for plant growth and be topped up with standing water if required.
- Drastic water level fluctuations should be avoided that could expose or drown plants.
- Inspections for invasive plants should be undertaken every 3–6 months and any such plants should be removed promptly.
- Manual removal or spot treatment with eco-friendly herbicides should be used if needed.
- Dense plant growth shall be thinned out to maintain biodiversity. Physical (the active removal of plant material from a watercourse), biological (the use of biological control agents to control unwanted species or excessive plant growth), or environmental (the alteration of the conditions within or surrounding the watercourse to reduce or prevent plant growth) methods should be applied as necessary.
- Excessive sediment shall be removed on an annual basis to maintain proper depth and plant health. A minimum of 20% of the pond area shall be standing water and not marshy ground.
- Litter, fallen leaves, or organic debris that could affect water quality shall be removed.
- Overgrown or dying plants shall be trimmed back to maintain open water flow.
- Plants that have died due to seasonal changes or competition shall be replaced.
- Natural regeneration shall be allowed where appropriate by ensuring minimal human activity.
- Harmful algae blooms shall be assessed annually as they may indicate nutrient imbalances. The water shall be treated to remove the algae if required.
- Shoreline stabilizers, coir logs, and other erosion controls shall be inspected annually.

- Any washed-out sections shall be repaired before further damage occurs.
- Mulch shall be reapplied every 1–2 years to maintain moisture and suppress weeds.
- Excessive mulch buildup shall be avoided that could block plant growth.
- Plant diversity shall be assessed annually, and the species mix shall be adjusted if needed to take account of specific water level tolerance limits. Planting strategies shall be adapted to changing climate conditions or water levels.
- Major sediment removal shall be conducted every 5–10 years if accumulation affects plant health.

3G Swales

General Planting Topsoil Maintenance

- A specialized soil mix shall be required for bioswale / SuDS planting, formulated to balance high flood tolerance with optimal nutrient retention.
- Infiltration rates shall be maintained as per the design intent in the approved and drainage strategy (to be confirmed by drainage engineer).
- Aeration techniques shall be implemented to enhance water infiltration.
- Sediment should be removed to prevent buildup that may obstruct water flow.
- Litter and debris should be regularly removed to maintain functionality.
- Invasive species that could hinder water absorption should be managed and controlled.
- Topsoil shall be replaced or amended if compaction or nutrient depletion occurs.

Establishment Maintenance

3G.1 The following maintenance requirements shall be carried out during the first 12 months post-planting to ensure the successful establishment of swale planting:

- The bioswale shall be watered regularly (1-2 times per week) during the first growing season, especially during dry periods.
- Planting shall be deep watered to encourage strong root growth.
- Monthly weeding shall be undertaken to prevent invasive species from overtaking native plants. Hand-pulling or selective spot treatment shall be used with eco-friendly herbicides (if necessary).
- Bioswales shall be inspected after heavy rain events and any accumulated sediment, rubbish and debris that might clog the system shall be removed. If erosion is present following heavy rain or a storm event additional mulch may need to be applied. Alternatively, the use of erosion control materials (such as coir logs) or temporary barriers may be required.
- Any disturbed vegetation shall be replanted immediately.
- Inspection shall be carried out for wilting, pests, and diseases.
- Any dead or struggling plants shall be replaced with suitable native or drought-tolerant species.

Ongoing Maintenance

3G.2 After the first year, maintenance frequency can decrease, but essential routine care shall be carried out for long-term functionality.

- Once established, native plants shall require little to no supplemental watering, except during extreme drought conditions.

- Hand-pulling weeds or selectively spot treatment with eco-friendly herbicides shall be continued as needed.
- Vegetation shall be mowed or trimmed along bioswale edges to prevent overgrowth.
- Annually or biannually, excessive sediment shall be removed from the bottom of the swale. If sediment buildup, especially near inlets and low-lying sections, is more than 3- 5cm, it shall be removed to maintain water flow.
- Leaves, plastic, branches, and other debris that could obstruct water movement shall be cleared out, focusing on inlets, outlets, and along the swale's length to prevent blockages.
- Mulch shall be reapplied or reinforced with erosion control materials (such as coir logs or additional plants).
- After storm events, inspections shall be carried out to ensure that stormwater has not uprooted plants or created bald patches. Any damaged areas shall be replanted to maintain full vegetation cover.
- Mulch shall be refreshed every 1-3 years as needed.
- Overgrown plants shall be trimmed to maintain an open channel for water flow.
- Plants shall be replaced as needed to ensure full vegetation coverage.
- Every 5-10 years, the need for a major overhaul shall be assessed, including sediment excavation or plant re-establishment.

3H Build Zone Planting

General Planting Topsoil Maintenance - Ornamental planting

3H.1 To maintain healthy and nutrient-rich topsoil for ornamental planting the following shall be carried out:

- Periodic pH testing (ideal range 6.0-7.5) and implementation of remedial measures as necessary;
- Nutrient balance shall be maintained through regular soil testing and implementation of remedial measures as necessary;
- Organic matter content shall be maintained at 2-5% by weight;
- Any imported topsoil must comply with BS 3882 standards;
- Well-structured sandy loam, free from stones or any other contaminants shall be used;
- Erosion shall be prevented by mulching and vegetation cover;
- Soil amendments shall be used to improve structure if compaction occurs. This may include adding organic matter such as woody mulch; and
- Soil shall be aerated periodically to improve root penetration.

3I General Requirements

General Disposal of Green Waste

3I.1 Green waste (such as grass & wood clippings, pruning, branches, twigs, leaves, tree trimmings) from the routine long term management of the ecology park and Data Centre Campus shall be collected and used to create habitat piles around the site. Green waste should not be removed from the site.

General Management Requirements

31.2 There are a number of general prescriptions that apply to management of the LDO site. These are as follows:

- All legally designated weeds or invasive plants (identified in Schedule nine, Part II of the Wildlife and Countryside Act 1981 or the Weeds Act 1959) shall be controlled and disposed of in accordance with relevant Natural England; DEFRA; or Environment Agency guidance;
- Vegetation, which suppresses or otherwise inhibits the development of planted species and proper management of habitats shall be restricted and/ or removed;
- Any species which colonise the site and are incongruous with the planting scheme and / or the surrounding context shall be removed; and
- All areas shall be subject to a regular system of litter collection and removal.

4 Management for Ecological Mitigation Creation Features

4.1 Bee Hotels

Ongoing Maintenance

- Nesting materials, tubes, paper straws and stems shall be removed and replaced on an annual basis after the bees have emerged (typically summer) where there are signs of disease and parasite buildup.

4.2 Bird Boxes

Establishment Maintenance

- To encourage swifts to use nest boxes, swift calls shall be played in May, June and July between 06:00-09:00 and 18:00-23:00. This shall be carried out for the first 3 years unless a colony has become established.

Ongoing Maintenance

- Bird boxes shall be cleaned out on an annual basis in the autumn, after the breeding season when there are no birds present. This shall include removing old nesting material and pouring boiling water inside to eliminate parasites. The box shall be allowed to dry thoroughly before reassembling.

4.3 Bat Boxes

Ongoing Maintenance

- Bat boxes shall be maintained by a Suitably Qualified Ecologist (SQE) with a bat licence.
- The boxes shall be checked at least once a year during the winter months (November to early March) when bats are absent. This shall involve looking for cracks, warps, or leaks, which should be repaired as necessary. Any wasp nests or debris shall be removed.

4.4 Refugia for Reptiles and Amphibians

Ongoing Maintenance

- Refugia shall be checked every 2 years for structural integrity, ensuring entrances remain accessible and the mound is stable. The surrounding vegetation shall be retained to provide cover and foraging opportunities but prevent overgrowth that could obstruct entrances or alter the microhabitat.
- The pile shall remain in the same place with materials added every 1 – 2 years as necessary. Trimming or cutting of vegetation may be required, on a rotational basis when amphibians and reptiles are less likely to be using the refugia (usually during dry weather between April and September, with vegetation cut to 150 mm at most).

4.5 **Log Piles**

Ongoing Maintenance

- As logs decompose, new material shall be added when necessary for the first 5 years to maintain the pile's structure and habitat value. Fresh leaf litter or bark chips shall be added to ensure the pile retains moisture, especially during dry periods.

4.6 **Scrapes for Wading Birds**

Ongoing Maintenance

- Encroaching vegetation shall be removed to maintain open foraging areas for wading birds.
- The water levels shall have a maximum depth of 300mm and shall be monitored annually and adjusted to ensure the scrapes remain suitable for wading birds, especially during breeding seasons.

4.7 **Other mammals**

- Appropriate habitats for other mammals including hedgehog, harvest mice and brown hare shall be retained, with clear signage identifying areas to be undisturbed by visitors, particularly dog walkers.
- Identified badger setts shall be retained with a buffer around them of “defensive plants” such as brambles, blackthorn and hawthorn, to reduce the effects of disturbance by humans and dogs.

5 Monitoring Requirements

Monitoring Surveys

- 5.1 Monitoring surveys for each phase of development as shown in Figure 1.2 (Phase 1A, 1, 2A, 2B and 3) shall be carried out. The number, location and frequency of surveys of each habitat type shall be agreed in writing with the LPA in advance and shall be carried out by a competent person at the optimum time of the year.

Reporting Monitoring Results

- 5.2 A habitat condition report prepared by a qualified ecologist against the criteria in the condition sheets in Appendix 2 and, where required, an assessment of hedgerow distinctiveness and RCA shall be submitted to the LPA within three months of completion of each survey. The report shall include the ecological reasoning for the judgement regarding the habitat condition following analysis of survey data.
- 5.3 The report shall include a detailed record of management activities undertaken since the previous survey results were reported and include monitoring data to show the ecological changes that have taken place within each habitat type.
- 5.4 Where the habitat type is being established, the report shall provide an assessment of progress towards meeting the required habitat condition within the specified timeframe.

Actions Post Monitoring

- 5.5 Where the outcome of the condition assessment for each habitat type does not meet the target condition set out in Table 2.1 and Table 2.2, or it identifies that progress towards meeting the required habitat condition within the specified timeframe is not on target, enhancement interventions through adjustments to the management and maintenance regimes to improve the condition score shall be agreed in writing with the LPA along with a programme for implementation.
- 5.6 The programme of monitoring shall continue on an annual basis until the target condition for each habitat type is met unless otherwise agreed with the LPA.

Long -Term Condition

- 5.7 Once the interim habitat condition has been achieved for a habitat type where there is a long-term condition target, monitoring shall then commence against the long-term condition target in accordance with the monitoring requirements detailed above. The programme of monitoring shall continue on an annual basis until the longer-term condition target is met unless otherwise agreed with the LPA.

Appendix 1: Habitat Classifications

Habitat Classification	Definition (Based on UKHab v2.01(2023))
w1d – Wet Woodland	Occurs on poorly drained or seasonally wet soils, usually with Alder <i>Alnus glutinosa</i> , Birch <i>Betula spp.</i> and Willows <i>Salix spp.</i> as the predominant tree species, but sometimes including Ash <i>Fraxinus excelsior</i> , Oak <i>Quercus spp.</i> Scots Pine <i>Pinus sylvestris</i> and Beech <i>Fagus sylvatica</i> on dryer riparian areas.
w1f - Lowland Mixed Deciduous Woodland	Includes woodland growing on the full range of soil conditions, from very acidic to base rich. It occurs largely within enclosed landscapes, usually on sites with well-defined boundaries and at relatively low altitudes. Includes: <ul style="list-style-type: none"> - Monospecific stands of native species such as Elm <i>Ulmus spp.</i>, Field maple <i>Acer campestre</i>, Ash <i>Fraxinus excelsior</i> or Hazel <i>Corylus avellana</i> in the drier non-Atlantic lowlands. Excludes: <ul style="list-style-type: none"> - A mixture of broadleaved and coniferous species.
w1g – Other Broadleaf Woodland	Broadleaf and mixed woodland. Includes: <ul style="list-style-type: none"> - Stands of non-native broadleaved tree species. - Woodlands of non-native species or Sycamore <i>Acer pseudoplatanus</i> that have developed through recent successions. Excludes: <ul style="list-style-type: none"> - Upland woodland comprising Acidophilous Sessile Oak <i>Quercus petraea</i> woods with low-branched trees and may ferns, mosses, lichens and evergreen bushes. - Upland mixed ashwoods comprising woods on base-rich soils in the north and west, in most of which Ash <i>Fraxinus excelsior</i> is a major species, although locally Oak <i>Quercus spp.</i>, Birch <i>Betula spp.</i>, Elm <i>Ulmus spp.</i>, Small-leaved Lime <i>Tilia cordata</i> and even Hazel <i>Corylus avellana</i> maybe the most abundant species.

	<ul style="list-style-type: none"> - Lowland beech and yew woodland which is dominated by Beech <i>Fagus sylvatica</i> in the lowlands. Spans a variety of distinctive vegetation types, reflecting differences in soil and topographical conditions. Beech can grow on both acidic and calcareous sites, although its association with Yew <i>Taxus baccata</i> tends to be most abundant on calcareous sites. - Upland birchwoods which have abundant Birch <i>Betula spp</i>, with constituents such as Rowan <i>Sorbus aucuparia</i>, Willow <i>salix spp</i>, Juniper <i>Juniperus spp</i>. And Aspen <i>Populus tremula</i>. These woodlands differ from successional Birch stands found within oakwoods and Dwarf Birch scrub. - w1d – Wet Woodland - w1f – Lowland Mixed Deciduous Woodland -
<p>g3c – Other Neutral Grassland</p>	<p>A neutral grassland that meets at least three of these four criteria:</p> <ol style="list-style-type: none"> 1. >20% cover of broadleaved herbs and sedges 2. >8 species per m² (including forbs, grasses, sedges and rushes and excluding bryophytes) 3. ≥1 grass species that is not generally sown for intensive agricultural production (ie. Rye-grasses <i>Lolium spp</i>. Timothy <i>Phleum pratense</i>, Cock’s-foot <i>Dactylis glomerata</i>, Meadow fescue <i>Festuca pratensis</i>) is at least abundant. 4. Cover of Rye-grasses <i>Lolium spp</i>. And White Clover <i>Trifolium repens</i>, where present, is <30%.
<p>g3a - Lowland Meadows</p>	<p>A lowland grassland that meets at least two of these three criteria:</p> <ol style="list-style-type: none"> 5. >15 species per m² (including grasses and excluding bryophytes) 6. >30% cover of broadleaved herbs and sedges (Excluding White Clover <i>Trifolium repens</i>, Creeping Buttercup <i>Ranunculus repens</i> and injurious weeds) 7. <10% cover of rye grasses and White Clover <i>Trifolium repens</i> <p>AND EITHER ≥4 of these indicators at least ‘present’ on the DAFOR* scale.</p>

	<p>Or ≥ 3 of these indicators at least 'occasional' on the DAFOR* scale (but not limited to field corners or edges).</p> <p>*DAFOR Scale:</p> <p>D (Dominant): 76-100% cover/abundance (e.g., the main species in a monoculture).</p> <p>A (Abundant): 51-75% cover/abundance (e.g., common but not overwhelming).</p> <p>F (Frequent): 26-50% cover/abundance (e.g., present in many places).</p> <p>O (Occasional): 11-25% cover/abundance (e.g., scattered individuals).</p> <p>R (Rare): 0-10% cover/abundance (e.g., very few individuals).</p>
<p>h2a – Native Hedgerow</p>	<p>A hedgerow with >80% canopy cover of UK native or archaeophyte woody species.</p> <p>Includes:</p> <ul style="list-style-type: none"> - Archaeophytes are species that have been recorded as naturalised in the wild before 1500CE. - Sycamore <i>Acer</i> should be included as an archaeophyte. <p>Excludes:</p> <ul style="list-style-type: none"> - Climbers such as Honeysuckle <i>Lonicera periclymenum</i> and Bramble <i>Rubus fruticosus</i> agg. Are recognised as integral to many hedgerows however they require other woody plants to be present to form a distinct woody boundary feature, and as such are not include in the definition of woody species.
<p>f2f 55 – Other Wetlands and g3c 55 Other Neutral Grassland Floodplain Wetland Mosaic</p>	<p>Naturally functioning mosaics of wetland habitats with natural or near natural hydrological function and-or good water quality.</p> <p>Areas of floodplain that are either:</p> <ul style="list-style-type: none"> - Naturally functioning floodplains will not be drained or contain water control structures and will not have artificial barriers between the water body and the floodplain. The water quality will be good with no evidence of nutrient enrichment. Naturally functioning wetlands will contain mosaic habitats potentially including fens, bogs, grasslands, woodlands and open water.

	<p>Naturally functioning floodplains will; not be drained</p> <ul style="list-style-type: none"> - Areas of modified floodplain but only if they provide important refuges for wetland species whose natural habitats have been lost. <p>Modified floodplains are typically areas of periodically inundated pasture or meadow with water control measures and ditches to maintain the water levels. Site may contain standing brackish or fresh water including permanent and-or seasonal ponds with some emergent swamp communities.</p> <p>Comprising:</p> <p>Wetlands including swamps other than reedbeds.</p> <p>Excludes:</p> <ul style="list-style-type: none"> - Lowland fens which are wetlands that receive water and nutrients from the soil, rock and groundwater, as well as from rainfall. - Purple moor-grass and rush pastures where the vegetation has a distinct character and consists of various species rich types of fen meadow and rush pasture. - Upland flushes fens and swamps which includes a number of wetland communities in the uplands, from swamp vegetation at the margins of lochs or the waters of sluggish streams, through tall fens with mixtures of herbs and rushes, to sedge-dominated mire and bryophyte springs. - f2d – Aquatic Marginal Vegetation - Reedbeds which are wetland that are dominated by >5m wide stands on the Common Reed <i>Rhagmitis australis</i> and where the water table is at or above the ground level for most of the year. - Parcels dominated by Common reed <i>Phragmites australis</i> where no part is inundated for most of the year. <p>Neutral grassland that meets at least three of these four criteria:</p> <ol style="list-style-type: none"> 1. >20% cover of broadleaved herbs and sedges
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	<ol style="list-style-type: none"> 2. >8 species per m² (including forbs, grasses, sedges and rushes and excluding bryophytes) 3. ≥1 grass species that is not generally sown for intensive agricultural production (ie. Rye-grasses <i>Lolium spp.</i> Timothy <i>Phleum pratense</i>, Cock’s-foot <i>Dactylis glomerata</i>, Meadow fescue <i>Festuca pratensis</i>) is at east abundant. 4. Cover of Rye-grasses <i>Lolium spp.</i> And White Clover <i>Trifolium repens</i>, where present, is <30%.
<p>r1g 41 – Other Standing Water Pond r1g 50 – Other Standing Water Ditch r1g 45 – Other Standing Water reservoir</p>	<p>Standing water that is not:</p> <ul style="list-style-type: none"> - Eutrophic standing waters which are water bodies ≥ 2 ha that are highly productive because plant nutrients are plentiful, either naturally or as a result of artificial enrichment. They are characterised by algal blooms and dark anaerobic mud and are rich in organic matter. - Mesotrophic lakes in the middle of the trophic range characterised by having a narrow range of nutrients, the main indicative ones being inorganic nitrogen (N) and total phosphorus (P). - Oligotrophic and dystrophic lakes which are water bodies that are mainly > 2 ha in size and characterised by their low nutrient levels and low productivity. - Aquifer-fed naturally fluctuating water bodies which are natural water bodies that have an intrinsic regime of extreme fluctuation in water level with periods of complete or almost-complete drying out as part of the natural cycle. They have no inflow or outflow streams at the surface, except at times of very high water level, when temporary out-flows may develop. Instead, they are directly connected to the underlying groundwater system and periodically empty and are recharged via swallow holes or smaller openings in their beds. - Canals which are an artificial watercourse for inland navigation or irrigation. - Temporary water bodies which contain water normally for <6 months each year. <p>Includes:</p> <ul style="list-style-type: none"> - Lakes (except for those specified above) - Most ponds - Drainage ditches that a likely to retain water for >4 months a year in fenland or levels.

f2d – Aquatic Marginal Vegetation	<p>Vegetation fringing open water that is often developed as a narrow (<0.5m wide or <0.2 ha in extent) part of a hydrosere between standing water and upslope vegetation.</p> <p>Includes inundated, vegetation filled ditches with little or no open water. Common Reed <i>Phragmites australis</i> is often dominant.</p>
f2d 848 – Aquatic Marginal Vegetation – Sustainable Drainage Systems	<p>Vegetation fringing open water that is often developed as a narrow (<0.5m wide or <0.2 ha in extent) part of a hydrosere between standing water and upslope vegetation.</p> <p>Includes inundated, vegetation filled ditches with little or no open water. Common Reed <i>Phragmites australis</i> is often dominant.</p> <p>Includes elements designed to manage surface water to aid in reducing flooding and increasing water quality.</p>
r2b – Other Rivers and Streams	<p>Rivers and streams that are not:</p> <ul style="list-style-type: none"> - Riverine water bodies of high hydromorphological or ecological status. - Headwaters (a watercourse within 2.5km of its furthest source as marked with a blue line on OS maps at a scale of 1:50,000). - Chalk rivers. - Active shingle rivers. - A/SSSIs (Areas/Sites of Special Scientific Interest) designated for river species, riverine features or fluvial geomorphology. - Contains species including: <ul style="list-style-type: none"> (i) Habitats Directive Annex 2 species (ii) Biodiversity Action Plan Priority species. (iii) Invertebrate species that are strongly indicative of river shingle.

Appendix 2: Condition Sheets

SHEET 1: WET WOODLAND, BROADLEAF WOODLAND and WOODLAND BUFFER

(Sheet to be completed for each habitat type and parcel)

Habitat Type	
Grid Reference/Parcel Reference	
Survey Date and Surveyor Name	

Condition Assessment Criteria

Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per indicator	Notes (such as justification)
A Age distribution of trees	Three age-classes ¹ present.	Two age-classes ¹ present.	One age-class ¹ present.		
B Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland ² .	Evidence of significant browsing pressure is present in less than 40% of whole woodland ² .	Evidence of significant browsing pressure is present in 40% or more of whole woodland ² .		
C Invasive plant species	No invasive species ³ present in woodland.	Rhododendron <i>Rhododendron ponticum</i> or cherry laurel <i>Prunus laurocerasus</i> not present, and other invasive species ³ <10% cover.	Rhododendron or cherry laurel present, or other invasive species ³ ≥10% cover.		
D Number of native tree species	Five or more native tree or shrub species ⁴ found across woodland parcel.	Three to four native tree or shrub species ⁴ found across woodland parcel.	Two or less native tree or shrub species ⁴ across woodland parcel.		
E Cover of native tree and shrub species	>80% of canopy trees and >80% of understory shrubs are native ⁵ .	50 - 80% of canopy trees and 50 - 80% of understory shrubs are native ⁵ .	<50% of canopy trees and <50% of understory shrubs are native ⁵ .		
F Open space within woodland	10 - 20% of woodland has areas of temporary open space ⁶ . Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted ⁷ .	21 - 40% of woodland has areas of temporary open space ⁶ .	<10% or >40% of woodland has areas of temporary open space ⁶ . But if woodland <10ha has <10% temporary open space, please see Good category ⁷ .		
G Woodland regeneration	All three classes present in woodland ⁸ ; trees 4 - 7 cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth.	One or two classes only present in woodland ⁸ .	No classes or coppice regrowth present in woodland ⁸ .		
H Tree health	Tree mortality 10% or less, no pests or diseases and no crown dieback ⁹ .	11% to 25% tree mortality and or crown dieback or low-risk pest or disease present ⁹ .	Greater than 25% tree mortality and or any high-risk pest or disease present ⁹ .		
I Vegetation and ground flora	Recognisable NVC plant community ¹⁰ at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community ¹⁰ at ground layer present.	No recognisable woodland NVC plant community ¹⁰ at ground layer present.		
J Woodland vertical structure	Three or more storeys across all survey plots, or a complex woodland ¹¹ .	Two storeys across all survey plots ¹¹ .	One or less storey across all survey plots ¹¹ .		
K Veteran trees	Two or more veteran trees ¹² per hectare.	One veteran tree ¹² per hectare.	No veteran trees ¹² present in woodland.		
L Amount of deadwood	50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities ¹³ .	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities ¹³ .	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities ¹³ .		
M Woodland disturbance	No nutrient enrichment or damaged ground evident ¹⁴ .	Less than 1 hectare in total of nutrient enrichment across woodland area, and or less than 20% of woodland area has damaged ground ¹⁴ .	1 hectare or more of nutrient enrichment, and or 20% or more of woodland area has damaged ground ¹⁴ .		

Total Score (out of a possible 39)

Condition Assessment Result	Condition Assessment Score	Result Achieved
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Total score >32 (33 to 39)	Good (3)	
Total score 26 to 32	Moderate (2)	
Total score <26 (13 to 25)	Poor (1)	
Suggested enhancement interventions to improve condition score		
Footnotes		
Footnotes below refer to the EWBG woodland condition assessment details: EWBG (No date). <i>Assessing your Woodland's Condition</i> [online]. Available from: Woodland Wildlife Toolkit (sylva.org.uk)		
The woodland condition assessment survey methodology is outlined in the EWBG toolkit. However the criteria on this sheet are those specific to the Statutory Biodiversity Metric and must be used when assessing woodland condition.		
<p>Footnote 1 - See EWBG method INDICATOR 1 for more information. If tree species is not a birch <i>Betula</i> sp., cherry <i>Prunus</i> sp. or <i>Sorbus</i> sp.: 0 – 20 years (Young); 21 - 150 years (Intermediate); and >150 years (Old). For birch, cherry or <i>Sorbus</i> species; 0 - 20 years = Young; 21 - 60 years =Intermediate; >60 years = Old. A recognisable age-class should be a consistent recognisable layer across the woodland or stand being assessed. Presence of a few saplings would not indicate that the woodland has an 'age-class' of young trees.</p> <p>Footnote 2 - See EWBG method INDICATOR 2 for more information. Browsing pressure is considered to be significant where >20% of vegetation visible within each survey plot shows damage from any type of browsing pressure listed.</p> <p>Footnote 3 - See EWBG method INDICATOR 3 for more information. Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly.</p> <p>Check for the presence of all plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), particularly the following invasive non-native species: American skunk cabbage <i>Lysichiton americanus</i>; Himalayan balsam <i>Impatiens glandulifera</i>; Japanese knotweed <i>Reynoutria japonica</i>; cherry laurel <i>Prunus laurocerasus</i>; shallon <i>Gaultheria shallon</i>; snowberry <i>Symphoricarpos albus</i>; variegated yellow archangel <i>Lamiastrum galeobdolon subsp. argentatum</i>; rhododendron <i>Rhododendron ponticum</i>; and tree-of-heaven <i>Ailanthus altissima</i>.</p> <p>Footnote 4 - See EWBG method INDICATOR 4 and Table 2 for more information. The number of different native tree or shrub species including young trees and shrubs. A list of commonly found native tree and shrub species is provided in Table 2. Not all species listed are native to all parts of the UK. Note a list of commonly found non-native tree species are also included and should be recorded if present.</p> <p>Footnote 5 - See EWBG method INDICATOR 5 and for more information. The abundance of native tree species in upper (>5 m) and understorey (up to 5 m) layers including young trees and shrubs.</p> <p>Footnote 6 - See EWBG method INDICATOR 6 for more information. Open space within woodland in this context is temporary open space in which trees can be expected to regenerate (for example, glades, rides, footpaths, areas of clear-fell). This differs from permanent open space where tree regeneration is not possible or desirable (for example, tarmac, buildings, rivers). Area is at least 10 m wide with less than 20% covered by shrubs or trees.</p> <p>Footnote 7 – Given the increased ratio of edge habitat to woodland where the woodland is <10ha.</p> <p>Footnote 8 - See EWBG method INDICATOR 8 for more information. This indicator measures regeneration potential of the woodland by considering three classes: seedlings; saplings; and young trees of 4-7 cm DBH. All three classes would fall in the 'young' category of the 'age distribution of trees' indicator, but the regeneration indicator gathers additional information by considering regeneration potential - if seedlings, saplings and young trees are all present that means natural regeneration processes are happening.</p> <p>Footnote 9 - See EWBG method INDICATOR 9 for more information and Table 3 for a list of diseases and pests and their risk level.</p> <p>Footnote 10 - See EWBG method INDICATOR 10 directing to NVC key for more information. The 'UKHab to NVC translation table' in the UK Habitat Classification resources may also be useful to assess this.</p> <p>Footnote 11 – This criterion looks at structural diversity and is useful to understand in conjunction with the age of trees in a woodland. Vertical structure is defined as the number of canopy storeys present. Possible storey values are: 1) Upper; 2) Complex: recorded when the stand is composed of multiple tree heights that cannot easily be stratified into broad height bands (such as upper, middle or lower); 3) Middle; 4) Lower; and 5) Shrub layer. There might be no storeys where the woodland has been felled. See EWBG INDICATOR 11 for more information.</p> <p>Footnote 12 - See EWBG method INDICATOR 12 for more information. See gov.uk standing advice on ancient and veteran trees. Available from: Keepers of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk)</p> <p>and: Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)</p> <p>EWBG INDICATOR 12 is the relevant indicator.</p> <p>Footnote 13 – See EWBG method INDICATOR 13 for more information. This includes logs, large dead branches on the forest floor and stumps (<1 m tall) >20 cm diameter at narrowest point and >50 cm long. Also includes standing dead trees (>1 m tall) and also deadwood on standing live trees. Diameter is measured at the narrowest point on the stem. Minimum diameter of 20 cm.</p> <p>Footnote 14 - See EWBG method INDICATOR 15 for more information. Examples of disturbance are: significant nutrient enrichment; soil compaction from trampling, machinery, animal poaching or litter.</p>		

SHEET 2: NEUTRAL GRASSLAND AND MEADOW

(Sheet to be completed for each habitat type and parcel)

Habitat Type

Grid Reference/Parcel Reference

Survey Date and Surveyor Name

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	<p>The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description). ¹</p> <p>Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.</p>		
B	<p>Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.</p>		
C	<p>Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens ².</p>		
D	<p>Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5%.</p>		
E	<p>Combined cover of species indicative of suboptimal condition ³ and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.</p> <p>If any invasive non-native plant species ⁴ (as listed on Schedule 9 of WCA ⁵) are present, this criterion is automatically failed.</p>		
Additional Criterion - must be assessed for all non-acid grassland types			
F	<p>There are 10 or more vascular plant species per m ² present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count).</p> <p>Note - this criterion is essential for achieving Good condition for non-acid grassland types only.</p>		
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)			
Number of criteria passed			

Condition Assessment Result	Condition Assessment Score	Score Achieved x/✓
Acid grassland types (Result out of 5 criteria)		
Passes 5 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	
Passes 2 or fewer criteria	Poor (1)	
Non-acid grassland types (Result out of 6 criteria)		
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)	
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)	
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)	
Suggested enhancement interventions to improve condition score		
Notes		
<p>Footnote 1 - Professional judgement should be used alongside the UKHab description.</p> <p>Footnote 2 – For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.</p> <p>Footnote 3 - Species indicative of suboptimal condition for this habitat type include: creeping thistle <i>Cirsium arvense</i>, spear thistle <i>Cirsium vulgare</i>, curled dock <i>Rumex crispus</i>, broad-leaved dock <i>Rumex obtusifolius</i>, common nettle <i>Urtica dioica</i>, creeping buttercup <i>Ranunculus repens</i>, greater plantain <i>Plantago major</i>, white clover <i>Trifolium repens</i> and cow parsley <i>Anthriscus sylvestris</i>. There may be additional relevant species local to the region and or site.</p> <p>Footnote 4 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, by applying professional judgement.</p> <p>Footnote 5 – Wildlife and Countryside Act 1981 (as amended).</p>		

SHEET 3: MIXED NATIVE HEDGEROW

(Sheet to be completed for each habitat type and parcel)

Habitat Type

Grid Reference/Parcel Reference

Survey Date and Surveyor Name

Hedgerow favourable condition attributes

Attributes and functional groupings (A, B, C, D and E)	Criteria - the minimum requirements for 'favourable condition'	Criteria description	Criterion passed (Yes or No)	Notes (such as justification)
Core groups - applicable to all hedgerow types				
A1.	Height	>1.5 m average along length	<p>The average height of woody growth estimated from base of stem to the top of the shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees.</p> <p>Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).</p> <p>A newly planted hedgerow does not pass this criterion (unless it is >1.5 m height).</p>	
A2.	Width	>1.5 m average along length	<p>The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees.</p> <p>Outgrowths (such as blackthorn <i>Prunus spinosa</i> suckers) are only included in the width estimate when they are >0.5 m in height.</p> <p>Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).</p>	
B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	<p>This is the vertical 'gappiness' of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth.</p> <p>Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).</p>	
B2.	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	<p>This is the horizontal 'gappiness' of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small).</p> <p>Access points and gates contribute to the overall 'gappiness' but are not subject to the >5 m criterion (as this is the typical size of a gate).</p>	
C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	<p>This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow.</p> <p>Undisturbed ground is present for at least 90% of the hedgerow length, greater than 1 m in width and must be present along at least one side of the hedgerow.</p> <p>This criterion recognises the value of the hedgerow base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.</p>	
C2.	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	The indicator species used are nettles <i>Urtica</i> spp., cleavers <i>Galium aparine</i> and docks <i>Rumex</i> spp. Their presence, either singly or together, does not exceed the 20% cover threshold.	
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA ³) and recently introduced species.	Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives. For information on archaeophytes and neophytes see the JNCC website ⁴ , as well as the BSBI website ⁵ where the 'Online Atlas of the British and Irish Flora' ⁶ contains an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website ⁷ .	
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	<p>This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes.</p> <p>This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (for example, excessive hedgerow cutting).</p>	
Additional group - applicable to hedgerows with trees only				
E1.	Tree class	There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient ⁸), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	This criterion addresses if there are a range of age-classes or morphologies which allow for replacement of trees and provide opportunities for different species.	
E2.	Tree health	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens.	

The hedgerow condition assessment generates a weighting (score) ranging from 1 - 3, which is used within the Statutory Biodiversity Metric. The scores for each are set out in the tables below.

Condition categories for hedgerows without trees		
Category	Category Requirements	Metric Score
Good	No more than 2 failures in total; AND No more than 1 failure in any functional group.	3
Moderate	No more than 4 failures in total; AND <u>Does not fail both attributes</u> in more than one functional group (for example, fails attributes A1, A2, B1 and C2 = Moderate condition).	2
Poor	Fails a total of more than 4 attributes; OR <u>Fails both attributes</u> in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	1
Score achieved:		
Condition categories for hedgerows with trees		
Category	Category Requirements	Metric score
Good	No more than 2 failures in total; AND No more than 1 failure in any functional group.	3
Moderate	No more than 5 failures in total; AND <u>Does not fail both attributes</u> in more than one functional group (for example, fails attributes A1, A2, B1, C2 and E1 = Moderate condition).	2
Poor	Fails a total of more than 5 attributes; OR <u>Fails both attributes</u> in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	1
Score achieved:		

Suggested enhancement interventions to improve condition score

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Footnotes

- Footnote 1** – DEFRA (2007) *Hedgerow Survey Handbook. A standard procedure for local surveys in the UK.* [online] Available on: [layout \(hedgelink.org.uk\)](http://hedgelink.org.uk)
- Footnote 2** – STALEY, J.T. ET AL. (2020) *Definition of Favourable Conservation Status for Hedgerows.* [online] Available on: [Definition of Favourable Conservation Status for Hedgerows - RP2943 \(naturalengland.org.uk\)](http://naturalengland.org.uk)
- Footnote 3** – Wildlife and Countryside Act 1981 (as amended).
- Footnote 4** – CHEFFINGS, C. M. et al. (2005) *The Vascular Plant Red Data List for Great Britain.* Species Status 7: 1-116. [online] Available on: [The Vascular Plant Red Data List for Great Britain \(Species Status No. 7\) | JNCC Resource Hub](http://jncc.gov.uk)
- Footnote 5** – BOTANICAL SOCIETY OF BRITAIN AND IRELAND (BSBI). *Definitions: wild, native or alien?* [online] Available on: [Definitions: wild, native or alien? – Botanical Society of Britain & Ireland \(bsbi.org\)](http://bsbi.org)
- Footnote 6** – BSBI and Biological Records Centre (BRC) (2022) *Online Atlas of the British and Irish Flora.* [online] Available on: [Acknowledgements | Online Atlas of the British and Irish Flora \(brc.ac.uk\)](http://brc.ac.uk)
- Footnote 7** – GB NON-NATIVE SPECIES SECRETARIAT (GBNNS) (2022) Available on: [Home » NNS \(nonnativespecies.org\)](http://nonnativespecies.org)
- Footnote 8** – See gov.uk standing advice on ancient and veteran trees. Available from: [Keepers of time: ancient and native woodland and trees policy in England \(publishing.service.gov.uk\)](http://publishing.service.gov.uk) and [Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK \(www.gov.uk\)](http://www.gov.uk)

SHEET 4: SEASONALLY WET GRASSLAND

(Sheet to be completed for each habitat type and parcel)

Habitat Type**Grid Reference/Parcel Reference****Survey Date and Surveyor Name**

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
Core Criteria - must be assessed for all wetland habitat types :			
A	The water table is at, or near the surface throughout the year - this could be open water or saturation of soil at the surface. There is no artificial drainage, unless specifically to maintain water levels as specified above. Note - this criterion is essential for achieving Good condition.		
B	The parcel represents a good example of its specific habitat type - the appearance and composition of the vegetation closely matches its UKHab description, with vascular and non-vascular characteristic indicator species consistently present. ¹		
C	The water supplies (groundwater, surface water and or rainwater) to the wetland are of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.		
D	Cover of scrub and scattered trees are less than 10%.		
E	Cover of bare ground is less than 5%.		
F	There is an absence of invasive non-native plant species ² (as listed on Schedule 9 of WCA ³) and species indicative of suboptimal condition ⁴ make up less than 5% of ground cover.		
Additional Criterion - must be assessed for Fen and Purple moor grass and rush pasture habitats only:			
G	No more than 25% of the habitat area has a continuous cover of litter (such as dead vegetation) preventing regeneration.		
Additional Criterion - must be assessed for Bog habitats only:			
H	Sphagnum moss <i>Sphagnum</i> spp. and cottongrasses <i>Eriophorum</i> spp. are at least Frequent ⁵ . Cover of ericaceous dwarf shrubs ⁶ is less than 75%.		
Additional Criterion - must be assessed for Reedbed habitats only:			
I	The reedbed has a diverse structure with between 60% and 80% reeds <i>Phragmites australis</i> . Other areas may include open water (at least 10%), species-rich fen ⁷ and or wet woodland.		
Additional Criterion - must be assessed for Floodplain wetland mosaic and CFGM only:			
J	All ditches recorded within the habitat achieve Good condition as assessed using the Ditch condition sheet.		
Essential criterion achieved (required for Good condition) Yes or No:			
Number of criteria passed			

Condition Assessment Result	Condition Assessment Score	Score Achieved x/✓
Results for habitats requiring assessment of 6 criteria (Depression on peat substrates (H7150) and Oceanic valley mire [1] (D2.1)):		
• Passes 5 or 6 core criteria, including criterion A.	Good (3)	
• Passes 3 or 4 core criteria; OR • Passes 5 core criteria but fails criterion A.	Moderate (2)	
• Passes 2 or fewer core criteria.	Poor (1)	
Results for habitats requiring assessment of 7 criteria - core criteria and additional criterion specified for habitat type - all habitat types except Depression on peat substrates (H7150) and Oceanic valley mire [1] (D2.1):		
• Passes 5 or 6 core criteria including criterion A; AND • Passes additional criterion G, H, I or J (choose the one specified for the habitat type).	Good (3)	
• Passes 4 or 5 of 7 criteria; OR • Passes 6 of 7 criteria but fails criterion A or additional criterion G, H, I or J (choose the one specified for the habitat type).	Moderate (2)	
• Passes 3 or fewer criteria.	Poor (1)	
Suggested enhancement interventions to improve condition score		
Footnotes		
<p>Footnote 1 – Professional judgement should be used alongside the UKHab description.</p> <p>Footnote 2 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.</p> <p>Footnote 3 – Wildlife and Countryside Act 1981 (as amended).</p> <p>Footnote 4 – Species indicative of suboptimal condition for this habitat type include: creeping thistle <i>Cirsium arvense</i>, spear thistle <i>Cirsium vulgare</i>, common nettle <i>Urtica dioica</i>, docks <i>Rumex</i> spp., and common ragwort <i>Jacobaea vulgaris</i>. There may be additional relevant species local to the region and or site.</p> <p>Footnote 5 – According to the relative abundance DAFOR scale – Dominant, Abundant, Frequent, Occasional or Rare.</p> <p>Footnote 6 – Ericaceous dwarf shrubs include: crowberry <i>Empetrum nigrum</i>, cowberry <i>Vaccinium vitis-idaea</i>, bilberry <i>Vaccinium myrtillus</i>, cranberry <i>Vaccinium oxycoccos</i>, heather <i>Calluna vulgaris</i>, cross-leaved heath <i>Erica tetralix</i>, and bell heather <i>Erica cinerea</i>. There may be additional relevant species local to the region and or site.</p> <p>Footnote 7 – For fens, specify what fen type is present using base-status and trophic status - alkaline, neutral, or acidic; eutrophic, mesotrophic or oligotrophic.</p>		

SHEET 5: PONDS AND STANDING WATER and AQUATIC MARGINALS

(Sheet to be completed for each habitat type and parcel)

Habitat Type	
Grid Reference/Parcel Reference	
Survey Date and Surveyor Name	

Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
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Core Criteria - applicable to all ponds (woodland¹ and non-woodland):

A	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.		
B	There is semi-natural habitat (moderate distinctiveness or above) completely surrounding the pond, for at least 10 m from the pond edge for its entire perimeter.		
C	Less than 10% of the water surface is covered with duckweed <i>Lemna</i> spp. or filamentous algae.		
D	The pond is not artificially connected to other waterbodies, such as agricultural ditches or artificial pipework.		
E	Pond water levels can fluctuate naturally throughout the year. No obvious artificial dams ² , pumps or pipework.		
F	There is an absence of listed non-native plant and animal species ³ .		
G	The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.		

Additional Criteria - must be assessed for all non-woodland ponds:

H	Emergent, submerged or floating plants (excluding duckweed) ⁴ cover at least 50% of the pond area which is less than 3 m deep.		
I	The pond surface is no more than 50% shaded by adjacent trees and scrub.		

Number of criteria passed

Condition Assessment Result	Condition Assessment Score	Score Achieved x/√
Results for woodland ponds which require assessment of 7 core criteria		
Passes 7 criteria	Good (3)	
Passes 5 or 6 criteria	Moderate (2)	
Passes 4 or fewer criteria	Poor (1)	
Results for non-woodland ponds which require assessment of 9 criteria		
Passes 9 criteria	Good (3)	
Passes 6 to 8 criteria	Moderate (2)	
Passes 5 or fewer criteria	Poor (1)	

Suggested enhancement interventions to improve condition score

Footnote 1 - A woodland pond will be surrounded on all sides by woodland habitat.

Footnote 2 – This excludes natural dams such as those created by Eurasian beaver *Castor fiber*.

Footnote 3 - Any species included on the Water Framework Directive (WFD) UKTAG GB High Impact Species List should be absent: WFD UKTAG (2021) *Classification of aquatic alien species according to their level of impact* [online]. Available from: [UKTAG classification of alien species working paper v8.pdf \(wfduk.org\)](https://www.wfd.org.uk/uktag/classification-of-aquatic-alien-species-working-paper-v8.pdf)

• Frequently occurring non-native plant species include water fern *Azolla filiculoides*, Australian swamp stonecrop *Crassula helmsii*, parrot's feather *Myriophyllum aquaticum*, floating pennywort *Hydrocotyle ranunculoides* and Japanese knotweed *Reynoutria japonica*, giant hogweed *Heracleum mantegazzianum* (on the bank).

• Frequently occurring non-native animals include signal crayfish *Pacifastacus leniusculus*, zebra mussels *Dreissena polymorpha*, killer shrimp *Dikergammarus villosus*, demon shrimp *Dikergammarus haemobaphes*, carp *Cyprinus carpio*.

Footnote 4 - If the pond is seasonal (as in, it dries out in most summers) then emergent species alone are likely to be found.

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SHEET 6: DITCHES

(Sheet to be completed for each habitat type and parcel)

Habitat Type

Grid Reference/Parcel Reference

Survey Date and Surveyor Name

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.		
B	A range of emergent, submerged and floating-leaved plants are present. As a guide >10 species of emergent, floating or submerged plants present in a 20 m ditch length.		
C	There is less than 10% cover of filamentous algae and or duckweed <i>Lemna</i> spp. (these are signs of eutrophication).		
D	A fringe of aquatic marginal vegetation is present along more than 75% of the ditch.		
E	Physical damage is evident along less than 5% of the ditch, with examples of damage including: excessive poaching, damage from machinery use or storage, or any other damaging management activities.		
F	Sufficient water levels are maintained - as a guide a minimum summer depth of approximately 50 cm in minor ditches and 1 m in main drains.		
G	Less than 10% of the ditch is heavily shaded.		
H	There is an absence of non-native plant and animal species ¹ .		

Number of criteria passed

Condition Assessment Result (out of 8 criteria)	Condition Assessment Score	Score Achieved x/✓
Passes 8 criteria	Good (3)	
Passes 6 or 7 criteria	Moderate (2)	
Passes 5 or fewer criteria	Poor (1)	

Suggested enhancement interventions to improve condition score

Footnotes

Footnote 1 – This includes any species listed on the Water Framework Directive UKTAG GB High Impact Species List: Water Framework Directive (WFD) UKTAG (2021) *Classification of aquatic alien species according to their level of impact* [online]. Available from: [UKTAG classification of alien species working paper v8.pdf \(wfd.uk.org\)](https://www.wfd.uk.org.uk/uktag-classification-of-aquatic-alien-species-working-paper-v8.pdf)

• Frequently occurring non-native plant species include water fern *Azolla filiculoides*, Australian swamp stonecrop *Crassula helmsii*, parrot's feather *Myriophyllum aquaticum*, floating pennywort *Hydrocotyle ranunculoides*, Japanese knotweed *Reynoutria japonica* and giant hogweed *Heracleum mantegazzianum* (on the bank).

• Frequently occurring non-native animals include signal crayfish *Pacifastacus leniusculus*, zebra mussel *Dreissena polymorpha*, killer shrimp *Dikerogammarus villosus*, demon shrimp *Dikerogammarus haemobaphes*, and carp *Cyprinus carpio*.

SHEET 7: RESERVOIR

(Sheet to be completed for each habitat type and parcel)

Habitat Type**Grid Reference/Parcel Reference****Survey Date and Surveyor Name**

Average 'Habitat Naturalness Assessment' Class	Condition Assessment Score	Score Achieved
1 Natural	Good (3)	
2	Fairly good (2.5)	
3	Moderate (2)	
4	Fairly poor (1.5)	
5 Least natural	Poor (1)	

Suggested enhancement interventions to improve condition score

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SHEET 8: SWALES

(Sheet to be completed for each habitat type and parcel)

Habitat Type

Grid Reference/Parcel Reference

Survey Date and Surveyor Name

Core Criteria - must be assessed for **all urban habitat types**:

A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.																		
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.																		
C	Invasive non-native plant species (listed on Schedule 9 of WCA ¹) and others which are to the detriment of native wildlife (using professional judgement) ² cover less than 5% of the total vegetated area ³ . Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).																		

Additional Criterion - must be assessed for **Open mosaic habitat on previously developed land** only:

D	The parcel shows spatial variation and forms a mosaic of bare substrate PLUS: - At least four early successional communities (a) to (i); Communities: (a) annuals; (b) mosses/liverworts; (c) lichens; (d) ruderals; (e) inundation species; (f) open grassland; (g) flower-rich grassland; (h) heathland, (i) pools.																		
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Additional Criteria - must be assessed for **Bioswale and SuDS** habitat types only:

E1	Plant species are mostly native. If non-native species are present, they should not be detrimental to the habitat or native wildlife ⁴ .																		
E2	The vegetation is comprised of plant species suited to wetland or riparian situations.																		

Additional Criterion - must be assessed for **Intensive green roofs** only:

F	The roof has a minimum of 50% native and non-native wildflowers. 70% of the roof area is soil and vegetation (including water features).																		
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Additional Criterion - must be assessed for **Biodiverse green roofs** only:

G	The roof has a varied depth of 80 – 150 mm; at least 50% is at 150 mm and is planted and seeded with wildflowers and sedums or is pre-prepared with sedums and wildflowers. Note – to achieve Good condition, some additional habitat, such as sand piles, stones, logs etc. are present.																		
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Essential criteria relevant for habitat type achieved (Yes or No)

Number of criteria passed

**Produced by
Adams Hendry Consulting Ltd**

Sheridan House
40-43 Jewry Street
Winchester
Hampshire
SO23 8RY
Tel: 01962 877414
www.adamshendry.co.uk

