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LANDSCAPE MANAGEMENT PLAN

Pant Wilkin Stables (Fishing Lakes), Cowbridge, Vale of Glamorgan, Wales

Report Reference: BG22.136.3

August 2022

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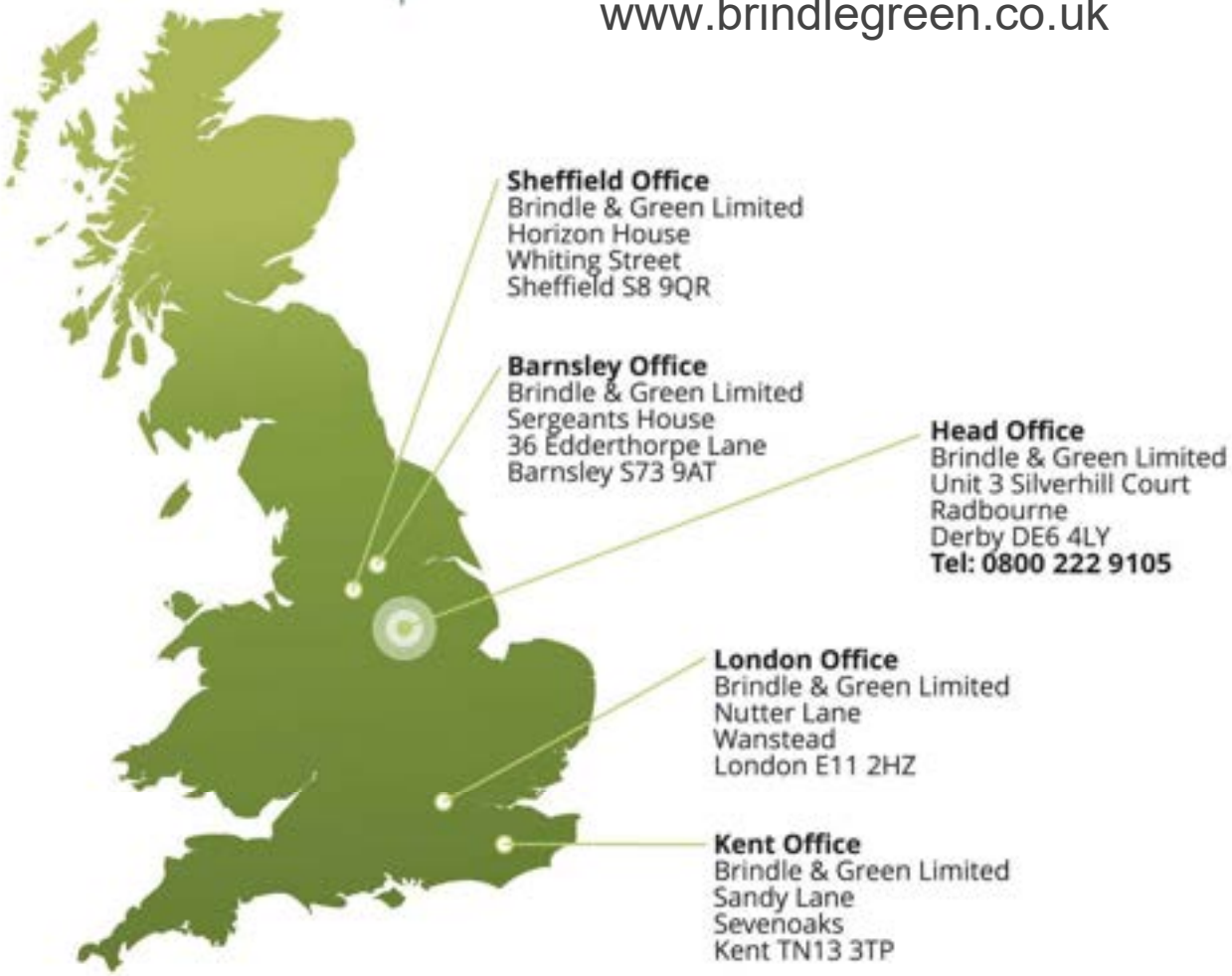

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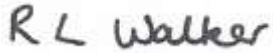
Prepared by	Rosemary Walker CMLI		07.07.2022
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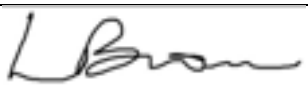
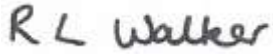
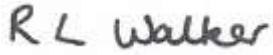
2nd Check by	Leonie Brown		07.07.2022
Issued by (PDF)	Rosemary Walker CMLI		07.07.2022
Rev1	Rosemary Walker CMLI		13.07.2022
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Pant Wilkin Stables (Fishing Lakes)

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Contents

1. Summary

1.1 Brindle and Green Environmental Consultants Ltd were commissioned by Tim Vaughan Racing Ltd to undertake a Landscape Management Plan for an area of land at Pant Wilkin Stables, Cowbridge. The purpose of this document is to set out the management and maintenance requirements for the hard and soft landscape treatments on the site. It is understood that the proposal involves the construction of 3 fishing lakes on the site and associated landscape planting. Design proposals can be found in the planning application for this development, with the proposed landscape design shown on drawing 'BG22.136.2 Pant Wilkin Stables, Cowbridge - Detailed Hard and Soft Landscape Design' (Brindle & Green Ltd, 2022).

2. Introduction

2.1. Scope and aims of the appraisal

2.1.1. This report is a Landscape Management Plan (LMP), which sets out the management and maintenance measures required by the various hard and soft elements of the proposed landscape scheme which accompanies the proposed development of 3 fishing lakes on the site and associated landscape planting situated on a piece of land ('the site') at Pant Wilkin Stables, Cowbridge.

2.1.2. The landscape management plan will cover the establishment period of the first 5 years following the completion of the works, as well as the ongoing management and maintenance operations applicable to maintain the landscape scheme in perpetuity.

2.1.3. This report has three broad aims: to establish the overall intended character of the landscape scheme and how it relates to the proposed development, to provide design objectives for individual hard and soft landscape treatments (hereafter referred to as 'landscape elements'), to set management actions for each of these landscape elements in order for them to achieve their respective design objectives.

2.1.4. The landscape management plan needs to be read in conjunction with the following appendices:

- Appendix 1 – a schedule of works which details the landscape management and maintenance actions which are required to be carried out and the timescales in which these are necessary. Years 1-5 of the schedule cover the five-year establishment period following completion of the works, whereas Years 6-10 cover longer term management operations which are to be repeated on a 5-year rolling basis in perpetuity.

2.2. The site

2.2.1. The site is located in a field at Pant Wilkin Stables, situated off an unnamed private road next to the A48 and approximately 1.5km away from the nearby settlement of Aberthin. It consists of an arable field into which the fishing lakes and associated landscape treatments would be situated.

2.2.2. The boundaries of the site aren't defined by any definitive features; however, the wider field is bounded by hedgerows and open gaps. Immediately north of the site is a small track along the field edge, bordering onto the location of two scheduled monuments, namely Llanquian Castle (CADW, 1953) and Llanquian Wood Camp (CADW, n/a). To the east of the site is a new access road which is under construction, a mature hedgerow and an arable field. The field in which the site is situated is bounded by a retaining wall and the A48 on its southern boundary. To the west of the site is a combination of small, arable fields, including open access land and small areas of woodland.

2.2.3. The current land use of the site is agricultural, comprising an undulating arable field with a small dividing hedgerow in the centre. The site has an overall rural appearance due to the agricultural land use.

2.3. The proposed development

2.3.1. The proposed development on the site involves the construction and operation of 3 fishing lakes, which will incorporate the importation of clay into the undulating landform to build the lakes, but also ensuring that the fishing lakes are set within the landscape. It will also include a landscaped setting which will comprise a combination of landscape mitigation planting and other elements to add to the visual amenity of the site.

3. The landscape scheme

3.1. Description of the proposed landscape scheme

3.1.1. The design of the proposed soft landscape scheme within the site comprises a mixture of specimen trees, wet woodland, native scrub, reed beds, species-rich grassland and marginal species-rich grassland. The soft landscape scheme for each area (fishing lakes; wider field and site access; and hardstanding) is described in more detail below.

3.1.2. The management of weeds across the site is manual removal, and only spot treatment of herbicides on hard landscape treatments. This is intended to reduce the chemical input into the soft landscape and reduce impact on the environment and wildlife. If herbicide is required to be applied in or near water, this needs to be undertaken in accordance with the Environment Agency Guidance Note AqHerb01: Agreement to use herbicides in or near water (Environment Agency, 2017).

3.1.3. Hard landscape treatment has been applied to the site adjacent to the parking. Again, this is set out in relation to the specific area of the site below.

3.2. Areas within the proposed landscape scheme

Fishing lakes

3.2.1. The area in and immediately around the open water of the proposed fishing lakes comprises a variety of marginal and wet planting. The margins of the ponds would be seeded with species-rich marginal grassland containing a variety of wildflowers and grasses which tolerate pond-edge and wet conditions.

3.2.2. At the far north of the site, two reedbeds would be created, containing a mixture of reeds, sedges and wildflowers.

3.2.3. Islands have been created in the lakes and these are seeded and planted with a mixture of species-rich marginal grassland (all islands) and wet woodland (larger islands only). The wet woodland would help to add structure to the site, as well as adding visual interest and an ecological resource.

3.2.4. The treatments within and around the fishing lakes have been designed to add a variety of wet habitats, maximising both biodiversity and visual interest. The species chosen throughout are native to the UK.

Wider field and site access

3.2.5. Away from the fishing lakes, the wider field would primarily be sown with species-rich grassland, comprising a mixture of 80% wildflowers and 20% grasses. This would enhance the biodiversity of the wider site.

3.2.6. At the entrance to the site off the A48 and along the access road, a combination of specimen tree and scrub planting is proposed. The planting at the entrance is proposed in order to reinforce the existing vegetated boundary of the field; whilst the planting adjacent to the access road is proposed to soften its appearance, provide structure and add biodiversity and visual interest.

3.2.7. Reinforcement of the existing hedgerow on the field's western boundary is provided through the provision of additional hedgerow planting using native species to the far north and south of this boundary. This will enclose the field to the west and prevent livestock access to the fishing lakes.

Hardstanding

3.2.8. In the far north-east of the site, an area of hardstanding is proposed to accommodate car parking. The hardstanding proposed comprises gravel to retain the rural character of the area, whilst providing a functional surface. In addition, a combination of specimen tree and scrub planting is proposed to soften the appearance of this area, add biodiversity and visual interest and provide structure.

3.3. Design principles and intentions

3.3.1. The design of the proposed landscape scheme has been primarily driven by ecological factors; enhancing and creating habitats and in turn adding biodiversity value to the site. In addition, the landscape planting has been used in order to soften the proposed development and blend it into the surrounding landscape; both following the prevailing landscape character and providing visual screening and softening where required.

3.3.2. The overarching principles and intentions of the landscape scheme set out in section 3.1 are as follows:

Table 1: Design principles related to the proposed landscape scheme on the site

Number	Principle	Relevant areas of the site
1	Maintain and protect existing landscape and conservation value of retained features such as the vegetation on the boundary of the far south of the site	Wider field and site access
2	Create new habitat including species-rich grassland, marginal and wet species-rich grassland, reedbeds, native scrub, native hedgerow and wet woodland	Whole site
3	Monitor created habitats	Whole site
4	Ensure the successful establishment of soft landscape elements during the five-year establishment period	Whole site
5	Ensure the ongoing management of the landscape scheme in perpetuity beyond the initial establishment period	Whole site
6	Use the landscape elements to replace, reinforce and enhance the landscape character of the site in line with the current site condition, the site context, and local published landscape character assessments	Whole site

4. Landscape elements

4.1. Specimen trees (reference number 01)

Applicable areas

4.1.1. Wider field and site access / hardstanding

Intended character

4.1.2. Specimen tree planting is proposed within scrub areas to provide structure and vertical interest within the scheme.

Element objectives

4.1.3. Specimen trees within the site need to meet the following management and maintenance objectives:

- Ensure establishment, particularly that of larger plant specimens; and
- Monitor and manage the growth of specimen trees on a longer-term basis to ensure that the range of sizes and ages of vegetation across the site remains varied.

Actions

4.1.4. To achieve the above objectives, the following actions need to be performed:

- Remove all litter and debris on a quarterly basis;
- Provide artificial irrigation as and when required, particularly during periods of abnormally dry weather. Artificial irrigation to be undertaken through surface watering. Where watering is either the initial application or the first application for a period of five or more weeks, the soil around the tree needs to be loosened for a radius of 0.5m as this will aid the percolation of the water into the soil. Should there be a restriction on water usage, seek advice on the use of grey or second-class water as an alternative;
- Adjust and replace any displaced or damaged spiral guards, stakes, tree ties or other equipment for securing the plants. Re-firm any plants which are leaning or otherwise not vertical as necessary. Ensure that chafing is not an issue and adjust any ties accordingly should this occur. Remove and dispose of all spiral guards, stakes, tree ties and other equipment at the end of the five-year establishment period;

- Undertake hand-weeding to plant bases in order to remove and control any undesirable species or invasive weeds. Weed management to be undertaken during the five-year establishment period and to comprise manual removal of weeds;
- Apply a bark mulch to the base of each plant to a minimum 75mm depth and 300mm radius from each plant centre. Top up the mulch annually to a minimum of 75mm depth as required.;
- During the establishment period, undertake formative pruning on an annual basis to encourage a natural shape and form for each specimen. Pruning should be undertaken by a qualified Arboricultural Contractor and comply with both BS3998 (British Standards Institute, 2010) and good arboricultural practice. Pruning operations to include the crown lifting of all standard trees to achieve a maximum of 3.0m clear stem. At no point should the leader shoot be cut; and
- The specimen trees need to be inspected quarterly and any dead, dying, damaged or diseased trees recorded/reported. These defective specimens are to be removed and replaced with stock of the same species, size and form of that originally planted (or a suitable alternative as agreed with the Local Planning Authority) during the next available planting season (November to March inclusive) and in line with BS8545 (British Standards Institute, 2014). Prior to any replacement works, the cause of death of the specimen must be identified and any notifiable pests and diseases reported to the relevant authorities and treated accordingly.

Inspections

4.1.5. To ensure compliance with the above actions, it is recommended that the following inspections are undertaken:

- Quarterly inspections by a Chartered Landscape Architect and the Landscape Contractor in accordance with the schedule set out in Appendix A. Please note that the Landscape Contractor will need to hold a BASIS amenity horticultural products certificate so that they are able to provide appropriate recommendations on the selection and use of herbicides. They will also need to be competent at plant identification, particularly those species proposed as part of the landscape scheme, invasive weeds (as per Schedule 9 of the 1981 Wildlife and Countryside Act – as revised (UK Government, 1996)), and other undesirable species; and
- Four-yearly inspections to be carried out by a qualified Arboriculturist to ascertain the health of all trees and specify any remedial measures.

4.2. Native wet woodland (reference number 02)

Applicable areas

4.2.1. Fishing lakes

Intended character

4.2.2. Within the larger islands in the fishing lakes, native wet woodland planting is proposed. This would add vertical interest to the scheme as well as acting as an ecological resource and provide softening of the proposed development. Species are native and chosen to tolerate wet or damp conditions.

Element objectives

4.2.3. Native wet woodland planting within the site needs to meet the following management and maintenance objectives:

- Provide a new viable habitat as part of an overall biodiversity net gain;
- Tolerate infrequent inundation and wet ground conditions; and
- Ensure successful establishment of all native wet woodland planting within the site.

Actions

4.2.4. To achieve the above objectives, the following actions need to be performed:

- Remove all litter and debris on a quarterly basis;
- Adjust and replace any displaced or damaged spiral guards, stakes or other equipment for securing the plants. Re-firm any plants which are leaning or otherwise not vertical as necessary. Remove and dispose of all spiral guards, stakes, and other equipment at the end of the five-year establishment period;
- Undertake hand-weeding to plant bases in order to remove and control any undesirable species or invasive weeds. Weed management to be undertaken during the five-year establishment period and to comprise manual removal of weeds;
- Apply a bark mulch to the base of each plant to a minimum 75mm depth and 300mm radius from each plant centre. Top up the mulch annually to a minimum of 75mm depth as required;

- During the establishment period, undertake formative pruning on an annual basis to promote a natural shape and form, encourage growth, and tidy wounds or damage. All pruning operations to be undertaken in line with good horticultural practice and current standards. At no point should the leader shoot of any plant within this area be cut; and
- The native wet woodland planting areas need to be inspected quarterly and any dead, dying, damaged or diseased plants recorded/reported. These defective plants are to be removed and replaced with stock of the same species, size and form of that originally planted (or a suitable alternative as agreed with the Local Planning Authority) during the next available planting season (November to March inclusive) and in line with BS8545 (British Standards Institute, 2014). Prior to any replacement works, the cause of death of the plant must be identified and any notifiable pests and diseases reported to the relevant authorities and treated accordingly; and
- The native wet woodland planting areas need to be monitored and managed to ensure that the original planting composition is retained.

Inspections

4.2.5. To ensure compliance with the above actions, it is recommended that the following inspections are undertaken:

- Quarterly inspections by a Chartered Landscape Architect and the Landscape Contractor in accordance with the schedule set out in Appendix A. Please note that the Landscape Contractor will need to hold a BASIS amenity horticultural products certificate so that they are able to provide appropriate recommendations on the selection and use of herbicides. They will also need to be competent at plant identification, particularly those species proposed as part of the landscape scheme, invasive weeds (as per Schedule 9 of the 1981 Wildlife and Countryside Act – as revised (UK Government, 1996)), and other undesirable species.

4.3. Native hedgerow (reference number 03)

Applicable areas

4.3.1. Wider field

Intended character

4.3.2. Native hedgerow planting is proposed along the western field boundary to supplement the existing hedgerow and to strengthen the western boundary to allow grazing in the field to the west. It would act as a boundary treatment and as an ecological resource to provide structure within the scheme. To ensure the ecological value of the hedgerows, they need to be kept as a densely planted feature. Native species are chosen to maximise ecological value.

Element objectives

4.3.3. Native hedgerow planting within the site needs to meet the following management and maintenance objectives:

- Provide a new viable habitat as part of an overall biodiversity net gain;
- Enclose various parts of the proposed development and prevent livestock access; and
- Ensure successful establishment of all hedgerows within the site.

Actions

4.3.4. To achieve the above objectives, the following actions need to be performed:

- Remove all litter and debris on a quarterly basis;
- Adjust and replace any displaced or damaged spiral guards, stakes or other equipment for securing the plants. Re-firm any plants which are leaning or otherwise not vertical as necessary. Remove and dispose of all spiral guards, stakes, and other equipment at the end of the five-year establishment period;
- Undertake hand-weeding to plant bases in order to remove and control any undesirable species or invasive weeds. Weed management to be undertaken during the five-year establishment period and to comprise manual removal of weeds;
- Apply a bark mulch to the base of each plant to a minimum 75mm depth and 300mm radius from each plant centre. Top up the mulch annually to a minimum of 75mm depth as required;

- Undertake formative pruning on an annual basis to encourage growth and a dense structure to the hedgerow. In years 1 and 2, the formative pruning needs to comprise of the central plant leader to be clipped to a height of two-thirds of its annual growth, with the remainder of the hedge trimmed to an A-shape. Hedges to be maintained at a height of 1.2-1.5m and all pruning operations to be undertaken in line with good horticultural practice and current standards;
- The hedgerows need to be inspected quarterly and any dead, dying, damaged or diseased plants recorded/reported. These defective plants are to be removed and replaced with stock of the same species, size and form of that originally planted (or a suitable alternative as agreed with the Local Planning Authority) during the next available planting season (November to March inclusive) and in line with BS8545 (British Standards Institute, 2014). Prior to any replacement works, the cause of death of the plant must be identified and any notifiable pests and diseases reported to the relevant authorities and treated accordingly; and
- The hedgerows need to be monitored and managed to ensure that the original planting composition is retained.

Inspections

4.3.5. To ensure compliance with the above actions, it is recommended that the following inspections are undertaken:

- Quarterly inspections by a Chartered Landscape Architect and the Landscape Contractor in accordance with the schedule set out in Appendix A. Please note that the Landscape Contractor will need to hold a BASIS amenity horticultural products certificate so that they are able to provide appropriate recommendations on the selection and use of herbicides. They will also need to be competent at plant identification, particularly those species proposed as part of the landscape scheme, invasive weeds (as per Schedule 9 of the 1981 Wildlife and Countryside Act – as revised (UK Government, 1996)), and other undesirable species.

4.4. Native scrub (reference number 04)

Applicable areas

4.4.1. Wider field and site access / hardstanding

Intended character

4.4.2. Native scrub planting is proposed in the south of the wider field and around the hardstanding to act as an ecological resource and provide softening of the access road and hardstanding within the proposed development. Native species are chosen, with the majority of species proposed also chosen for their fruiting qualities to encourage wildlife.

Element objectives

4.4.3. Native scrub planting within the site needs to meet the following management and maintenance objectives:

- Compensate for lost habitat and provide a new viable habitat as part of an overall biodiversity net gain; and
- Ensure successful establishment of all native scrub planting within the site.

Actions

4.4.4. To achieve the above objectives, the following actions need to be performed:

- Remove all litter and debris on a quarterly basis;
- Adjust and replace any displaced or damaged spiral guards, stakes or other equipment for securing the plants. Re-firm any plants which are leaning or otherwise not vertical as necessary. Remove and dispose of all spiral guards, stakes, and other equipment at the end of the five-year establishment period;
- Undertake hand-weeding to plant bases in order to remove and control any undesirable species or invasive weeds. Weed management to be undertaken during the five-year establishment period and to comprise manual removal of weeds;
- Apply a bark mulch to the base of each plant to a minimum 75mm depth and 300mm radius from each plant centre. Top up the mulch annually to a minimum of 75mm depth as required;

- During the establishment period, undertake formative pruning on an annual basis to promote a natural shape and form, encourage growth, and tidy wounds or damage. All pruning operations to be undertaken in line with good horticultural practice and current standards; and
- The scrub planting areas need to be inspected quarterly and any dead, dying, damaged or diseased plants recorded/reported. These defective plants are to be removed and replaced with stock of the same species, size and form of that originally planted (or a suitable alternative as agreed with the Local Planning Authority) during the next available planting season (November to March inclusive) and in line with BS8545 (British Standards Institute, 2014). Prior to any replacement works, the cause of death of the plant must be identified and any notifiable pests and diseases reported to the relevant authorities and treated accordingly; and
- The scrub planting areas need to be monitored and managed to ensure that the original planting composition is retained.

Inspections

4.4.5. To ensure compliance with the above actions, it is recommended that the following inspections are undertaken:

- Quarterly inspections by a Chartered Landscape Architect and the Landscape Contractor in accordance with the schedule set out in Appendix A. Please note that the Landscape Contractor will need to hold a BASIS amenity horticultural products certificate so that they are able to provide appropriate recommendations on the selection and use of herbicides. They will also need to be competent at plant identification, particularly those species proposed as part of the landscape scheme, invasive weeds (as per Schedule 9 of the 1981 Wildlife and Countryside Act – as revised (UK Government, 1996)), and other undesirable species.

4.5. Native marginal and reed planting (reference number 05)

Applicable areas

4.5.1. Fishing lakes

Intended character

4.5.2. Native marginal and reed planting is proposed within the far north of the fishing lakes as an aesthetic feature, to filter the water within the fishing lakes system and to add to the biodiversity within the site.

Element objectives

4.5.3. Native marginal and reed planting within the site needs to meet the following management and maintenance objectives:

- Form a visually attractive feature for users of the fishing lakes;
- Provide a new viable habitat as part of an overall biodiversity net gain;
- Slow or reverse the natural succession of the reedbed to scrub and woodland; and
- Ensure successful establishment of all native marginal and reed planting within the site.

Actions

4.5.4. To achieve the above objectives, the following actions need to be performed:

- Allow fluctuating water levels within the reedbed area, with the water level at its lowest in late summer and autumn and increased water levels in winter – this will reduce the exposure of the reeds to the accumulation of organic matter (RSPB, 2009);
- Remove all litter and debris on a quarterly basis;
- Undertake weeding to plant bases in order to remove and control any undesirable species or invasive weeds. Weed management to be undertaken during the five-year establishment period and to comprise hand pulling of any weeds;
- Cut back and remove areas of reeds on a 5-year rotation in order to prevent the build-up of nutrients and dead plant material. This activity is only to be done within the autumn and winter months in order to avoid disturbance to breeding birds, amphibians and fish. When removing plants, aim to leave around 20% of the vegetation; do not remove all of the plants of any one species; and do not remove more than 10% of the overall planting within a season (November to March inclusive) (Department for Environment, Food and Rural Affairs, 2021). Cut reeds are not to be stored on site (in order to avoid unnecessary localised nutrient enrichment); instead, they are to be removed from site and either burned, composted or (if suitable) used for thatching ;

- The native marginal and reed planting areas need to be inspected quarterly and any dead, dying, damaged or diseased plants recorded/reported. These defective plants are to be removed and replaced with stock of the same species, size and form of that originally planted (or a suitable alternative as agreed with the Local Planning Authority) during the next available planting season (November to March inclusive) and in line with BS8545 (British Standards Institute, 2014) Prior to any replacement works, the cause of death of the plant must be identified and any notifiable pests and diseases reported to the relevant authorities and treated accordingly; and
- The native marginal and reed planting areas need to be monitored and managed to ensure that the original planting composition is retained. Particularly attention needs to be paid to ensure that invasive aquatic plant species such as *Crassula helmsii* (New Zealand pygmyweed) are not present.

Inspections

4.5.5. To ensure compliance with the above actions, it is recommended that the following inspections are undertaken:

- Quarterly inspections by a Chartered Landscape Architect and the Landscape Contractor in accordance with the schedule set out in Appendix A. Please note that the Landscape Contractor will need to hold a BASIS amenity horticultural products certificate so that they are able to provide appropriate recommendations on the selection and use of herbicides. They will also need to be competent at plant identification, particularly those species proposed as part of the landscape scheme, invasive weeds (as per Schedule 9 of the 1981 Wildlife and Countryside Act – as revised (UK Government, 1996)), and other undesirable species.

4.6. Species-rich grassland including species-rich wet grassland (reference number 06)

Applicable areas

4.6.1. Fishing lakes / wider field and site access

Intended character

4.6.2. Species-rich wet grassland seeding will be applied on the edges and around the fishing lakes using a pond edge seed mixture. This will add seasonal interest and increase the biodiversity of the site. The seed mix incorporates species which tolerate wet ground conditions and infrequent inundation.

4.6.3. Across the wider field within the red line boundary, informal species-rich grassland seeding is proposed which will also add seasonal interest and increase the biodiversity of the site.

4.6.4. Both of these elements form low maintenance landscape elements which will act as an ecological resource as well as an attractive feature.

Element objectives

4.6.5. Species-rich grassland and wet grassland within the site needs to meet the following management and maintenance objectives:

- Tolerate infrequent inundation and wet ground conditions (species-rich wet grassland only);
- Integrate the new seeding with surrounding grassland;
- Maintain the species composition of the seeding mixes where possible whilst allowing for locally characteristic grassland species to grow; and
- Ensure the successful establishment of a species-rich grassland and species-rich wet grassland which can act as an ecological resource.

Actions

4.6.6. To achieve the above objectives, the following actions need to be performed:

- For areas of species-rich wet grassland, no maintenance operations are to be carried out whilst the lake edges are inundated;
- Remove all litter and debris on a quarterly basis;
- All strimming to be undertaken using recognised equipment fitted with a nylon filament line as per the manufacturer's instructions;
- Areas of species-rich grassland and wet grassland will undergo a single annual hay cut. This will take place each year in September, following flowering of the various

species. Following this annual cut, the arisings need to be left in situ for 1-7 days in dry conditions, then need to be removed from site;

- Undertake hand-weeding in order to remove and control any undesirable species or invasive weeds. Weed management to be undertaken during the five-year establishment period and to comprise manual removal of weeds;
- The seeded areas need to be inspected annually and any worn areas are to be re-seeded using a seed mix which replicates as closely as possible that which was in the originally specified seed mixes.

Inspections

4.6.7. To ensure compliance with the above actions, it is recommended that the following inspections are undertaken:

- Quarterly inspections by a Chartered Landscape Architect and the Landscape Contractor in accordance with the schedule set out in Appendix A. Please note that the Landscape Contractor will need to hold a BASIS amenity horticultural products certificate so that they are able to provide appropriate recommendations on the selection and use of herbicides. They will also need to be competent at plant identification, particularly those species proposed as part of the landscape scheme, invasive weeds (as per Schedule 9 of the 1981 Wildlife and Countryside Act – as revised (UK Government, 1996)), and other undesirable species.

4.7. Open water (reference number 07)

Applicable areas

4.7.1. Fishing lakes

Intended character

4.7.2. The majority of the fishing lakes are to be maintained as open water in order to support fish stocks (primarily carp). Fish species for stocking are chosen to be generally robust and tolerant of fluctuations in water level, particularly in summer.

Element objectives

4.7.3. Open water within the site needs to meet the following management and maintenance objectives:

- Provide habitat for fish stocks and other birds, amphibians and invertebrates;
- Manage potential predators of fish stocks;
- Form a visually attractive feature for users of the fishing lakes; and
- Ensure ongoing provision and suitability of open water within the site.

Actions

4.7.4. To achieve the above objectives, the following actions need to be performed:

- Remove all litter and debris on a quarterly basis;
- Test the water for nitrates and phosphates on a quarterly basis, ensuring that any abnormally high levels of either substance are treated appropriately with environmentally friendly and preferably non-chemical methods;
- Treat any blooms of algae with organic treatment such as straw – ensuring that the product chosen is not harmful to aquatic life;
- Ensure that the lakes have sufficient aeration. Should aeration levels be low, introduce either a bottom-diffused aeration system or add aerating plants to the lakes;
- Monitor silt build-up and remove silt from the base of the lakes as required (likely to be an annual or biennial basis);
- Install fish refuges such as floating islands in the fishing lakes, to prevent predation by birds and otters. The mesh size of the fish refuge should be a maximum of 85mm to avoid risk of trapping otters (Water for Wildlife, Environment Agency and The Wildlife Trusts, 2008). The refuges need to be checked weekly in order to ensure that any trapped animals, fish or birds can be safely released;
- Should otter predation become an issue, otter-proof fencing should be erected around the fishing lakes. The maximum mesh size should be 75mm to ensure that otters cannot get through; any gates or joins in the fencing also need to have gaps of less than 75mm. The base of the fence will need to be either buried vertically or turned horizontally at onto the ground and pegged down to prevent otters from digging under

the fence. These will need to be monitored on a weekly basis to ensure that otters are not stuck in the fencing; and

- Should mink predation be suspected, a mink raft is to be used to confirm presence or absence. These need to be checked fortnightly. If mink are found, purpose-built live capture cage traps should be used. These must be checked daily (this is a legal requirement), with any trapped mink subsequently killed humanely (shooting is recommended (Sussex Wildlife Trust, 2016)). Non-target trapped species are to be released immediately. Under no circumstances should mink be released back into the wild, nor kept captive without a license – both are illegal.

Inspections

4.7.5. To ensure compliance with the above actions, it is recommended that the following inspections are undertaken:

- Undertake quarterly monitoring of nitrate and phosphate levels in the water;
- Monitor build-up of silt on an annual basis;
- Check fish refuges and any otter-proof fencing weekly for trapped animals, birds or fish and release any found;
- Check any mink rafts on a fortnightly basis for signs of mink;
- Check any mink traps daily for mink; release any non-target animals and humanely kill any mink; and
- Quarterly inspections by a Chartered Landscape Architect and the Landscape Contractor in accordance with the schedule set out in Appendix A. Please note that the Landscape Contractor will need to hold a BASIS amenity horticultural products certificate so that they are able to provide appropriate recommendations on the selection and use of herbicides. They will also need to be competent at plant identification, particularly those species proposed as part of the landscape scheme, invasive weeds (as per Schedule 9 of the 1981 Wildlife and Countryside Act – as revised (UK Government, 1996)), and other undesirable species.

4.8. Surfacing and paving (reference number 08)

Applicable areas

4.8.1. Parking

Intended character

4.8.2. Surfaced areas such as parking areas have been designed to be functional and practical; allowing safe and easy access and egress by vehicles and pedestrians alike and also respecting the rural character of the site and its surroundings.

Element objectives

4.8.3. Surfacing and paving within the site needs to meet the following management and maintenance objectives:

- Ensure the functionality, integrity and longevity of the various surface treatments is preserved;
- Contribute to a tidy and smart appearance whilst respecting the rural character; and
- Provide functional pedestrian and vehicle surfaces.

Actions

4.8.4. To achieve the above objectives, the following actions need to be performed:

- Remove all litter and debris on a quarterly basis;
- Undertake weeding to surfaced areas in order to remove and control any weeds. Weed management to be undertaken on an annual basis and to comprise a combination of sweeping and hand pulling of weeds. In some extenuating circumstances, limited spot treatment may be appropriate; and
- All areas of hard standing to be inspected on a quarterly basis for damage, subsidence or settlement, and any other failure. Any defects or issues found need to be reported immediately and repaired as soon as is possible.

Inspections

4.8.5. To ensure compliance with the above actions, it is recommended that the following inspections are undertaken:

- Quarterly inspections by a Chartered Landscape Architect and the Landscape Contractor in accordance with the schedule set out in Appendix A, focusing in particular on any damage, cracks, subsidence or settlement, and other failure to the various hard surfaces. Please note that the Landscape Contractor will need to hold a BASIS amenity

horticultural products certificate so that they are able to provide appropriate recommendations on the selection and use of herbicides.

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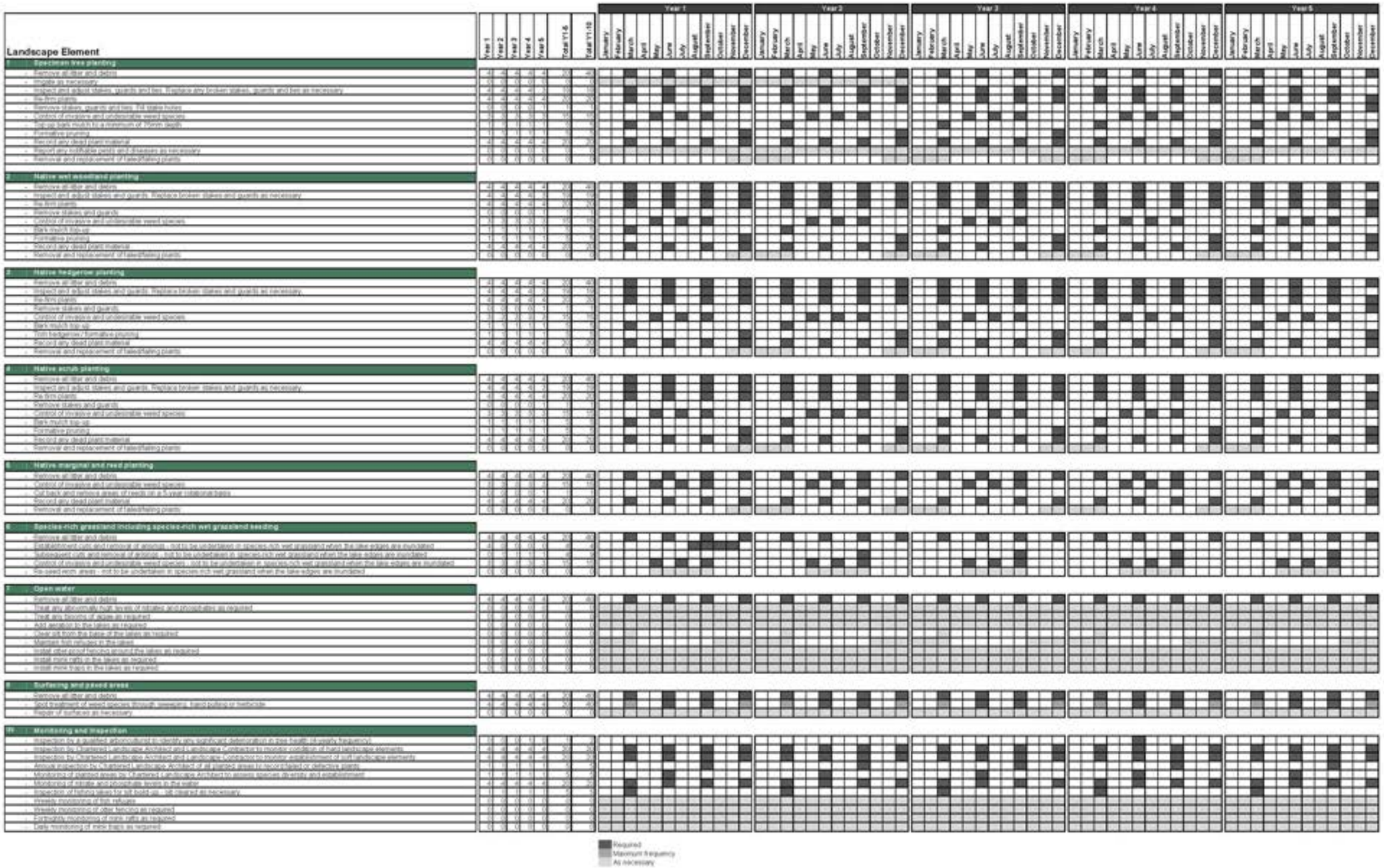
Appendix 1: Schedule of works



Landscape Element	Year 6	Year 7	Year 8	Year 9	Year 10	Total Yrs 6-10
1 : Specimen tree planting						
- Remove all litter and debris	4	4	4	4	4	20
2 : Native woodland planting						
- Remove all litter and debris	4	4	4	4	4	20
3 : Native hedgerow planting						
- Remove all litter and debris	4	4	4	4	4	20
- Trim hedgerow	1	1	1	1	1	5
4 : Native scrub planting						
- Remove all litter and debris	4	4	4	4	4	20
5 : Native marginal and reed planting						
- Remove all litter and debris	4	4	4	4	4	20
- Cut back and remove areas of reeds on an 4-year rotational basis	1	1	1	1	1	5
6 : Species-rich grassland						
- Remove all litter and debris	4	4	4	4	4	20
- Subsequent cuts and removal of arisings - not to be undertaken in species-rich wet grassland when the lake edges are inundated	1	1	1	1	1	5
- Re-seed worn areas - not to be undertaken in species-rich wet grassland when the lake edges are inundated	1	1	1	1	1	5
7 : Open water						
- Remove all litter and debris	4	4	4	4	4	20
- Treat any abnormally high levels of nitrates and phosphates as required	1	1	1	1	1	5
- Treat any blooms of algae as required	1	1	1	1	1	5
- Add aeration to the lakes as required	1	1	1	1	1	5
- Clear silt from the base of the lakes as required	1	1	1	1	1	5
- Maintain fish refuges in the lakes	1	1	1	1	1	5
- Install otter-proof fencing around the lakes as required	1	1	1	1	1	5
- Install mink raffs in the lakes as required	1	1	1	1	1	5
- Install mink traps in the lakes as required	1	1	1	1	1	5
8 : Surfacing and paved areas						
- Remove litter, rubbish and debris	4	4	4	4	4	20
- Spot treatment of weed species through weeping, hand pulling or herbicide	4	4	4	4	4	20
- Repair of surfaces as necessary	1	1	1	1	1	5
PM : Monitoring and inspection						
- Inspection by a qualified arboriculturist to identify any significant deterioration in tree health (6-yearly frequency)	1	1	1	1	1	1
- Monitoring of nitrate and phosphate levels in the water	4	4	4	4	4	20
- Inspection of fishing lakes for silt build-up - silt cleared as necessary	1	1	1	1	1	5
- Weekly monitoring of fish refuges	1	1	1	1	1	5
- Weekly monitoring of otter fencing as required	1	1	1	1	1	5
- Fortnightly monitoring of mink raffs as required	1	1	1	1	1	5
- Daily monitoring of mink traps as required	1	1	1	1	1	5