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Construction and Environmental Management Plan

Site Name

Shripney Road

Client

Bersted Parish Council

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Author

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This report has been prepared/ reviewed by Emma Baker, who is a Senior ecologist with eight years' experience. She holds Level 1 great crested newt and hazel dormouse survey licences. As a Full member of the Chartered Institute for Ecology and Environmental Management (CIEEM), she is bound by their code of professional conduct.

About the Reviewer

This report has been reviewed by Kate Priestman, who is a Principal Ecologist with over twenty years' experience. Kate has undertaken extensive survey work and reporting, encompassing a breadth of deliverables, and prepared European Protected Species licences for numerous schemes. As a Full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and a Chartered Environmentalist (CEnv), she is bound by CIEEM's code of professional conduct.

Report Summary

Purpose	The Ecology Co-operation was commissioned by Bersted Parish Council to produce a Construction Environmental Management Plan (CEMP) for a two-part proposal. This includes reinforcement of a ditch and associated works to the rear of three residential properties in Shripney Road, Bognor Regis (Site A), in order to prevent bank collapse and rear garden subsidence as well as compensatory habitat creation upon land at Bersted Brooks Local Nature Reserve (LNR) (Site B), which is 750m south-west of Site A. This document outlines site-wide mitigation for on-site and adjacent Priority Habitats as well as protected species. It will be submitted to Bersted Parish Council with regards to condition 4 of the approved planning application (ref. BE/103/24/PL).
Context	A water vole survey was undertaken by The Ecology Co-op in May and June 2024 at Site A. This identified that water voles were not present within this section of the ditch during the surveys and that the habitat present is of low value to water voles but given their presence in the rest of the ditch network, they may commute through the area. A deceased water vole was found floating in the ditch. The site was also concluded to be of low value to badgers, reptiles and amphibians, but may support nesting birds within scrub, tree and hedgerow habitats. A Preliminary Ecological Appraisal was undertaken by The Ecology Co-op in February 2025 at Site B. This found that floodplain grazing marsh (Section 41 Priority Habitat), is located 150m north-west and the site is included within Bersted Brooks LNR. The site was also found to have habitat suitable for herptiles, commuting and foraging bats, ground nesting birds and wetland birds. A Combined Biodiversity Impact Calculation & River Condition Assessment and accompanying report were produced by The Ecology Co-op. This identified that the proposed off-site compensation at Site B would result in a likely net gain of 0.83 habitat units (+ 395.5%), 0.13 hedgerow units (+ 90.85%), and 0.15 watercourse units (+41.09%).
Construction Housekeeping	Section 3 of this report outlines general construction housekeeping measures, toolbox talks and responsible persons on site including an Ecological Clerk of Works (ECoW).
Ditch and Priority Habitat Floodplain and grazing marsh impact avoidance	Section 4 of this report outlines measures to prevent significant effects on the ditch at Site A as well as Bersted Brooks Local Nature Reserve LNR and Priority Habitat Floodplain grazing marsh at Site B including the use of Heras fencing, dust suppression measures and avoidance of hydrological pollution pathways.
Protected species impact avoidance	Section 5 of this report outlines measures to prevent harm to protected species during the construction works. This includes precautionary measures to protect water voles, bats, breeding birds and herptiles.
Toolbox talk	Site staff must be briefed, prior to the commencement of construction, on the ecological issues related to the project and the importance of contacting an ecologist in the event that any wildlife is identified within the construction zone. An ECoW will provide a Toolbox Talk prior to commencement of any works.

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1 INTRODUCTION

1.1 Purpose of the Report

The Ecology Co-operation was commissioned by Bersted Parish Council to produce a Construction Environmental Management Plan (CEMP) for a two-part proposal. This includes reinforcement of a ditch and associated works to the rear of three residential properties in Shripney Road, Bognor Regis (Site A), in order to prevent bank collapse and property (rear garden) subsidence as well as compensatory habitat creation upon land at Bersted Brooks Local Nature Reserve (LNR) (Site B), which is 750m south-west of Site A. This document outlines site-wide mitigation for on-site habitats as well as protected species. It will be submitted to Bersted Parish Council with regards to condition 4 of the approved planning application (ref. BE/103/24/PL) which is as follows:

"No development shall take place, until a construction environmental management plan (CEMP: Biodiversity) has been submitted to and approved in writing by the Local Planning Authority. The CEMP (Biodiversity) shall include the following.
1. Risk assessment of construction activities potentially damaging to biodiversity.
2. Identification of "biodiversity protection zones".
3. Practical measures (both physical measures and sensitive working practices) to avoid or reduce ecological impacts during construction (may be provided as a set of method statements).
4. The location and timing of sensitive works to avoid harm to biodiversity features.
5. The times during construction when specialist ecologists need to be present on site to oversee works.
6. Responsible persons and lines of communication.
7. The role and responsibilities on site of an ecological clerk of works (ECoW) or similarly competent person.
8. Use of protective fences, exclusion barriers and warning signs.
9. Containment, control, and removal of any invasive non-native species present on site.
The approved CEMP (Biodiversity) shall be adhered to and implemented throughout the construction period strictly in accordance with the approved details, unless otherwise agreed in writing by the Local Planning Authority.

Reason: To conserve protected and Priority species and allow the Local Planning Authority to discharge its duties under the Conservation of Habitats and Species Regulations 2017 (as amended), the Wildlife & Countryside Act 1981 (as amended), s40 of the Natural Environment and Rural Communities Act 2006 (Priority habitats & species), and Arun Local Plan policy ENV DM5. This is required to be a pre-commencement condition as otherwise there could be a risk of harm to protected species and their habitat."

The prescribed mitigation measures described within this document will be issued to relevant works contractors to ensure that they are carried out in full. Implementation of this will be overseen by a suitable ecological consultancy, and the works contractor will be given contact details for an ecologist so that any issues can be resolved promptly.

1.2 Background

Site A includes a 100m stretch of ditch running along the boundary of three rear gardens of residential properties on Shripney Road, Bognor Regis, West Sussex PO22 9NW. The central grid reference for the site is SU 93825

01916. Site B includes an area of land 750m south-west of Site A where two new ditches will be created off the northern bank of Aldingbourne Rife River in Bersted Brooks LNR, Gladius Way, Bognor. The central grid reference for Site B is SU 93113 01564. The location of both Site A and Site B is shown in Figure 1.

Site A comprises a 100m length of ditch to the rear of three residential gardens. The ditch has steep sided banks, particularly on the western bank, meaning that whilst some marginal aquatic vegetation is present, this is limited. The top of the bank borders tightly grazed pasture on the western side and the gardens of residential properties on the eastern side. Part of the eastern bank at the northern end is already reinforced and lacks any vegetative growth. Hemlock water-dropwort *Ooanthe crocata* formed the most abundant vegetative cover along the banks of the ditch, with some water mint *Mentha aquatica* and brooklime *Veronica beccabunga* within the margins of the watercourse. Brambles *Rubus fruiticosus* and some common nettle *Urtica dioica* growth forms dense cover in places around the top of the banks.

Site B comprises river habitat and other neutral grassland of poor condition, situated on the left bank, north of the river. The Site B river works redline boundary is located within the Bersted Brooks LNR. The following plant species were recorded within the grassland habitat: perennial ryegrass *Lolium perenne,* common reed *Phragmites australis*, *white clover Trifolium repens,* ribwort plantain *Plantago* lanceolata, creeping buttercup *Ranunculus repens*, dockweed *Rumex* sp., bristly oxtongue *Helminthotheca echioides*, purple-loosestrife, *Lythrum salicaria*, and lesser celandine *Ficaria verna*.

This is two-part proposal. It includes reinforcement of a ditch and associated works to the rear of three residential properties in Shripney Road, Bognor Regis (Site A), in order to prevent bank collapse and rear garden subsidence. This will also include removal of vegetation, replacement of a footbridge, culvert and fencing. It also comprises compensatory habitat creation upon land at Bersted Brooks LNR (Site B), which is 750m south-west of Site A (see Figure 3). This will include the creation of 2 no. 35m long sections of watercourse, connected to the north bank of the Aldingbourne Rife and the incorporation of culverts and handrails to form pedestrian crossings of the new watercourses, adjacent to the main river channel. This will not only provide compensation for the works on Site A, but also create more natural watercourse bank and channel capacity.

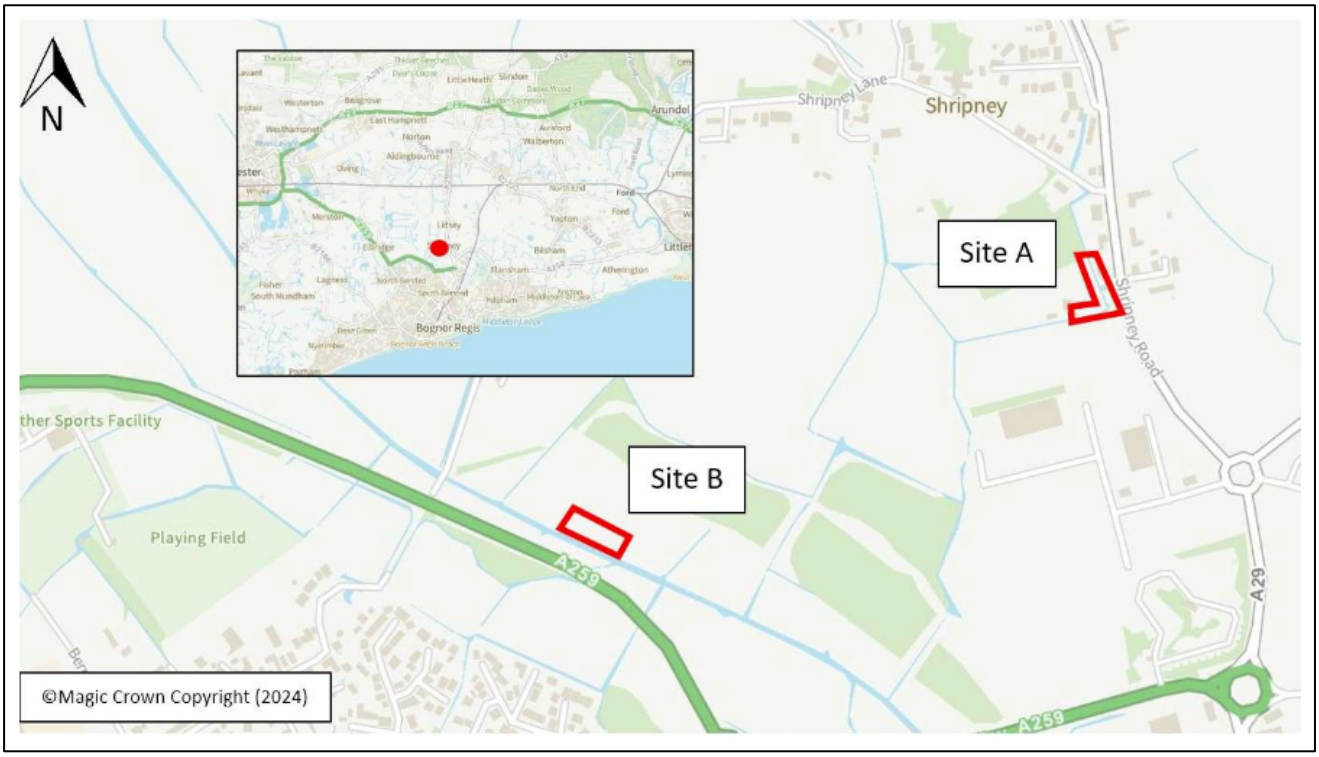


Figure 1. An aerial image showing the location of both Site A (the main development) and Site B (where the off-site compensation will occur). Images produced courtesy of MAGiC Maps (http://www.magic.gov.uk/, contains public sector information licensed under the Open Government Licence v3.0).



Figure 2. An aerial image showing the location of Site A. The approximate site boundary is outlined in red. Image produced courtesy of Google maps (map data ©2020 Google).



Figure 3. Aerial image showing the location of Site B, whose approximate work area boundary is indicated in red.

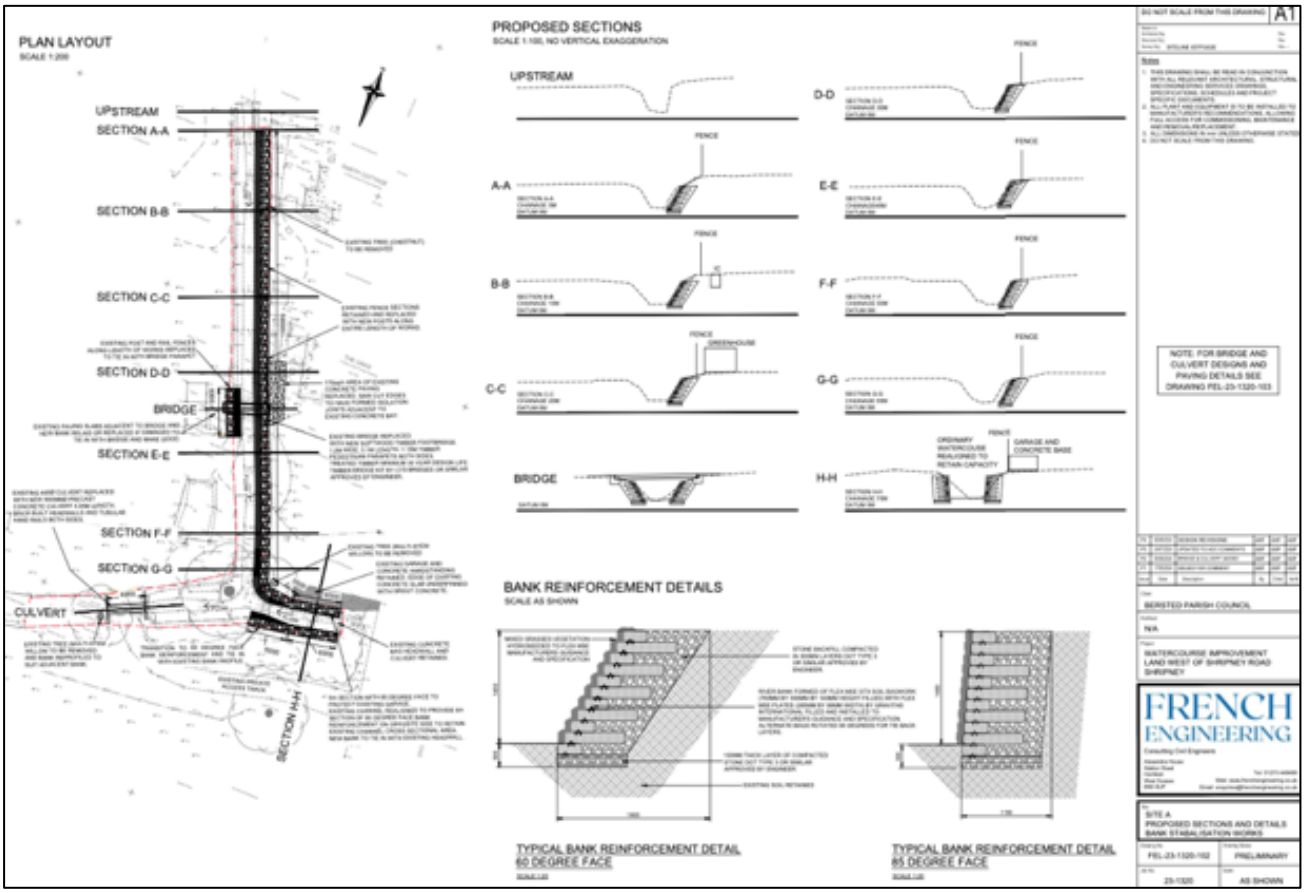


Figure 4. Proposed scheme layout for the development at Site A, reproduced from French Engineering, drawing number FEL-23-1320-102.

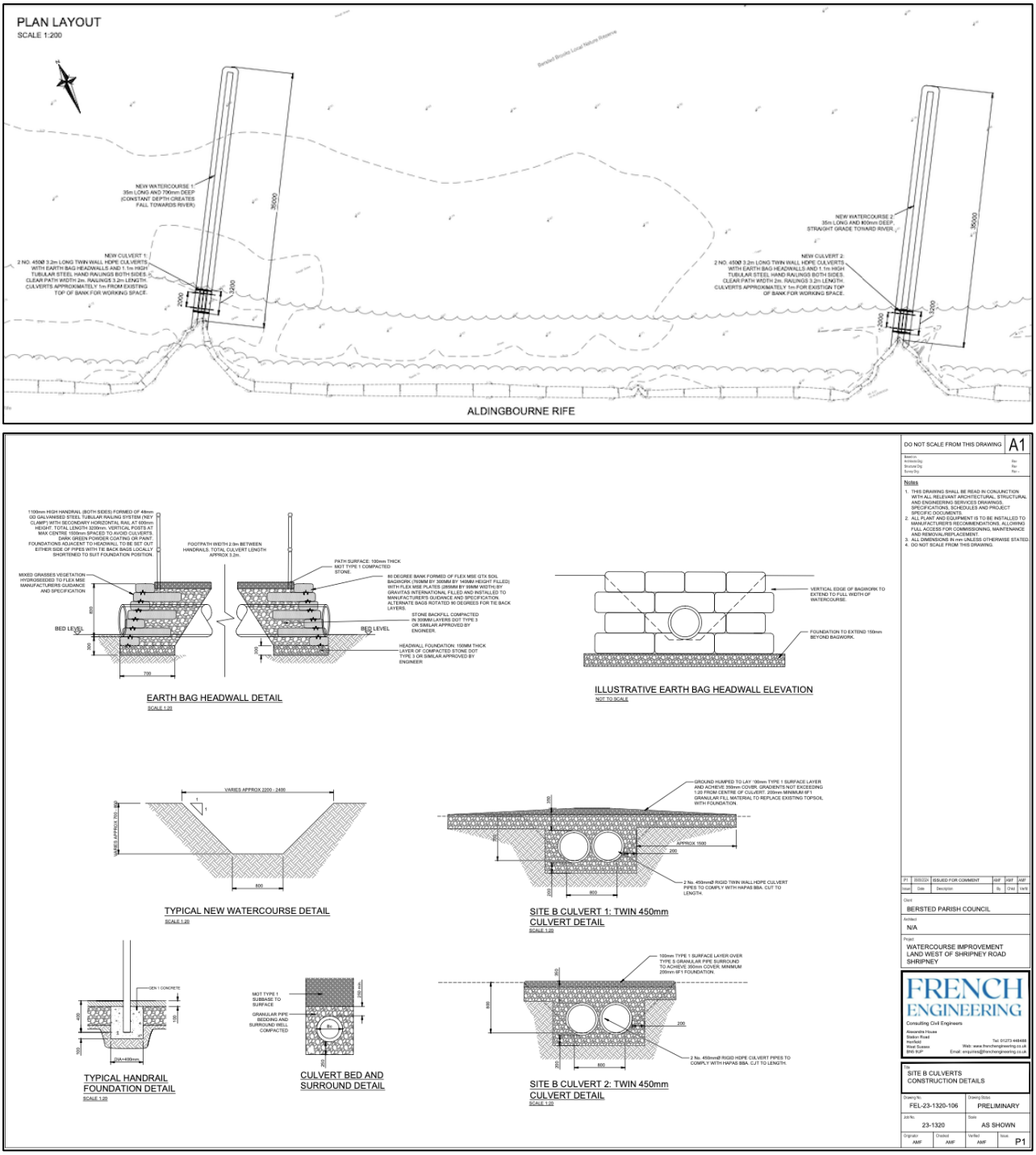


Figure 5. Proposed scheme layout for the development at Site B, Land west of Shripney Road. Plans produced courtesy of French Engineering, dated year 2024.

1.3 Summary of Previous Survey Work

A water vole *Arvicola amphibius* survey was undertaken by The Ecology Co-op[1] in May and June 2024 at Site A. This identified that water voles were not present within this section of the ditch during the surveys and that the habitat present is of low value to water voles but given their presence in the rest of the ditch network, they may commute through the area. The site was also concluded to be of low value to badgers *Meles meles*, reptiles and amphibians, but may support nesting birds.

A Preliminary Ecological Appraisal was undertaken by The Ecology Co-op[2] in February 2025 at Site B. This found that floodplain grazing marsh (Section 41 Priority Habitat), is located 150m north-west and the Bersted Brooks LNR scrub and woodland habitat is located 120m north of Site B. The site was also found to have habitat suitable for reptiles, commuting and foraging bats, ground nesting birds and wetland birds.

A combined Biodiversity Impact Calculation & River Condition Assessment and accompanying report were produced by The Ecology Co-op[3]. This identified that the proposed off-site compensation at Site B would result in a likely net gain of 0.83 habitat units (+ 395.5%), 0.13 hedgerow units (+ 90.85%), and 0.15 watercourse units (+41.09%).

2 LEGAL PROTECTION

Legal protection applying to relevant bird, mammal and herpetofauna species is detailed in Appendix 1 of this report. This includes both national and European legislation that protects badgers, bats, dormice, reptiles, and breeding birds.

3 GENERAL CONSTRUCTION HOUSEKEEPING

The following general measures must be implemented during construction to prevent negative impacts to habitats and wildlife as a result of development works:

- chemicals, liquids, fuel oils or waste products, leachates or surface water used or produced by the development should be stored and disposed of correctly according to COSHH regulations. No chemicals will be allowed to leak on to the sites at any time;
- security lighting should be directed away from all natural habitats (if required);
- all vehicles must stay within the works and access areas avoiding habitats which are being retained;
- a tool-box talk will be given to the building contractors prior to any works commencing which will detail the protection afforded to protected species which may be present on site, instructions for the approach taken and the reasons why. This method of works will be made available to the project team, construction contractors and upon request by any third party with legitimate interest in the works to serve as a reference copy and must remain on site at all times;

[1] The Ecology Co-op (2024). Letter Report - *Water Vole survey of the wet Ditch at Shripney Road, Bognor Regis.*
[2] The Ecology Co-op (2025). *Preliminary Ecological Appraisal - Shripney Road River Works, Site B, Bognor Regis.*
[3] The Ecology Co-op (2025). *Shripney Road River Works - Combined Biodiversity Impact Calculation & River Condition Assessment.*

- under no circumstance will a member of the building/construction team handle protected species. If the ecologist is absent when an animal is discovered, then a licensed ecologist must be contacted immediately for advice;
- appropriate signage will be affixed to the Heras fencing to alert all site visitors to remain within the works area only and not to enter adjacent habitats.

4 HABITAT IMPACT AVOIDANCE

For Site A the works area will be accessed from the private road adjacent to the south of The Oaks and the existing culvert provides access to the field on the western bank of the river. Works access will be undertaken from the western bank for materials delivery and access for plants. Turning is available within the field[4]. Access for Site B is via the gated maintenance entrance from Shripney Lane to the west of the site and vehicles can turn within the site[5].

It is likely that the works will require hand tools for vegetation removal and that diggers/excavators will be used to remove substrate on Site A and Site B. Dump trucks will also likely be required to remove the excavated substrate from the site.

Site B sits within Bersted Brooks LNR and is 150m north-east of Priority Habitat floodplain grazing marsh (see Figure 3). It is also adjacent to Aldingbourne Rife which is a Main River. Site A is not designated, but includes a ditch and its banks may support protected species as well as having connectivity to further similar habitat. As such, great care must be taken to prevent direct physical damage from tracking vehicles and trampling, or through indirect impacts from construction activities such as dust deposition and air and hydrological pollution.

[4] French Engineering (2024). *Design Statement – Riverbank Reinforcement, Shripney Road, Shripney.*
[5] French Engineering (2024). *Design Statement – New Watercourses, Bersted Brooks, Bognor Regis.*

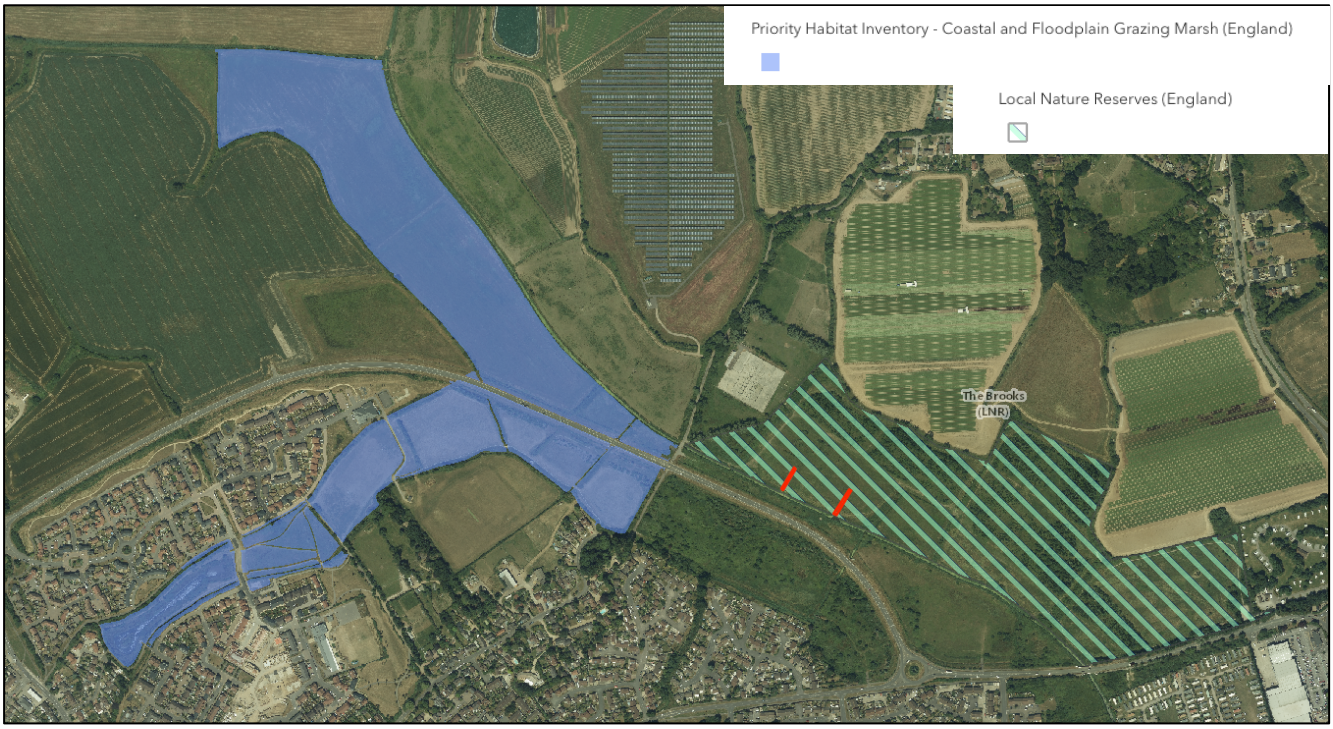


Figure 6. Map showing location of Site B relative to the LNR and floodplain and grazing marsh which will need protection throughout the works. Image produced courtesy of Magic maps (http://www.magic.gov.uk/, contains public sector information licensed under the Open Government Licence v3.0).

4.1 Heras Fencing

Access, works and storage areas should be decided before commencement of works. These areas can then be demarcated with the installation of barrier fencing, such as Heras fencing or similar and permanent and temporary ground protection as required. The tracking of vehicles must stay within these designated zones throughout the duration of the works.

4.2 Dust Deposition and Pollution

The Heras fencing can be fitted with a membrane to reduce the spread of dust into the adjacent habitats. Additionally, to mitigate against the risk of high levels of suspended dust being produced, following periods of very dry weather or very windy days construction must be avoided where possible. Dust levels on the works area must be monitored closely and dust suppression must be carefully managed with dampening implemented through the use of hoses and sprinklers when there is a risk of elevated dust levels and a risk of deposition onto the adjacent watercourse habitats. Additionally, there must be no burning of vegetation or waste materials on site to ensure ash and other particulate matter does not settle within these habitats.

4.3 Hydrological Pollution

Though areas of the ditch on Site A and Aldingbourne Rife on Site B will need to be accessed in order to undertake the works, any areas of these watercourses where access is not required should have a 5m buffer zone from the habitat. No materials will be stored within 15m of the watercourses and on an impermeable surface, with drip trays

used and spill kits available to avoid the risk of contaminants leaching into the soil. Any wastewater run-off must also be directed to the nearest wastewater drain and away from the boundary with these habitats. All works will adhere to the Environment Agency's Pollution Prevention Guidelines[6] (note these guidelines have been withdrawn in 2015, however, in the absence of updated guidance, provide the most relevant advice regarding pollution prevention).

No invasive species have been identified on either site, but it is best practice to prevent the spread of disease and invasive species should they be present. Given there will be work within and within very close proximity to water on both Site A and B, biosecurity must be considered carefully. The following measures should be adhered to throughout the works on both sites:

- check your equipment and clothing after each visit to site;
- clean/wash boots and tools/plants and clothing thoroughly. If you do come across any organisms, leave *in situ*;
- tread carefully and be aware of surroundings;
- if invasive species are observed on site, stop work and notify the ECoW immediately; and
- ensure that all site visitors understand the biosecurity protocol. This can be reiterated within the Toolbox Talk by the ECoW.

5 PROTECTED SPECIES IMPACT AVOIDANCE

5.1 Water Vole

The Preliminary Ecological Appraisal[2] illustrated that the proposals to re-enforce a section of the ditch at Site A is highly unlikely to result in the destruction of water vole habitat. However, a precautionary approach is required to ensure that an offence is not committed, with a close inspection and hand search of the area of ditch to be re-enforced immediately prior to the commencement of these engineering works. This is to be overseen by an ECoW.

As general best practice, to reduce conflict risks to wildlife, the vegetation along the ditch should be removed under a phased process starting in the centre of the proposed construction zone, working upstream and downstream to encourage small mammals (such as field voles *Microtus agrestis*) and other wildlife away from locations where there would be construction activity.

In the highly unlikely event that evidence of a water vole burrow is found within the proposed zone of construction, then work would not be able to take place until a license has been obtained to legally permit the trapping and translocation of individuals from this section of the ditch. Should a water vole burrow be identified close to the zone of construction, or evidence of water vole activity be identified along the ditch, then a precautionary Method Statement would need to be produced to set out careful measures which will ensure the risk of disturbance and harm to water voles is minimised.

[6] Environment Agency (2007). *Pollution Prevention Guidelines – Works and maintenance near water PPG5.*

5.2 Bats

Artificial lighting can have a negative impact upon commuting and foraging bats, disturbing their flight paths. Though works are likely to only take place during the day, night work must be avoided to negate the need for lighting. If lighting is needed, lighting must be limited to active working areas only and follow guidance from the Bat Conservation Trust for a sensitive lighting scheme (see Appendix 2).

5.3 Breeding Birds

A number of trees are to be removed on Site A including two willows *Salix* sp. and a chestnut species, as well as areas of bramble scrub and native hedgerow. Vegetation will also likely require removal to facilitate the ditches on Site B. These habitats have the potential to support nesting birds. As works will likely take place in the nesting bird season (1st March to 31st August), precautionary measures will be necessary to prevent a breach of the Wildlife and Countryside Act 1981 (as amended). As such, any vegetation to be removed must be undertaken using hand tools only and all vegetation should first be hand searched by a suitably qualified ecologist and no active nests are found. If a nest is found, a minimum buffer of 5m must be maintained around the nest until all of the young have fledged safely. This work can be overseen by the ECoW (see section 5.1).

Noise can also cause disturbance to breeding birds. During the works to reinforce the bank, build the bridge and install the culvert on Site A and create ditches on Site B there may be impacts from noise and vibration. The Heras fencing (or similar) can be fitted with an Acoustic Barrier membrane. Additionally, machinery should be retrofitted with mufflers and silencing equipment must be used for groundwork. When machinery is not in use it should be switched off immediately and not left to idle as this will result in unnecessary noise and air pollution. Any materials must further be handled and placed with care to reduce noise and vibration. Additionally, the storage of materials 15m from these habitats (see section 4.3) will help to prevent traffic causing disturbance to any potential active nests.

5.4 Herptiles

The presence of herptiles cannot be discounted from the neutral grassland habitat that makes up Site B. Given the very small areas of grassland to be lost as a result of creating the two ditches, precautionary measures are considered sufficient in this case.

Prior to any other works commencing, the removal of the grassland habitat will be subject to a two-phase strim approach. The first strim would reduce the grass to 15cm in height to encourage any reptiles to move out of the area. A second pass would reduce the grass height to 5cm which would render the habitat unsuitable. The areas must then be maintained at this height or below until works commence. These works should be undertaken by or be overseen by the ECoW who is trained in the use of strimmers to ensure that the ‘two-phase strimming’ work is compliant, and no reptiles are harmed in the process. It is imperative that all cuttings are raked away and stored off the construction footprint to prevent hibernacula for reptiles from forming. Similarly, once any substrate has been excavated, it is best practice to move materials off site, to a skip or to nearby hardstanding areas to minimise the risk of the spoil being used for shelter. If this is not possible the material should be placed on a tarpaulin and be compacted to avoid gaps and spaces. Construction materials will be stored within the construction zone only or on hard standing and must not be placed directly on grassland where they may be accessible to reptiles to use

as a refuge. Building materials will be stored on pallets and raised off the ground, thus preventing the opportunity for reptiles or other small mammals to seek shelter within/beneath them.

6 CONCLUSIONS

Mitigation outlined within this CEMP includes general construction housekeeping measures, toolbox talks and responsible persons on site. It also outlines specific mitigation to prevent significant effects on the watercourses and surrounding habitats at Site A and Site B as well as specific measures to prevent harm to protected species during the works.

These measures must be adhered to at all times and an ecologist contacted immediately if any animals are found on site during the works.

APPENDIX 1 – Wildlife Legislation and National Planning Policy

Introduction

The following text is intended for general guidance only and does not constitute comprehensive professional legal advice. It provides a summary of the current legal protection afforded to wildlife in general and certain species. It includes current national planning policy relevant to nature conservation.

The 'Birds Directive', 'Habitats Directive' and 'Natura 2000 Sites'

The Council Directive 79/409/EEC on the Conservation of Wild Birds ("the Birds Directive") sets a framework for the protection of wild birds. Under the Directive, several provisions are made including the designation and protection of 'Special Protection Areas' (SPAs) – areas which support important bird populations, and the legal protection of rare or vulnerable species.

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the "Habitats Directive") directs member states of the EU to take measures to maintain the favourable conservation status of important habitats and species. This requires the designation of a series of sites which contain important populations of species listed on Annex II of the Directive (for example Bechstein's bat *Myotis bechsteinii*, Barbastelle bat *Barbastella barbastellus* and white-clawed crayfish *Austropotamobius pallipes*. Together with 'Special Areas of Conservation' (SACs), SPAs form a network across Europe of protected areas known as the 'Natura 2000 sites'.

Annex IV lists species in need of more strict protection, these are known as "European Protected Species (EPS)". All bat species, common dormice *Muscardinus avellana*, otter *Lutra lutra* and great crested newts *Triturus cristatus* are examples of EPS that are regularly encountered during development projects.

The 'Habitats Regulations'

The Conservation of Habitats and Species Regulations 2017, as amended (the "Habitats Regulations") is the principle means of transposing the Habitats Directive and the Birds Directive, and updates the Conservation (Natural Habitats, &c.) Regulations 1994 ("the 1994 regulations") in England and Wales.

'Natura 2000' sites, now known as National Site Network sites under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, receive the highest level of protection under the Regulations which requires that any activity within the zone of influence of these sites would be subject to a Habitats Regulations Assessment (HRA) by the competent authority (e.g. planning authority), leading to an Appropriate Assessment (AA) in cases where 'likely significant effects' to the conservation objectives are identified.

For European Protected Species, Regulation 41 makes it a criminal offence to:

- deliberately capture, injure or kill any such animal;
- deliberately disturb wild animals of such species;
- deliberately take or destroy their eggs (where relevant);
- damage or destroy a *breeding or resting place* of such an animal;
- possess, control, sell or exchange any live or dead animal or plant, of such species;
- deliberately pick, collect, cut, uproot or destroy a wild plant of such species.

The Habitats Directive and Habitats Regulations provide for the derogation from these prohibitions for specific reasons provided certain conditions are met. An EPS licensing regime allows operations that would otherwise be unlawful acts to be carried out lawfully. Natural England is the licensing Authority and, in order to grant a license, ensures that three statutory conditions (sometimes referred to as the 'three derogation tests') are met:

- a licence can be granted for the purposes of "preserving public health or safety or for other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment" (Regulation 53 (2) (e);
- a licence can be granted if "there are no satisfactory alternatives" to the proposed action;
- a licence shall not be granted unless the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

Wildlife and Countryside Act (1981) as amended.

This remains one of the most important pieces of wildlife legislation in the UK. There are various schedules to the Act protecting birds (Schedule 1), other animals including insects (Schedule 5), plants (Schedule 8), and control of invasive non-native species (Schedule 9).

Under the Wildlife and Countryside Act (WCA) 1981, all wild birds (with the exception of those listed on Schedule 2), their eggs and nests are protected by law and it is an offence to:

- take, damage or destroy the nest of any wild bird while it is in use or being built
- take or destroy the egg of any wild bird
- disturb any bird listed on Schedule 1, while it is nest building, or at a nest with eggs or young, or disturb the dependant young of any such bird.

Schedule 5 lists all non-avian animals receiving protection to a varied degree. At its strongest, the Act makes it an offence to intentionally kill, injure or take any wild animal listed on Schedule 5, and prohibits interference with places used for shelter or protection, or intentionally disturb animals while occupying such places. Examples of species with *full protection* include all EPS, common reptile species, water vole *Arvicola amphibius*, white-clawed crayfish *Austropotamobius pallipes* and Roman snail *Helix pomatia*. Other species are protected from sale, barter or exchange only, such as white letter hairstreak *Satyrium w-album*.

The Act makes it an offence to intentionally pick, uproot or destroy any plant or seed, and sell or possess any plant listed on Schedule 8. It is also an offence to intentionally uproot any wild plant not listed on Schedule 8 unless authorised [by the land owner]. Species on Schedules 5 and 8 are reviewed every 5 years when species can be added or removed.

Measures for the prevention of spreading non-native species which may be detrimental to native wildlife is included in the Act, which prohibits the release of animals or planting of plants into the wild of species listed on Schedule 9 (for example, Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandifera*, New Zealand Pygmyweed *Crassula helmsii*).

The Wildlife and Countryside Act 1981 (as amended) also prohibits certain inhumane methods of traps and devices for the capture or killing of wild animals and certain additional methods such as fixed trap, poisoning with gas or smoke, or spot-lighting with vehicles for killing species listed on Schedule 6 of the Act (this includes all bat species, badger, otter, polecat, dormice, hedgehog and red squirrel).

Natural Environment and Rural Communities (NERC) Act (2006)

The NERC Act (2006) created the statutory nature conservation body Natural England, and places a statutory duty on all public bodies, including planning authorities, under Section 40, to take, or promote the taking by others, steps to further the conservation of *habitats and species of principal importance for the conservation of biodiversity* in England (commonly referred to as the 'Biodiversity Duty'). This duty extends to all public bodies the biodiversity duty of Section 74 of the Countryside and Rights of Way (CROW) Act 2000, which placed a duty only on Government and Ministers. Section 41 of the NERC Act lists the habitats and species of principle importance. This includes a wide range of species from mosses, vascular plants, invertebrates through to mammals and birds. It originates from the priority species listed under the UK Biodiversity Action Plan (UK BAP) with some omissions and additions.

Environment Act (2021)

The Environment Act sets a target of halting the decline in species through the inclusion of a legally binding 2030 species abundance target. Aiming to restore natural habitats and enhance biodiversity, the Act requires new developments to improve or create habitats for nature (through mechanisms such as mandatory Biodiversity Net Gain), and tackle deforestation. Going forwards, UK businesses will need to look closely at their supply chains as amongst other measures they will be prohibited from using commodities associated with wide-scale deforestation. Woodland protection measures are also strengthened through the Act.

The Act enables the reform of the Habitats Regulations and further improves protection for nature through the establishment of Local Nature Recovery Strategies that support national Nature Recovery Networks. In addition, the Act provides for the production of Protected Site Strategies and Species Conservation Strategies, aimed at supporting the design and delivery of strategic approaches to deliver better outcomes for nature.

Protection of Badgers Act (1992)

The badger *Meles meles* is afforded specific legal protection in Britain under the Protection of Badgers Act (1992), and Schedule 6 of the Wildlife and Countryside Act 1981 (as amended) (see above).

Under this legislation, it is a criminal offence to:

- intentionally kill, injure, take, possess, or cruelly ill-treat, a badger, or to attempt to do so;
- interfere with a sett, by damaging or destroying it;
- to obstruct access to, or any entrance of, a badger sett; or
- to disturb a badger when it is occupying a sett.

A licence may be obtained from Natural England to permit certain prohibited actions for a number of defined reasons including interference of a sett for the purpose of development, provided that a certain number of conditions are met. Note that licenses are not normally granted for works affecting badgers between the end of November and the start of July.

National Planning Policy Framework

The National Planning Policy Framework (NPPF 2024)[7] sets out the Government's view on how planners should balance nature conservation with development and helps ensure that Government meets its biodiversity

[7] HM Government (2024). National Planning Policy Framework. Department for Communities and Local Government. Available online at: https://assets.publishing.service.gov.uk/media/675abd214cbda57cacd3476e/NPPF-December-2024.pdf.

commitments with regard to the operation of the planning system.

Paragraph 192, states that council plans should "*promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity*."

The Office of the Deputy Prime Minister (ODPM) Circular 06/2005, 2005) [8]. In accordance with the NPPF, it is important that developments should contribute to and enhance the natural and local environment by:

- minimising impacts on existing biodiversity and habitats;
- providing net gains in biodiversity and habitats, wherever possible;
- establishing coherent ecological networks that are more resilient to current and future pressures.

UK Post-2010 Biodiversity Framework

The UK Biodiversity Action Plan (UK BAP), first published in 1994, was the UK's response to the commitments of the Rio Convention on Biological Diversity (1992) until 2010, when the UK BAP was replaced by the UK Post-2010 Biodiversity Framework. This framework covers the period 2011 to 2020 and forms the UK government's response to the new strategic plan of the United Nations Convention on Biodiversity (CBD) published in 2010. This promotes a focus on individual countries delivering target for protection for biodiversity through their own strategies.

The most recent biodiversity strategy for England, 'Biodiversity 2020: A strategy for England's wildlife and ecosystem services' was published by Defra (2011), and a progress update was provided in July 2013 (Defra 2013).

'Biodiversity 2020' builds on the Natural Environment White Paper for England – 'The Natural Choice', published on 7 June 2011, and sets out the strategic direction for biodiversity policy for the next decade.

Biodiversity 2020 deliberately avoids setting specific targets and actions for local areas and species because the Government believes that local people and organisations are best placed to decide how to implement the strategy in the most appropriate way for their local area or situation.

Birds of Conservation Concern (BoCC)

In 1996, the UK's leading non-governmental bird conservation organisations listed the conservation status of all bird species in the UK against a series of criteria relating to their population size, trends and relative importance to global conservation. The lists, known as the 'Red', 'Amber' and 'Green' lists (in order of decreasing concern) are used to inform key conservation policy and decisions. The lists are reviewed every five years and are a useful reference for determining the current importance of a particular site for birds. The most recent review was undertaken in 2021 (Stanbury et al, 2021), which provides an up to date assessment of the conservation status of birds in the UK.

[8] HM Government (2005) ODPM Circular 06/05 Government Circular: *Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System*. Available online at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf.

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Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the "Habitats Directive"). Available at: http://jncc.defra.gov.uk/page-1374

The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations"). Available at: http://jncc.defra.gov.uk/page-1379

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Defra (2013) Progress Update. Available at: www.gov.uk/government/publications/biodiversity-2020-simple-guide-and-progress-update-july-2013.

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APPENDIX 2 – Reducing Impacts of Artificial Light

Bright external lighting can have a detrimental impact upon foraging and commuting bat flight paths, but more importantly can also cause bats to remain in their roosts for longer. Artificial lighting can also cause significant impacts to other nocturnal species, most notably moths and other nocturnal insects. It can also result in disruption of the circadian rhythms of birds, reducing their fitness.

Guidelines issued by the Bat Conservation Trust[9] should be referred to when designing the lighting scheme. Note that lighting designs in very sensitive areas should be created with consultation from an ecologist and using up-to-date bat activity data where possible. The guidance contains techniques that can be used on all sites, whether a small domestic project or larger mixed-use, commercial or infrastructure development. This includes the following measures:

Avoid lighting key habitats and features altogether

There is no legal duty requiring any place to be lit. British Standards and other policy documents allow for deviation from their own guidance where there are significant ecological/environmental reasons for doing so. It is acknowledged that in certain situations lighting is critical in maintaining safety, such as some industrial sites with 24-hour operation; however, in the public realm, while lighting can increase the perception of safety and security, measurable benefits can be subjective. Consequently, lighting design should be flexible and be able to fully consider the presence of protected species.

Apply mitigation methods to reduce lighting to agreed limits in other sensitive locations – lighting design considerations

Where bat habitats and features are considered to be of lower importance or sensitivity to illumination, the need to provide lighting may outweigh the needs of bats. Consequently, a balance between a reduced lighting level appropriate to the ecological importance of each feature and species, and the lighting objectives for that area will need to be achieved. The following are techniques which have been successfully used on projects and are often used in combination for best results:

- dark buffers, illuminance limits and zonation;
- sensitive site configuration, whereby the location, orientation and height of newly built structures and hard standing can have a considerable impact on light spill;
- consideration of the design of the light and fittings, whereby the spread of light is minimised ensuring that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required. Consideration should be given to the height of lighting columns. It should be noted that a lower mounting height is not always better. A lower mounting height can create more light-spill or require more columns. Column height should be carefully considered to balance task and mitigation measures. Consider no lighting solutions where possible such as white lining, good signage, and LED cats eyes. For example, light only high-risk stretches of roads, such as crossings and junctions, allowing headlights to provide any necessary illumination at other times;
- screening, whereby light spill can be successfully screened through soft landscaping and the installation of walls, fences and bunding;
- glazing treatments, whereby glazing should be restricted or redesigned wherever the ecologist and

[9] Bat Conservation Trust and Institute for Lighting Professionals (2018) Guidance note 8. Bats and Artificial Lighting. https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/

lighting professional determine there is a likely significant effect upon key bat habitat and features;

- creation of alternative valuable bat habitat on site, whereby additional or alternative bat flightpaths, commuting habitat or foraging habitat could result in appropriate compensation for any such habitat being lost to the development;
- dimming and part-night lighting. Depending on the pattern of bat activity across the key features identified on site it may be appropriate for an element of on-site lighting to be controlled either diurnally, seasonally or according to human activity. A control management system can be used to dim (typically to 25% or less) or turn off groups of lights when not in use.

Demonstrate compliance with illuminance limits and buffers

- *Design and pre-planning phase*; it may be necessary to demonstrate that the proposed lighting will comply with any agreed light-limitation or screening measures set as a result of your ecologist's recommendations and evaluation. This is especially likely to be requested if planning permission is required.
- *Baseline and post-completion light monitoring surveys*; baseline, pre-development lighting surveys may be useful where existing on or off-site lighting is suspected to be acting on key habitats and features and so may prevent the agreed or modelled illuminance limits being achieved.
- *Post-construction/operational phase compliance-checking;* as a condition of planning, post-completion lighting surveys by a suitably qualified person should be undertaken and a report produced for the local planning authority to confirm compliance. Any form of non-compliance must be clearly reported, and remedial measures outlined. Ongoing monitoring may be necessary, especially for systems with automated lighting/dimming or physical screening solutions.

Lighting Fixture Specifications

The Bat Conservation Trust recommends the following specifications for lighting on developments to prevent disturbance:

- lighting spectra: peak wavelength >550nm
- colour temperature: <2700k (warm)
- reduction in light intensity
- minimal UV emitted
- upward light ratio of 0% and good optical control.

Further reading:

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