



Biodiversity Enhancement and Landscape Management Plan

Hospital Bridge Road, Whitton

Presented to **Bowmer and Kirkland Ltd.**

Issued: December 2021

Delta-Simons Project No. 18-0170.07



Delta-Simons Environmental Consultants Limited
Head Office: 3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR
Tel: 01522 882555 | www.deltasimons.com



Report Details

Client	Bowmer and Kirkland Ltd
Report Title	Biodiversity Enhancement and Landscape Management Plan
Site Address	Hospital Bridge Road, Whitton
Project No.	18-0170.03
Delta-Simons Contact	Jennifer Britt (Jennifer.britt@deltasimons.com)

Quality Assurance

Issue No.	Status	Issue Date	Comments	Author	Technical Review	Authorised
3	Final	16 th December 2021	Updated following revised planting strategy and comments received from the LPA ecologist	<i>Britt</i>	<i>C Bywood</i>	<i>Britt</i>
				Jennifer Britt Principal Ecologist	Catherine Bywood Senior Ecologist	Jennifer Britt Principal Ecologist

About us

Delta-Simons is a trusted, multidisciplinary environmental consultancy, focused on delivering the best possible project outcomes for customers. Specialising in Environment, Health & Safety and Sustainability, Delta-Simons provide support and advice within the property development, asset management, corporate and industrial markets. Operating from across the UK we employ over 180 environmental professionals, bringing experience from across the private consultancy and public sector markets.

As part of Lucion Services, our combined team of 500 in the UK has a range of specialist skill sets in over 50 environmental consultancy specialisms including asbestos, hazardous materials, ecology, air and water services, geo-environmental and sustainability amongst others.



Delta-Simons is proud to be a founder member of the Inogen Environmental Alliance, enabling us to efficiently deliver customer projects worldwide by calling upon over 5000 resources in our global network of consultants, each committed to providing superior EH&S and sustainability consulting expertise to our customers. Through Inogen we can offer our Clients more consultants, with more expertise in more countries than traditional multinational consultancy.

Delta-Simons is a 'Beyond Net-Zero' company. We have set a Science-Based Target to reduce our Scope 1 and Scope 2 carbon emissions in line with the Paris Agreement and are committed to reducing Scope 3 emissions from our supply chain. Every year we offset our residual emissions by 150% through verified carbon removal projects linked to the UN Sustainable Development Goals. Our consultancy services to you are climate positive.

If you would like support in understanding your carbon footprint and playing your part in tackling the global climate crisis, please get in touch with your Delta-Simons contact above who will be happy to help.

Table of Contents

1.0 INTRODUCTION.....	1
1.1 Purpose and Scope of the Survey.....	1
1.2 Site Description.....	2
1.3 Proposed Development.....	2
2.0 SUMMARY OF PREVIOUS REPORTS AND BASELINE DATA.....	3
3.0 LANDSCAPE ENHANCEMENTS AND MANAGEMENT.....	4
3.1 Scattered Trees.....	4
3.1.1 Existing Ecological Feature.....	4
3.1.2 Influencing Factors for Management.....	4
3.1.3 Objectives.....	4
3.1.4 Implementation.....	4
3.1.5 Monitoring and Remediation.....	5
3.2 Woodland Edge Mix and Ornamental Shrub Planting.....	5
3.2.1 Existing Ecological Feature.....	5
3.2.2 Influencing Factors for Management.....	5
3.2.3 Objectives.....	5
3.2.4 Implementation.....	6
3.2.5 Monitoring and Remediation.....	7
3.3 Grassland.....	7
3.3.1 Existing Ecological Feature.....	7
3.3.2 Influencing Factors for Management.....	7
3.3.3 Objectives.....	7
3.3.4 Implementation.....	7
3.3.5 Monitoring and Remediation.....	7
4.0 FENCE DESIGN FOR MAMMAL DISPERSAL.....	8
5.0 SPECIES SPECIFIC ENHANCEMENTS.....	9
5.1 Nesting Birds.....	9
5.2 Bats.....	9
5.3 Invertebrates.....	9
5.4 Habitat Pile.....	10
5.5 Stag Beetle Loggery.....	10
6.0 DISCLAIMER.....	11

Figures

Figure 1 Biodiversity Enhancement Measures

Appendices

Appendix A References
Appendix B Management and Monitoring Programme
Appendix C 10 Year Management Programme

1.0 Introduction

1.1 Purpose and Scope of the Survey

Delta-Simons Environmental Consultants Ltd was instructed by Bowmer and Kirkland Ltd. ('the Client') to prepare an update to the Biodiversity Enhancement and Landscape Management Plan (BELMP) for a new school at land to the west of Hospital Bridge Road, Whitton, London ('the Site').

The BELMP has been updated in order to satisfy planning conditions NS17, NS25 and NS31 (planning reference 18/3561/FUL) which state:

"NS17: Prior to the occupation of the school hereby approved, a scheme of ecological enhancements shall be submitted to and approved in writing by the Local Planning Authority. The development shall not be implemented other than in accordance with the approved scheme, and shall not be occupied until the enhancements have been implemented in full or in accordance with a timetable of implementation. Such enhancements to include:

- ▲ *bat, bird and invertebrate boxes*
- ▲ *habitat piles and stag beetle loggeries,*
- ▲ *measures to allow movement of species between the site and habitat corridor*

Details to be submitted include:

- ▲ *specific location*
- ▲ *box type*
- ▲ *construction method.*

NS25: Unless otherwise agreed in writing with the Local Planning Authority, prior to occupation of the development hereby approved, a landscape management plan for the site shall be submitted to and approved in writing by the Local Planning Authority. The scheme shall include:

- a. covering the boundaries, habitat corridor and secondary access*
- b. long-term objectives, management responsibilities and detailed prescriptions and schedules for maintenance and conservation management over a minimum period of five years from the date of occupation*

The development shall not be implemented other than in accordance with the approved landscape management plan.

NS31: Prior to occupation of the site, details of the means of enclosure/fencing/gates - including gaps or gates to allow passage of badger, hedgehog and other small mammals - shall be submitted to and agreed in writing by the Local Planning Authority. The development shall not be implemented other than in accordance with the approved scheme and shall thereafter be retained as approved."

The BELMP has been written based upon information provided by the Client, and the results and recommendations of previous ecology surveys for the Site and has been updated to remove management prescriptions for the open space within the western extent of the Site which falls outside the Clients control. This BELMP does not include details of the green wall, green roof or sports pitches, details of which are provided within separate documents associated with planning conditions NS23, NS24 and NS26. This document should be read in conjunction with the Landscape Management and Maintenance Plan prepared by Ares landscape Architects.

The measures proposed will ensure that overall there is a net gain in the biodiversity value of the Site in accordance with National Planning Policy Framework (NPPF, 2021). The NPPF advises that *"Planning policies and decisions should contribute to and enhance the local environment by (d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures..."*

The aims of the BELMP are to:

- ▲ Provide enhancement measures to increase the biodiversity value of the Site; and
- ▲ Provide a management and monitoring plan in order to enhance and maintain the ecological value of the Site following the development.

1.2 Site Description

The Site is centred at Ordnance Survey (OS) grid reference TQ 13336 73585, to the west of Hospital Bridge Road, Whitton, London. The Site covers an area of 6.7 hectares (ha) and comprises rough grassland and scattered scrub, with the eastern extent used as a storage area for the adjacent landscaping and garden centre.

A railway line runs adjacent to the northern Site boundary, and a garden centre lies adjacent to the eastern Site boundary, with residential properties further to the north and east of the Site. Heathfield Recreation Ground lies to the south of the Site, and Borough Cemetery borders the western Site boundary.

1.3 Proposed Development

It is understood that the proposed development comprises the construction of a three-storey teaching block and a two-storey sports complex in the north-eastern corner of the Site, with associated hard and soft landscaping. It is understood that the western extent of the Site will comprise green space, which will be used as playing fields and for habitat creation. This BELMP does not cover the area of habitat creation within the western extent of the Site, the details of which are subject to a separate agreement, however, it should be noted that this area of the Site will contribute significantly to the overall biodiversity value of the development proposals.

2.0 Summary of Previous Reports and Baseline Data

The Site has been the subject of several ecology and protected species surveys as part of the planning application. To inform this BELMP the following reports have been reviewed:

- ▲ Preliminary Ecological Appraisal, Turing House Hounslow, Campbell Reith Hill LLP, September 2017;
- ▲ Preliminary Ground Level Bat Roost Assessment and Badger Survey, Turing House Free School, Hospital Bridge Road, Hounslow, Thomson Ecology, September 2017;
- ▲ National Vegetation Classification Survey, Turing House Free School, Thomson Ecology, September 2017; and
- ▲ Reptile Survey Report, Hospital Bridge Road, (Turing House Free School) Whitton, Delta-Simons 18-0170.02, October 2018.

Three national statutory designated Local Nature Reserves (LNR) and 12 non-statutory designated Sites of Importance for nature Conservation (SINC) were identified within the 2 km search area. In addition, the Site is designated a Metropolitan Area of Open Land (MOL). The PEA concluded that the proposed development was unlikely to have any direct impact on the majority of designated sites, however, Feltham Railsides SINC is situated adjacent to the northern Site boundary.

The NVC survey report found the grassland to be typical of past grassland improvement and of species typically widespread in the UK.

Habitats at the Site were considered suitable to support nesting birds and several of the trees were recorded to contain features suitable to support roosting bats. These trees are to be retained as part of the development design. No evidence of reptiles was recorded during the surveys and great crested newts were not considered to be a constraint at this Site. A disused outlier badger sett was identified within the south-eastern extent of the Site with no evidence of recent badger activity recorded at the Site.

3.0 Landscape Enhancements and Management

The landscaping scheme (prepared by Area Landscape Architects) and proposed management has been developed in order to enhance the biodiversity of the Site and to provide a range of resources for locally occurring wildlife. The proposals aim to enhance the connectivity to the Feltham Railsides SINC adjacent to the Site through the improvement of boundary vegetation to the southern and northern boundaries. This will, therefore, maintain and enhance the existing ecological corridor. Implementation of the landscaping scheme should be undertaken in accordance with the details provided by Ares Landscape Architects and should be completed by a competent person. A maintenance and management programme to cover the first 10 years after development is included as Appendix B, and 10-year management programme is included as Appendix C. Landscape features are shown in Figure 1.

3.1 Scattered Trees

3.1.1 Existing Ecological Feature

The majority of the existing trees are to be retained at the Site with a small number of losses within the eastern area of the Site and at the northern Site boundary to facilitate the development. Non-native *Robinia* are to be felled from the northern Site boundary. Additional tree planting is proposed across the Site to compensate for any losses, to further enhance the floral and structural diversity, and to provide greater connectivity.

3.1.2 Influencing Factors for Management

Retained and newly planted trees must be managed to maintain their health and amenity value as well as to contribute to the ecological value of the Site. Dead wood should be retained, where possible, for its biodiversity value, however, safety is paramount.

3.1.3 Objectives

The objective for the tree planting at the Site post-development is to compensate for the minor loss of existing trees and to increase the species diversity, to enhance connectivity through appropriate management, and create structural diversity across the Site. Management objectives for the tree habitat are:

- ▲ To ensure satisfactory establishment and growth of new planting;
- ▲ Maintain planting in a healthy and attractive condition;
- ▲ To retain their contribution to the landscape structure, for biodiversity, to create a food source to wildlife, and amenity value in accordance with BS3998:2010; and
- ▲ Retain dead wood at the Site for biodiversity value

3.1.4 Implementation

Tree planting is to be undertaken around the boundaries of the Site and around the main school complex within the eastern area of the Site. A range of native species, and those of known value to wildlife, are to be incorporated which will enhance the ecological value of the Site and provide increased foraging and connectivity for invertebrates, birds and bats.

Tree planting will comprise the following species:

- ▲ Field maple *Acer campestre*;
- ▲ Norway maple *Acer platanoides*;
- ▲ Silver birch *Betula pendula*;
- ▲ European hornbeam *Carpinus betulus*;
- ▲ Bird cherry *Prunus padus*;
- ▲ Scots pine *Pinus Sylvestris*;
- ▲ Black poplar *Populus nigra*;
- ▲ Small leaved lime *Tilia cordata*; and

▲ Large leaved lime *Tilia platyphyllos*.

Planting

Prior to planting, the ground will be prepared such that the plants can grow successfully. The soil should have a good tilth (particle size, moisture content, degree of aeration, rate of water infiltration, and drainage) so that the roots can establish. Planting will not be undertaken if the ground is suffering from hard frost or is heavily water logged, however, planting should be undertaken during the late autumn and winter months when the trees are dormant, in the next available planting season following completion of the development.

Newly planted stock will be protected from grazing mammals, such as rabbits. Individual plants will be protected by plastic shelter guards or mesh guards, where appropriate. Protective or supporting structures will be removed as soon as possible to avoid dependence on support.

Management

New trees are to be watered at least weekly between May and September during the first two years, should two weeks pass without rainfall. Following this, trees are to be watered only if showing signs of drought stress.

Dead wood and suckers are to be removed as required to ensure development of a main leader and to ensure statutory clearance from roads and footpaths is maintained, however, where possible dead wood should be retained for its biodiversity value.

3.1.5 Monitoring and Remediation

Trees are to be inspected annually for disease, damage and potential problems. Remedial work is to be carried out as required to meet the objectives set out above and in accordance with BS3998:2010.

New trees are to be inspected annually in September for the first five years and any dead trees are to be replaced in the next available planting season. The reason for the plants failure is to be assessed and its replacement determined accordingly.

Stakes, ties and guards are to be checked monthly from March to October, inclusive, or following frosts or high wind, and adjusted or replaced as necessary to prevent damage to the tree. After the third-year stakes and ties are to be removed if trees are self-supporting

3.2 Woodland Edge Mix and Ornamental Shrub Planting

3.2.1 Existing Ecological Feature

The northern Site boundary provides an existing vegetative corridor including trees and shrub species.

3.2.2 Influencing Factors for Management

Ornamental shrub planting will be undertaken predominately within the eastern area of the Site to create formal landscaping around the entrance to the Site and the main school building. Native shrub planting is to be undertaken along the eastern extent of the northern Site boundary and at the southern boundary of the Site to create and strengthen existing corridors using a woodland planting mix.

3.2.3 Objectives

The objective for shrub planting at the Site post-development is to increase the species diversity, to enhance connectivity through appropriate design and management and to create structural diversity within the Site. Management objectives for shrub planting are:

- ▲ To ensure satisfactory establishment and growth of new planting;
- ▲ Maintain planting in a healthy and attractive condition; and
- ▲ To retain their contribution to the landscape structure, for biodiversity, to create a food source to wildlife, and amenity value in accordance with BS3998:2010.

3.2.4 Implementation

Shrub planting is to be undertaken within the formal landscaping within the eastern area of the Site and more natural corridors around the Site boundaries. Many of the species are of known value to wildlife, providing a source of nectar and/ or berries for invertebrates and birds. This will also provide connectivity and add structural diversity to these areas of the Site.

Ornamental planting with known value to wildlife (native or listed on the RHS Perfect for Pollinators list) includes:

- ▲ Lavender *Lavendula angustifolia*;
- ▲ Geranium *macrorrhizum*;
- ▲ Aster *frikartii*;
- ▲ *Salvia nemorosa*; and
- ▲ *Rudbeckia fulgida*.

Woodland mix planting includes:

- ▲ Hazel *Corylus avellana*;
- ▲ Common hawthorn *Crataegus monogyna*;
- ▲ Dog-rose *Rosa canina*;
- ▲ Elder *Sambucus nigra*;
- ▲ Rosemary *Rosmarinus*;
- ▲ Lavender *Lavendula angustifolia*;
- ▲ Dogwood *Cornus sanguinea*;
- ▲ Silver birch *Betula pendula*; and
- ▲ Field maple *Acer campestre*.

Planting

Prior to planting, the ground will be prepared such that the plants can grow successfully. The soil should have a good tilth (particle size, moisture content, degree of aeration, rate of water infiltration, and drainage) so that the roots can establish. Planting will not be undertaken if the ground is suffering from hard frost or is heavily waterlogged.

Newly planted stock will be protected from grazing mammals, such as rabbits. Individual plants will be protected by plastic shelter guards or mesh guards, where appropriate. Protective or supporting structures will be removed as soon as possible to avoid dependence on support.

Management

Hand weeding will be completed monthly, March-October inclusive, during the first year, reduced to bi-annually by year three. Following this weeding will be completed as necessary. Pernicious weeds are to be spot treated with an appropriate herbicide three times a year for the first three years, then as required. Shrubs and herbaceous plants will be watered during periods of low rainfall if they show signs of drought stress.

General pruning will be completed as necessary to remove damaged vegetation but will be limited to the minimum necessary to maintain the natural shape of the plant. Selective thinning of vegetation will be completed to allow best establishment and to maintain species distribution.

Gated access will be provided within the boundary fencing at the northern Site boundary to allow maintenance to the existing vegetation corridor.

Site maintenance will remove litter from shrub beds.

3.2.5 Monitoring and Remediation

Monitoring will be undertaken as part of general Site maintenance in September of each year. Any plants that die in the first five years for native species and three years for ornamental species will be replaced with the same species in the next available planting season.

3.3 Grassland

3.3.1 Existing Ecological Feature

The grassland at the Site prior to development comprised predominately semi-improved grassland supporting a limited species diversity. The development will result in the loss of much of this habitat, however, new grassland planting is proposed.

3.3.2 Influencing Factors for Management

Grassland associated with areas for play and around the school building will provide formal recreational and amenity value and will require more intensive management to maintain its function. Species-rich grassland along the western and northern boundaries of the sports pitches will be subjected to a less intensive management to promote biodiversity.

3.3.3 Objectives

The objectives for the grassland at the Site is to:

- ▲ Ensure satisfactory establishment of grass sward; and
- ▲ Maintain healthy sward, cut appropriate to its function and use.

3.3.4 Implementation

Amenity grassland surrounding the school buildings is to be planted with Rowland Medallion turf or similar.

The species-rich grassland is to be seeded with a wildflower mix suitable for the soil type and location.

Planting

Ground preparation should follow the supplier's instructions with the removal of weeds, rubbish and stones of over 20 mm diameter. The turf/seed will be laid/sown following development activities during times of sufficient warmth and moisture, ideally in late spring or early autumn.

Management

Amenity grassland is to be maintained as required for its recreational/amenity function.

Meadow grass sown in autumn is to be cut in March / early April when the sward has reached 100-150mm and will be reduced to 50-70mm. Meadow grass sown in spring is to be cut to 50-70mm six weeks after sowing, with further cuts if the sward reaches 100-150mm. A final cut is to be made in September with all arisings removed. After the first-year wildflower grassland is to be cut to 50-70mm in March/April and again in September with a scythe or petrol trimmer. Cuttings are to be left in situ to dry and shed seed for 3-7 days then raked.

3.3.5 Monitoring and Remediation

Monitoring will be undertaken as part of general Site maintenance

Any poorly established grassland is to be re-sown in April/May and September/October.

Rubbish, debris and surface leaf litter is to be removed and disposed of appropriately off-Site.

4.0 Fence Design for Mammal Dispersal

In order to maintain access across the Site for hedgehog, gaps approximately 13 x 13 cm are to be incorporated into the boundary fencing at approximately 10 m intervals along the northern and southern boundaries of the playing fields. No specific provision is made for hedgehog to access the eastern area of the Site to avoid potential conflict with vehicles, however, access will be maintained along the northern vegetated corridor and associated railway corridor to retain access to the wider landscape.

Access for badgers will be maintained along the northern boundary corridor and into the wider landscape, including the western area of open space (outside the Clients control). This includes existing and proposed woodland mix planting which will provide a range of resources for this species.

5.0 Species Specific Enhancements

5.1 Nesting Birds

To further enhance the ecological value of the Site, and to provide additional nesting opportunities for birds, a variety of bird boxes will be placed at suitable locations around the Site. These will be suitable to accommodate a range of species known to occur in the local area, and particularly those most likely to be attracted to the Site following the proposed development. Bird boxes, therefore, will include:

- ▲ Three hole-fronted boxes (Vivara Pro Seville 32mm Woodstone Nest Box, or similar approved product subject to availability and approved by the LPA);
- ▲ Three open fronted boxes (Vivara Pro Barcelona Woodstone Open Nest Box, or similar approved product subject to availability and approved by the LPA); *and*
- ▲ Four swift bricks (WoodStone Build-in Swift Nest Box B, or similar approved product subject to availability and approved by the LPA).

With the exception of the swift bricks, which are to be integrated into the building structure on the north-western corner at a minimum height of 5 m, the bird boxes are to be installed on retained trees and on proposed boundary fencing associated with the northern and southern vegetated corridors, with connectivity to shelter and suitable foraging habitat and in areas of the Site least likely to be disturbed. Boxes should be placed at a variety of heights (minimum 2 m) such that they are not disturbed by predators or humans and avoiding a southerly aspect. All boxes should be of woodcrete construction to ensure their longevity and to increase the likelihood of them being used. The proposed locations of the bird boxes are shown in Figure 1.

Nest boxes are to be checked annually between November and February, inclusive, and any repairs or modifications undertaken.

5.2 Bats

To enhance the ecological value of the Site and provide roosting opportunities for bats following the proposed development, a variety of bat roosting features will be incorporated at suitable locations around the Site. These will be suitable to accommodate a range of species known to occur in the local area and will, therefore, include ten woodcrete bat boxes (Vivara Pro WoodStone Bat Box available at <https://www.nhbs.com/search?q=vivara+pro+woodstone+bat+box&qtview=195399>, or similar approved product subject to availability and approved by the LPA). The bat boxes are to be installed on retained trees at the northern and southern boundaries of the Site which have connectivity to suitable foraging areas and are least likely to be disturbed. Bat boxes should face a southerly direction and at a height of at least 3 m, with a flight path clear of branch clutter. Bat boxes are to be externally checked annually and any repairs or modifications undertaken following the advice of a licenced ecologist. The proposed locations of the bat boxes are shown in Figure 1.

Landscape planting across the Site will incorporate native species, or those of known value to wildlife, to encourage pollinating insects and subsequently a food source for bats.

5.3 Invertebrates

In addition to the landscape proposals, enhancing the Site for invertebrate species, two Nurturing Nature Solitary Bee Observation Nest Boxes will be installed on the boundary fencing at the northern Site boundary. These will be mounted at least 1 m above ground and in a sheltered but not shaded position. The bee nest boxes are to be inspected annually in late summer for cleaning and any dead cells to be removed. The proposed locations of the insect boxes are shown in Figure 1.

Landscape planting across the Site will incorporate native species, or those of known value to wildlife, to encourage pollinating insects.

5.4 Habitat Pile

A habitat pile will be created using brash and grass arisings resulting from general Site maintenance. This will be placed within the Habitat corridor at the southern Site boundary. The location of the proposed habitat pile is shown in Figure 1.

5.5 Stag Beetle Loggery

In order to provide a source of deadwood for stag beetles and other invertebrates, two log piles (loggery) will be created within the scrub line at the northern Site boundary. Each log pile should measure a minimum of 2 m x 2 m x 1.5 m high using logs of 75-200 mm sourced from felled material on Site. Each pile should be secured with stakes to prevent piles from collapsing, and also secured with wire to prevent removal or dismantling. The location of the proposed log pile is shown in Figure 1. These locations must ensure that the excavations will not impact upon roots from nearby larger hedgerow shrubs.

6.0 Disclaimer









The recommendations contained in this Report represent Delta-Simons' professional opinions, based upon the information referred to in Section 1.0 of this Report, exercising the duty of care required of an experienced Ecology Consultant.

This Report was prepared by Delta-Simons for the sole and exclusive use of the Client and for the specific purpose for which Delta-Simons was instructed as defined in Section 1.0 of this Report. Nothing contained in this Report shall be construed to give any rights or benefits to anyone other than the Client and Delta-Simons, and all duties and responsibilities undertaken are for the sole and exclusive benefit of the Client and not for the benefit of any other party. In particular, Delta-Simons does not intend, without its written consent, for this Report to be disseminated to anyone other than the Client or to be used or relied upon by anyone other than the Client. Use of the Report by any other person is unauthorised and such use is at the sole risk of the user. Anyone using or relying upon this Report, other than the Client, agrees by virtue of its use to indemnify and hold harmless Delta-Simons from and against all claims, losses and damages (of whatsoever nature and howsoever or whensoever arising), arising out of or resulting from the performance of the work by the Consultant.

Figure 1 – Biodiversity Enhancement Measures



LEGEND

	Site Boundary
	Bat Box (10 no.)
	Hole Fronted Bird Box (3 no.)
	Open Fronted Bird Box (3 no.)
	Swift Brick (4 no.)
	Solitary Bee Box (2 no.)
	Loggery (2 no.)
	Habitat Pile (1 no.)

Site Plan Provided by Client



TITLE:
Biodiversity Enhancement Measures
 Hospital Bridge Road
 Whitton

DRAWN BY: JB	SCALE (@A4): 1:1600	PROJECT NO: 18-0170.07
CHECKED BY: CB	REVISION: -	FIGURE NO: 1
DATE: 16 December 2021		

Appendix A – References

References

BS 42020:2013 Biodiversity. Code of Practice for Planning and Development

Department for Communities and Local Government (2021). National Planning Policy Framework

Royal Horticultural Society Perfect for Pollinators Garden Plants. Available at www.rhs.org.uk/perfectforpollinators

Appendix B – Management and Monitoring Programme

Management and Monitoring Programme

Habitat/Feature	Objective	Proposed Management	Proposed Monitoring	Performance Indicators		Remedial Actions
				Poor	Good	
Existing and Proposed Trees	Ensure satisfactory establishment and growth of new planting	Plant species listed in Section 3.1.4. Protect with appropriate guards	Trees to be inspected annually for the successful establishment and health of individual plants	Poor growth of individual plants	Healthy plants with good habitat structure	Replace any plants that die within the first five years with the same species
		Water new trees as necessary between April - September during the first two years, unless adequate rain has fallen. In subsequent years trees are to be watered only if showing signs of drought stress.	Monitor health of individual plants	Wilting plants with poor growth	Healthy plants with expected growth rate	Review frequency of watering.
	Maintain planting in a healthy and attractive condition, to retain their contribution to the landscape structure, biodiversity, food source to wildlife, and amenity value	Use of stakes, ties and guards are to be checked	Monitor efficiency of stakes, ties and guards monthly from March to October, inclusive, or following frosts or high wind	Poorly supported or damaged plants	Well established plants	Stakes, guards and ties adjusted or replaced as necessary to prevent damage to the tree. After the third-year stakes and ties are to be removed if trees are self-supporting
		Pruning as required, grassland mowing around bases up to four times annually, March-September to prevent competition	Trees are to be inspected annually for disease, damage and potential problems.	Poor growth of individual plants	Healthy plants forming intact hedgerow	Remedial work is to be carried out as required to meet the objectives set out above and in accordance with BS3998:2010

		Dead wood and suckers to be removed as required to ensure development of a main leader and to ensure statutory clearance from roads and footpaths is maintained. Where possible some dead wood to be left for biodiversity value.	Monitor presence of dead wood and suckers, and associated health and establishment of plant	Poorly developed plant No dead wood for biodiversity	Well established plants Some dead wood for biodiversity	Review frequency of monitoring and management practices.
	Retain dead wood at the Site for biodiversity value					
Woodland Mix and Ornamental Shrub Planting	Ensure satisfactory establishment and growth of new planting	Plant species listed in Section 3.2.4. Protect with appropriate guards	Monitor successful establishment of individual plants	Poor growth of individual plants	Healthy plants forming intact hedgerow	Replace any native plants that die within the first five years, ornamental species within the first three years with the same species
		Hand weeding completed monthly, March-October, inclusive during the first year, reduced to bi-annually by year three. Subsequent weeding as necessary. Pernicious weeds spot treated three times a year for the first three years, then as required	Monitor growth of competitive weeds around individual plants	Excessive weed growth competing for resources	Lack of weed growth around new plants	Review intensity of weed treatment. Increase/decrease as appropriate
		Water new shrubs if they show signs of drought stress	Monitor health of individual plants	Wilting plants with poor growth	Healthy plants with expected growth rate	Review frequency of watering.
	Maintain planting in a healthy and attractive condition, to retain	Use of stakes, ties and guards are to be checked	Monitor efficiency of stakes, ties and guards during each visit for the first four years	Poorly supported or damaged plants	Well established plants	Stakes, guards and ties adjusted or replaced as necessary to prevent damage. Removed after four years

	their contribution to the landscape structure, biodiversity, food source to wildlife, and amenity value	General pruning completed as necessary to remove damaged vegetation. Limited to maintain the natural shape of the plant. Selective thinning of vegetation will be completed to allow best establishment and to maintain species distribution.	Monitor health and distribution of individual plants	Poor growth and structure	Desired structure and distribution	Review frequency and method of cutting. Re-plant any gaps that establish due to poor specimens
		Remove litter and debris	Monitor presence and extent of litter	Excessive litter impacting on health and amenity of planting	Litter free, healthy and attractive planting	Review frequency of litter management and remedial matters such as provision of bins
Grassland	Ensure satisfactory establishment of grass sward	Plant grass mixes listed in Section 3.3.4 in autumn or spring	Monitor successful establishment of grass	Poor establishment of sward structure	Healthy sward	Re-seed as appropriate in the next available planting season. Review cutting regime and increase/decrease as appropriate
	Maintain healthy and biodiverse sward, cut appropriate to its function and use	Amenity grassland is to be maintained as required for its function Meadow grass sown in autumn is to be cut in March / Early April when the sward has reached 100-150mm and reduced to 50-70mm. Meadows sown in spring are to be cut to 50-70mm, six weeks after sowing, with further cuts if the sward reaches 100-150mm. A final cut is to be made in September with all arisings removed. After the first-year wildflower grassland is to be cut to 50-70mm in March/April and again in September with a scythe or	Monitor sward and species structure	Poor sward coverage and species diversity	Healthy sward coverage and diversity	Review cutting regime and increase/decrease as appropriate

		petrol strimmer. Cuttings are to be left in situ to dry and shed seed for 3-7 days then raked.				
Bird Nest Boxes, Bat Boxes and Invertebrate Boxes	Create additional habitat for nesting birds and roosting bats	Install bird/ bat boxes described in Section 5	Annual monitoring of boxes for damage Solitary bee nest boxes cleaned out annually in late summer	Damaged boxes / boxes not utilised by wildlife	Intact boxes used by intended species	Repair / modify where required
Habitat Piles and Loggeries	Create additional habitat for a range of faunal species	Create habitat pile and loggeries as described in Sections 5.4	Monitor for structural damage	Poor quality/damaged habitats	Good structure and suitability for wildlife	Repair/ add additional material resulting from general Site maintenance

Appendix C – 10 Year Management Programme

10 Year Management Programme

General	Year 1	Year 2	Year 3	Year 4	Year 5	Years 6-10
Litter picking	All litter cleared during each maintenance visit, and in response to any reported litter/fly-tipping. All litter disposed of off-Site					

Existing and Proposed Trees	Year 1	Year 2	Year 3	Year 4	Year 5	Years 6-10
Existing tree	Annual inspection for disease, damage and potential problems – remedial work to be carried out as required in accordance with BS3998:2010					
New Trees	Water between April and September as necessary		Water if showing signs of drought stress			
	Inspect trees annually in September and replace dead trees in the next available planting season					
	Annual inspection for disease, damage and potential problems – remedial work to be carried out as required in accordance with BS3998:2010					
	Check stakes, ties and guards monthly from March to October, inclusive and after frosts or high winds, and adjust or replace as necessary		Remove stakes and ties if trees are self-supporting			
	Remove dead wood, where necessary, and suckers as required					

Woodland Mix and Ornamental Shrub Planting	Year 1	Year 2	Year 3	Year 4	Year 5	Years 6-10
	Inspect annually in September and replace dead plants in the next available planting season					
	Hand weed monthly, March-October, inclusive during the first year, reduced to bi-annually by year three		Remove weeds as necessary			
	During each visit check and replace any missing shelters and re-secure as necessary				Remove shelters once plants have established	
	Carry out general pruning to remove dead or damaged vegetation, but limit to the minimum necessary to retain the natural shape of the plant					
	Selectively thin vegetation to allow best establishment and species distribution					
	Water to field capacity during periods of low rainfall if plants show signs of drought stress					

Amenity Grassland	Year 1	Year 2	Year 3	Year 4	Year 5	Years 6-10
Amenity Grassland	Maintained as required for its recreational function.					
Species-Rich Grassland	Meadow grass sown in autumn is to be cut in March / Early April when the sward has reached 100-150mm and reduced to 50-70mm. Meadows sown in spring are to be cut to 50-	After the first-year wildflower grassland is to be cut to 50-70mm in March/April and again in September with a scythe or petrol strimmer. Cuttings are to be left in situ to dry and shed seed for 3-7 days then raked.				

	70mm, six weeks after sowing, with further cuts if the sward reaches 100-150mm. A final cut is to be made in September with all arisings removed.	
--	---	--

Species Enhancements	Year 1	Year 2	Year 3	Year 4	Year 5	Years 6-10
Bird Nest Boxes	Checked annually between November and February, inclusive, and any repairs or modifications undertaken. Relocate bird boxes to a different area of the Site in Year 6 if showing no signs of use.					
Bat Boxes	Checked annually and any repairs or modifications undertaken (consulting a licenced bat ecologist).					
Invertebrate Boxes	Checked annually as part of general Site maintenance. Cleaned out, dead cells removed, and repairs undertaken					
Habitat Pile	Checked as part of general Site maintenance and repairs undertaken. Additional material added regularly from shrub and grassland management					