



# Wordsworth Business Park, Whaley Road, Barugh Green, Barnsley

BREEAM UK (2018) Assessment

Ecological Management Plan

Report for Wordsworth Properties

<b>Job Number</b>	6007			
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# 1 Ecological Management Plan

## AIMS OF THE MANAGEMENT PLAN

- 1.1 BS 42020: 2013 Section 11.1 states that the following should be included in long-term management plans for habitats, species and biodiversity features:
- a. Description and evaluation of features to be managed
  - b. Ecological trends and constraints on-site that could influence management
  - c. Aims and objectives of management
  - d. Appropriate management options for achieving aims and objectives
  - e. Prescriptions for management actions
  - f. Preparation of a work schedule (including an annual work plan capable of being rolled forward over a five-year period)
  - g. Body or organisation personnel responsible for implementation of the plan
  - h. Monitoring and remedial measures (see 11.2)
  - i. Funding resources and mechanisms to ensure sustainable long-term delivery of the proposed management.

## DESCRIPTION AND EVALUATION OF FEATURES TO BE MANAGED

- 1.2 Of the habitats present on site prior to the development, a section of wet ditch is being retained. The wet ditch will have 'poor' condition at the point of handover and is likely to be enhanced to 'moderate' as a result of the proposed management provided in the below Management Plan.
- 1.3 Habitats to be created and managed on site include (see appendix 1 for location details):
- Species rich native hedgerow including a minimum of five species from the following list:
    - Hawthorn (*Crataegus monogyna*);
    - Blackthorn (*Prunus spinosa*);
    - Buckthorn (*Rhamnus cathartica*);
    - Hazel (*Coryllus avellana*);
    - Field maple (*Acer campestre*);
    - Guelder rose (*Viburnum opulus*);
    - Spindle (*Euonymus europaea*);
    - Crab apple (*Malus sylvestris*), and;

- Holly (*Ilex europaeus*);
- Semi-improved neutral grassland sown using a general purpose meadow mix such as Emorsgate EM2 Standard General Purpose Meadow Mixture <sup>1</sup> or similar;
- Wet ditch embankment sown using a suitable seed mixture such as Emorsgate EM8 Meadow Mixture for wetlands<sup>2</sup> or similar;
- Three tree sparrow nest boxes on new building or retained mature trees; and
- Two bat boxes on the new building or retained mature trees.

1.4 The sections of hedgerow have been included in the 'Change in Ecological Value' calculator, with a target condition of 'moderate'. On completion and handover, these areas will likely be in 'poor' condition and only on establishment and appropriate management will they reach the target condition of 'moderate'. It is therefore essential that the management practices prescribed below are adhered to for at least 5 years post-completion.

#### ECOLOGICAL TRENDS AND CONSTRAINTS ON-SITE THAT COULD INFLUENCE MANAGEMENT

1.5 Ecological trends and constraints on-site that could influence management include the changing prescriptions that are needed as the plants mature, and a need to comply with relevant nature conservation legislation e.g. by avoiding disturbance to breeding birds that may be present during any maintenance works etc. These are considered as part of the outline prescriptions for management actions and work schedule presented in the table below.

#### AIMS AND OBJECTIVES OF MANAGEMENT

1.6 The general aims of management proposals provided below are to:

- Enhance the site with regard to biodiversity; and
- Comply with nature conservation legislation.

1.7 The specific objectives of the management proposals provided below are as follows:

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<sup>1</sup> <https://wildseed.co.uk/product/mixtures/complete-mixtures/general-purpose-meadow-mixtures/standard-general-purpose-meadow-mixture/>

<sup>2</sup> <https://wildseed.co.uk/mixtures/view/9>

- The successful establishment of habitats, achieving a 'moderate' condition value;
- Long-term provision of habitat for Barnsley BAP species, bats and tree sparrow; and
- Long-term provision of habitats of value to a range of common wildlife species.

### APPROPRIATE MANAGEMENT OPTIONS FOR ACHIEVING AIMS AND OBJECTIVES

1.8 The appropriate management options for achieving the above aims and objectives are considered as part of the outline prescriptions for management actions and work schedule presented in the table below.

### OUTLINE PRESCRIPTIONS FOR MANAGEMENT ACTIONS AND PREPARATION OF A WORK SCHEDULE (INCLUDING AN ANNUAL WORK PLAN CAPABLE OF BEING ROLLED FORWARD OVER A FIVE-YEAR PERIOD)

1.9 The table below provides a list of outline management prescriptions and details of when these should be carried out over a five-year period.

### BODY OR ORGANISATION PERSONNEL RESPONSIBLE FOR IMPLEMENTATION OF THE PLAN

1.10 Prior to handover, responsibility for creation of landscape planting and appropriate installation of the bird and bat boxes will ultimately lie with the developer. This may be delegated to contractors undertaking the landscape/habitat creation. Responsibility for ensuring that these enhancements are implemented will lie with the Suitably Qualified Ecologist (SQE) completing the Post-Construction Review. The SQE will highlight remedial measure required to achieve credits and facilitate the implementation of this plan prior to handover.

1.11 Responsibility for long-term management should be confirmed by the developer once a management company has been appointed for the operational phase of the development.

### MONITORING AND REMEDIAL MEASURES

1.12 It is recommended that the site is monitored for invasive species, pests and diseases. It is also recommended that the habitat boxes are monitored for occupation by wildlife to establish their efficacy. Trigger points for remedial measures are set out below:

- If, at any point, hedgerow whips die, these should be replaced like-for-like unless it is clear that there are overriding environmental factors preventing such planting from establishing in their specific location.
- If planting is failing to establish due to overriding environmental reasons, a landscape architect and SQE should be consulted to recommend suitable remedial planting.
- If planting is failing to establish due to lack of watering/due to unexpected drought, the management contractor should temporarily amend their watering regime as appropriate.
- If habitat box fixings are found to be unsecure or come loose, these should be repaired only following the advice from a SQE. The presence of protected species may otherwise result in an offence under the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017.
- If habitat boxes remain unoccupied for the first five years, a SQE should be consulted to advise on whether they should be repositioned or replaced with more appropriate models. Habitat boxes must not be moved without prior advice from a SQE as the presence of protected species may otherwise result in an offence under the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017.

## FUNDING RESOURCES AND MECHANISMS TO ENSURE SUSTAINABLE LONG-TERM DELIVERY OF THE PROPOSED MANAGEMENT.

1.13 Responsibility for funding should be confirmed by Wordsworth Properties .

Five Year Management Plan

✓ Appropriate period for task

Task	Year 1				Year 2				Year 3				Year 4				Year 5			
	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec
<b>Hedgerow:</b> Plant new saplings in a staggered double row, water well. Apply tree guards and/or mulch as required.	✓																			
<b>Hedgerow:</b> Water weekly for first, second and third growing seasons. Water has required subsequent years.		✓	✓			✓	✓			✓	✓			✓	✓			✓	✓	
<b>Hedgerow:</b> Trim lateral growth by approximately 50% and remove any dead growth in spring		✓				✓				✓				✓				✓		

Five Year Management Plan

✓ Appropriate period for task

Task	Year 1				Year 2				Year 3				Year 4				Year 5			
	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec
<b>Hedgerow:</b> Remove weed species from beneath new hedgerow, replace any dead plants and add mulch as required.	Throughout				Throughout				Throughout				Throughout				Throughout			
<b>Semi-improved neutral grassland:</b> Seeding within designated section with EM2 seed and including under hedgerow with EH1 seed		✓	✓																	
<b>Semi-improved neutral grassland:</b> weeds control in newly sown areas		✓	✓																	

Five Year Management Plan

✓ Appropriate period for task

Task	Year 1				Year 2				Year 3				Year 4				Year 5			
	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec
<b>Semi-improved neutral grassland:</b> Bi-annual grass cutting once established							Late July	Early Oct			Late July	Early Oct			Late July	Early Oct			Late July	Early Oct
<b>Wet ditch:</b> Hand-pulling of Himalayan balsam (before seed pods have matured)		✓				✓				✓				✓				✓		
<b>Wet ditch:</b> Seeding of wet ditch embankment with EM8 seed		✓	✓																	
<b>Wet ditch:</b> Mow to control of flush of annual weeds in newly sown areas		✓	✓																	

Five Year Management Plan

✓ Appropriate period for task

Task	Year 1				Year 2				Year 3				Year 4				Year 5			
	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec
Wet ditch: Bi-annual grass cutting once established						Early June	Late Sept			Early June	Late Sept			Early June	Late Sept			Early June	Late Sept	
Check fixings on bird and bat boxes.			✓					✓				✓				✓				✓
Monitor use of bird boxes (clean out and relocate outside active nesting season, if required, September - February).	✓			✓	✓			✓	✓			✓	✓			✓	✓			✓
Remove any accumulated rubbish from site.	Throughout				Throughout				Throughout				Throughout				Throughout			
Monitor for signs of pests and disease.	Throughout				Throughout				Throughout				Throughout				Throughout			

## 2 References

Building Research Establishment Ltd. (2018b). *BREEAM UK New Construction Non-domestic buildings (All UK) - Technical Manual SD5078: 1.2* [On-line] Available from [\[https://www.breeam.com/NC2018/#\\_frontmatter/cover\\_temp.htm%3FTocPath%3D\\_\\_\\_\\_\\_1\]](https://www.breeam.com/NC2018/#_frontmatter/cover_temp.htm%3FTocPath%3D_____1) [Accessed 15 October 2021]

Barnsley Biodiversity Trust (2009) *Barnsley Biodiversity Action Plan*. Available at: <http://www.barnsleybiodiversity.org.uk/biodiversityplan.html> [Accessed 15 October 2021]

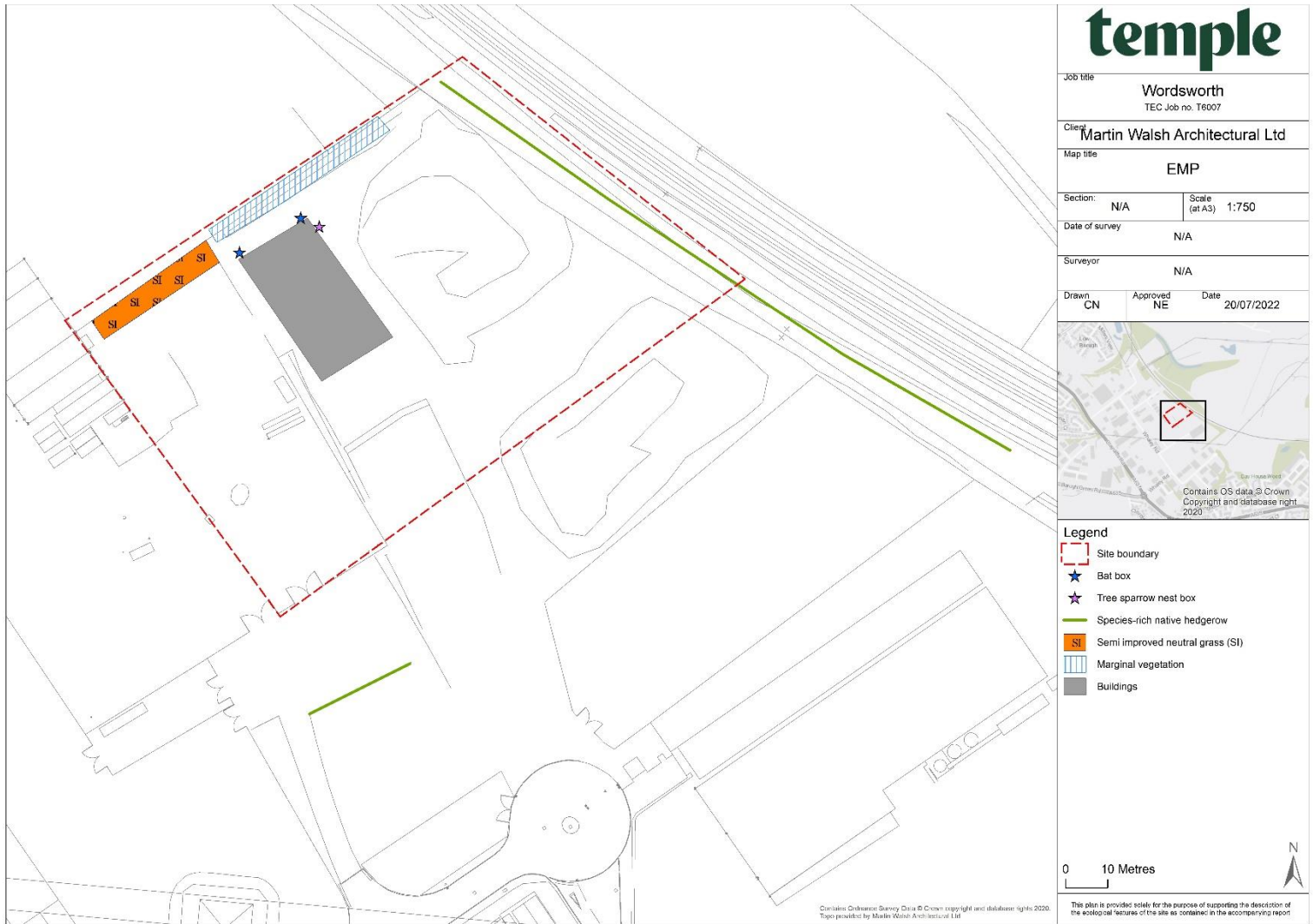
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Newton, J., Nicholson, B., Saunders, R., Willets, R. & Venables, R. (2011) *Working with wildlife: guidance for the construction industry* (2nd Ed.). CIRIA, London.

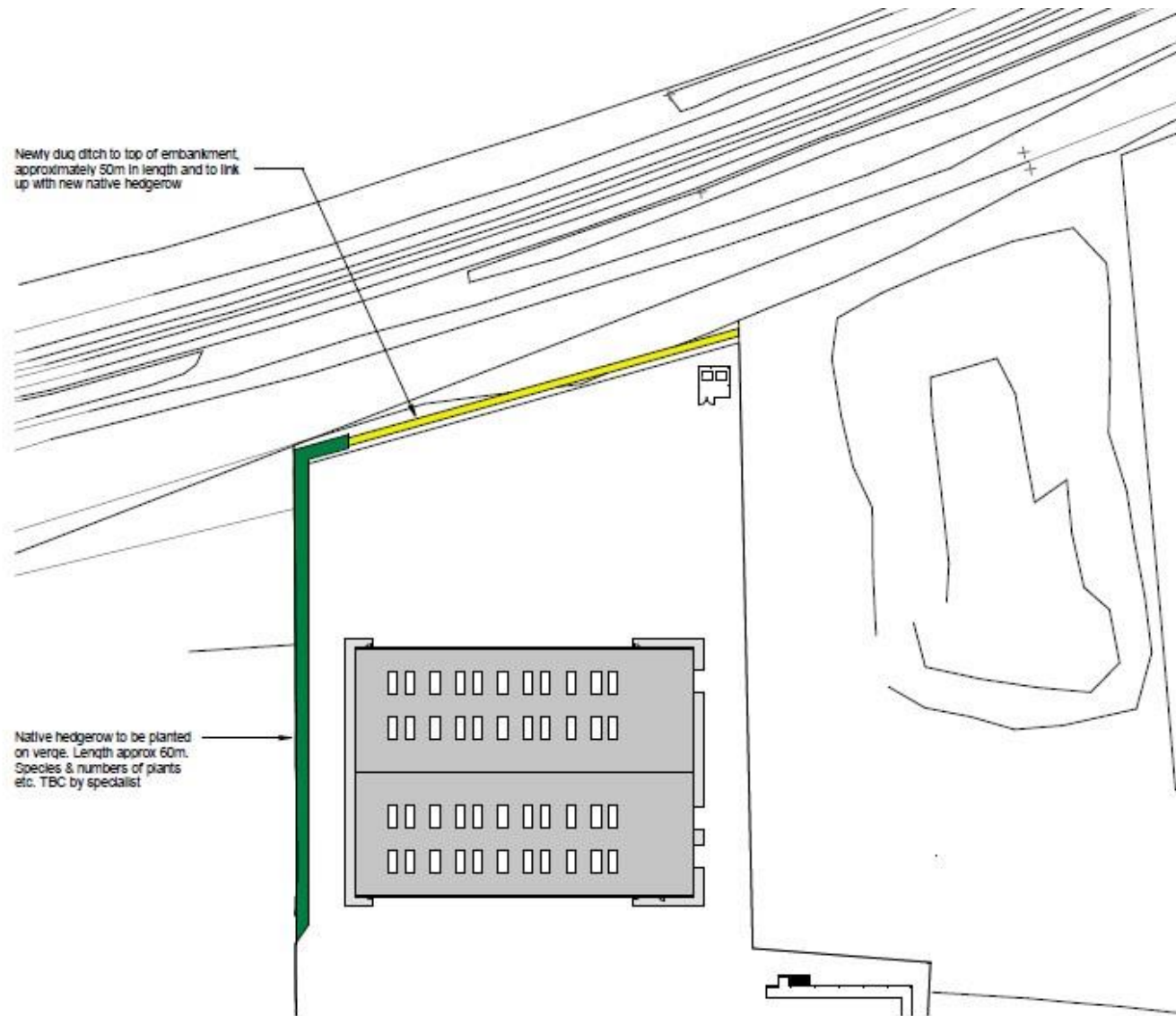
The Ecology Consultancy (2021). *Wordsworth\_Whaley Road, Barugh Green: BREEAM 2018 Report*. Project number 6007.

## Appendix 1: Ecological enhancements map

Map showing ecological enhancements originally agreed



Map showing updated locations of ecological enhancements agreed following revision in 2022



## Appendix 2: Legislation

**Important notice:** This section contains details of legislation applicable in Britain only (i.e. not including the Isle of Man, Northern Ireland, the Republic of Ireland or the Channel Islands) and is provided for general guidance only. While every effort has been made to ensure accuracy, this section should not be relied upon as a definitive statement of the law.

## A NATIONAL LEGISLATION AFFORDED TO SPECIES

The objective of the EC Habitats Directive<sup>3</sup> is to conserve the various species of plant and animal which are considered rare across Europe. The Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2017 as amended (formerly The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)) and The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended).

The Wildlife and Countryside Act 1981 (as amended) is a key piece of national legislation which implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and implements the species protection obligations of Council Directive 2009/147/EC (formerly 79/409/EEC) on the Conservation of Wild Birds (EC Birds Directive) in Great Britain.

Since the passing of the Wildlife & Countryside Act 1981, various amendments have been made, details of which can be found on [www.opsi.gov.uk](http://www.opsi.gov.uk). Key amendments have been made through the Countryside and Rights of Way (CRoW) Act (2000).

Other legislative Acts affording protection to wildlife and their habitats include:

- Deer Act 1991;
- Countryside and Rights of Way (CRoW) Act 2000;
- Natural Environment & Rural Communities (NERC) Act 2006;
- Protection of Badgers Act 1992;
- Wild Mammals (Protection) Act 1996.

Species and species groups that are protected or otherwise regulated under the aforementioned domestic and European legislation, and that are most likely to be affected by development activities, include herpetofauna (amphibians and reptiles), badger, bats, birds,

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<sup>3</sup> Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora

dormouse, invasive plant species, otter, plants, red squirrel, water vole and white clawed crayfish.

Explanatory notes relating to species protected under The Conservation of Habitats and Species Regulations 2017 (as amended) (which includes smooth snake, sand lizard, great crested newt and natterjack toad), all bat species, otter, dormouse and some plant species) are given below. These should **be read in conjunction with the relevant species sections that follow.**

- In the Directive, the term 'deliberate' is interpreted as being somewhat wider than intentional and may be thought of as including an element of recklessness.
- The Conservation of Habitats and Species Regulations 2017 (as amended) does not define the act of 'migration' and therefore, as a precaution, it is recommended that short distance movement of animals for e.g. foraging, breeding or dispersal purposes are also considered.
- In order to obtain a European Protected Species Mitigation (EPSM) licence, the application must demonstrate that it meets all of the following three 'tests': i) the action(s) are necessary for the purpose of preserving public health or safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequence of primary importance for the environment; ii) that there is no satisfactory alternative and iii) that the action authorised will not be detrimental to the maintenance of the species concerned at a favourable conservation status in their natural range.

## Birds

With certain exceptions, all birds, their nests and eggs are protected under Sections 1-8 of the Wildlife and Countryside Act 1981 (as amended). Among other things, this makes it an offence to:

- Intentionally kill, injure or take any wild bird;
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built;
- Intentionally take or destroy an egg of any wild bird:
- Sell, offer or expose for sale, have in his possession or transport for the purpose of sale any wild bird (dead or alive) or bird egg or part thereof.

Certain species of bird, for example the barn owl, black redstart, hobby, bittern and kingfisher receive additional special protection under Schedule 1 of the Act and Annex 1 of the European Community Directive on the Conservation of Wild Birds (2009/147/EC). This affords them protection against:

- Intentional or reckless disturbance while it is building a nest or is in, on or near a nest containing eggs or young;
- Intentional or reckless disturbance of dependent young of such a bird.

#### *How is the legislation pertaining to birds liable to affect development works?*

To avoid contravention of the Wildlife and Countryside Act 1981 (as amended), works should be planned to avoid the possibility of killing or injuring any wild bird, or damaging or destroying their nests. The most effective way to reduce the likelihood of nest destruction in particular is to undertake work outside the main bird nesting season which typically runs from March to August<sup>4</sup>. Where this is not feasible, it will be necessary to have any areas of suitable habitat thoroughly checked for nests prior to vegetation clearance.

Those species of bird listed on Schedule 1 are additionally protected against disturbance during the nesting season. Thus, it will be necessary to ensure that no potentially disturbing works are undertaken in the vicinity of the nest. The most effective way to avoid disturbance is to postpone works until the young have fledged. If this is not feasible, it may be possible to maintain an appropriate buffer zone or standoff around the nest.

#### **Bats**

All species of bat are fully protected under The Conservation of Habitats and Species Regulations 2017 (as amended) through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species (e.g. all bats)
- Deliberate disturbance of bat species as:
  - a) to impair their ability:
    - to survive, breed, or reproduce, or to rear or nurture young;
    - to hibernate or migrate
  - b) to affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

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<sup>4</sup> It should be noted that this is the main breeding period. Breeding activity may occur outside this period (depending on the particular species and geographical location of the site) and thus due care and attention should be given when undertaking potentially disturbing works at any time of year.

- Keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part thereof.

Bats are also protected under the Wildlife and Countryside Act 1981 (as amended) in respect to sub-sections 9 (4) (b) and (c) and 9 (5) through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance while in their place of shelter (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

#### *How is the legislation pertaining to bats liable to affect development works?*

The appropriate licence issued by the relevant countryside agency (e.g. Natural England, Natural Resources Wales) will be required for works liable to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licence is to derogate from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Though there is no case law to date, the legislation may also be interpreted such that, in certain circumstances, important foraging areas and/or commuting routes can be regarded as being afforded protection, for example, where it can be proven that the continued usage of such areas is crucial to maintaining the integrity and long-term viability of a bat roost<sup>5</sup>.

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<sup>5</sup> Garland & Markham (2008) Is important bat foraging and commuting habitat legally protected? Mammal News, No. 150. The Mammal Society, Southampton.

## Appendix 3: SQE CV

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## WENDY MCFARLANE

### PRINCIPAL ECOLOGIST

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Wendy McFarlane MA MSc MCIEEM is an ecologist with 16 years' experience in consultancy. Wendy oversees the numerous projects in and around London including extended Phase 1 habitat surveys and multi-species surveys across the UK for both public and private sector schemes, including rail, power, energy and residential infrastructure in the majority of London's Boroughs. Her particular strength is client liaison coupled with an ability to manage a high turnover of diverse project types. Wendy's responsibilities extend to managing ecology survey budgets for larger infrastructure projects such as Thames Tideway.

She is experienced in carrying out habitat surveys, and has an expertise in botanical surveys and advising on protected species (in accordance with best practise guidelines). As a Principal Ecologist for the Ecology Consultancy Wendy manages a project team of 20 in the delivery of protected species surveys and technical reports. Wendy will also be responsible for project management and client liaison including attendance of meetings, budget and programme management, quality assurance and the approval of reports.

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THE PROFESSIONAL QUALIFICATIONS	<b>Chartered Institute of Ecology and Environmental Management (CIEEM)</b> , Full member, 2008 <b>Construction Skills Certification Scheme (CSCS) Card</b> , 2015 <b>Field Identification Skills Certificate (FISC) Level 4</b> , 2010
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EDUCATION	<b>MSc</b> Environmental Management, Surrey University, 2001 <b>MA (Hons)</b> Countryside and Environmental Management, Aberdeen University, 1998
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PROFESSIONAL HISTORY	<b>Principal ecologist</b> , The Ecology Consultancy, May 2016 – present <b>Senior ecologist</b> , The Ecology Consultancy, May 2013 – April 2016 <b>Ecologist</b> , The Ecology Consultancy, May 2008 – April 2013 <b>Field Surveyor</b> , Centre for Hydrology and Ecology, April 2007 – November 2007 <b>Ecologist</b> , Catherine Bickmore Associates, August 2006 – February 2007
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KEY SKILLS & EXPERIENCE	Project management and input into project delivery Client liaison and involvement at design stages Support at Public Inquiry, including input into ecological statements
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Phase 1 habitat and NVC surveys, Phase 2 surveys BREEAM & CfSH assessments

Project management, including stakeholder engagement / liaison

Production of fee quotes, PQQs and tender documents

Production of EclA and Environmental Statements

Building Environmental Assessment Tools including BREEAM and CfSH

Staff management/training

Business development and tender production

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## SELECTED PROJECTS

### **Tideway (2016 – to present)**

A 25 kilometre section of new sewer for London to prevent the frequent pollution of the River Thames making this the largest infrastructure project undertaken by the UK water industry. Twenty four construction sites have been required to enable the main tunnelling work in 2016 of which The Ecology Consultancy was commissioned to carry out ecological, arboricultural and aquatic services on six of the sites along the eastern section. Surveys to date have included: initial site visits, advice on TPO's and root protection zones and fish rescue works. As Project Manager I have ensured last minute requests have been resourced within 24 hours and provided cover for additional surveys outside the original commission at short notice.

### **London Natural History Museum (2016)**

The Natural History Museum within the Royal Borough of Kensington and Chelsea is one of the world's foremost institutions dedicated to the research and explanation of the natural world. Attendance at numerous meetings was required to ensure the redesign of the 'Wildlife Garden' a non-statutory designated Site of Importance for Nature Conservation was ecological sound whilst encouraging a greater footfall. The overall aim being to demonstrate the importance of green space in an urban context.

### **Dalston and New Cross / New Cross Gate (2012-2015)**

A walk-over of the above ground sections of the East London Line to assess the current biodiversity value and potential for protected, BAP and other notable species and a review of the ecological enhancements installed. The information gathered was used to provide a Biodiversity Action Plan and further recommendations were provided, alongside a long term management plan.

### **Canal Park, Queen Elizabeth Olympic Park (2014)**

Lead ecologist for the Canal Park, Design Framework Guide. Involved a baseline survey including a Preliminary Ecological Appraisal and an Ecological and Green Infrastructure Study providing ecological enhancement suggestions in keeping with the River Lea. Included input and reviews of the landscape plans to ensure the enhancements were in line with the Olympic BAP 2014 criteria.

### **North and East London Line (2012-2013)**

Undertook scoping surveys of station and stabling sites across the North and London Railway Line to inform platform and line extension works. These ecological scoping surveys in combination with a suite of other environmental surveys were used to create impact assessments, inform route optioneering for stabling sites and inform development proposals.

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### **Croydon Tramlink Mitcham – Mitcham Junction section of track (October 2012)**

Carried out an ecological scoping survey to record principal habitats and dominant plant species at the site as well as the checking for signs of protected species, in particular badger, bats, birds, reptiles and great crested newt being present, including marking trees with bat potential.

### **London Gateway Power Corridor (2012)**

Conducted scoping surveys and an appraisal of the different routes proposed to facilitate the London Gateway Development power substation and associated power cable. This included carrying out baseline habitat and botanical surveys and managing a suite of Phase 2 for great crested newts, reptiles and water vole.

### **Tilbury Loop, C2C Line (2010-2011)**

Undertaking ecological scoping surveys on the C2C line in Essex. Assessing potential to support a range of protected species including bats, GCN, badgers, reptiles and breeding birds. The results of the ecological surveys were then used to inform the development proposal and formulate a suitable mitigation strategy.

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# ***CERTIFICATE OF MEMBERSHIP***

**Miss Wendy McFarlane**

*has been admitted  
to the  
Institute of Ecology and  
Environmental Management  
in the*

**Full Membership**

*Grade*

*Andy Tasker*

*President*

**2<sup>nd</sup> September 2008**

*Date of Admission*

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