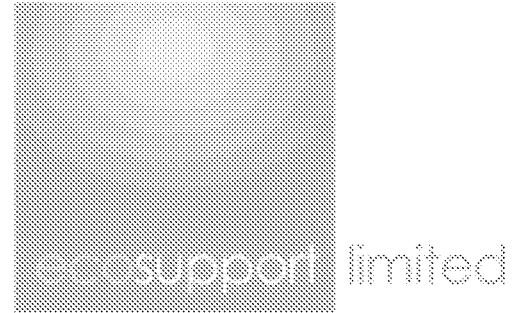


ecological support,
management and solutions



Land south of Sundown

Littleheath Road

Phase I Ecological Survey

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Date of Issue: Updated 14th September 2020

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1.0 INTRODUCTION

1.1 Brief

Ecosupport Ltd was commissioned by Richard and Amanda Brooks to conduct a Phase I Ecological Survey of the land south of Sundown. This survey was required to identify any ecological impacts that may arise from the proposed construction of a new dwelling on site.

This document has been prepared in order to ensure the proposed development fully complies with nature conservation legislation and policy where applicable.

This survey takes no account of seasonal variation and fluctuations in the presence of any species noted that might take up residence following this report. Lack of signs of a particular species does not confirm its absence, merely that there was no indication of its presence during the time of survey.

Data contained within this report will be valid for 24 months, after which the advice of a suitably experienced ecologist must be sought as surveys may require updating if the proposed works have not been undertaken.

1.2 Aim

A Phase I Habitat Survey is the first step in assessing the potential ecological effects (or lack of) of a proposed development, and determines whether or not (and which) Phase II Protected Species Surveys are required. The objectives of this survey were as follows:

- Identify current land use and distribution of broad habitat types including plant communities of ecological importance
- Identify and classify any priority habitats
- Assess the ecological value of the site
- Identify any signs of protected species and potential features that may support them
- Identify all relevant legislation and policy
- Make recommendations for further survey work as appropriate
- Make recommendations for appropriate enhancements.

1.3 Site Location

The site is located in Fontwell, BN180SR (Grid Reference SU 94543 07685). The site is bound by residential dwellings and associated garden space to the north, east and south with Littleheath Road running along the western boundary. The wider landscape is of a rural nature consisting of agricultural land and infrastructure, low density residential development and woodland.

Figure 1. Approximate location of the site (Google Maps, 2019).



1.4 Proposals

Proposals will see the construction of one new dwelling on site.

2.0 LEGISLATION & POLICY

One of the aims of this report is to demonstrate that the proposed development complies with relevant Planning Policy and nature conservation legislation. This section details the policy and legislation with which the development would need to comply.

2.1 Legislation

2.1.1 The Conservation of Habitats and Species Regulations (2017)

This transposes the EU Habitats Directive (Council Directive 92/43/EEC) into UK domestic law. It provides protection for sites and species deemed to be of conservation importance across Europe. It is an offence to deliberately capture, kill or injure species listed in Schedule 2 or to damage or destroy their breeding sites or shelter. It is also illegal to deliberately disturb these species in such a way that is likely to significantly impact on the local distribution or abundance or affect their ability to survive, breed and rear or nurture their young.

2.1.2 The Wildlife and Countryside Act (1981) (as amended)

This is the primary piece of legislation by which biodiversity is protected within the UK. Protected fauna and flora are listed under Schedules 1, 5 and 8 of the Act. They include all species of bats, making it an offence to intentionally or recklessly disturb any bat whilst it is occupying a roost or to intentionally or recklessly obstruct access to a bat roost. Similarly, this Act makes it an offence to kill or injure any species of British reptiles and also makes it an offence to intentionally kill, injure or take any wild bird or to take, damage or destroy their eggs and nests (whilst in use or being built).

2.1.3 The Countryside and Rights of Way Act (2000)

This Act places a duty on Government Ministers and Departments to conserve biological diversity and provides police with stronger powers relating to wildlife crimes.

2.1.4 Natural Environment and Rural Communities Act (2006)

This places a duty on authorities to have due regard for biodiversity and nature conservation during the course of a development.

2.2 Policy

The development would seek to comply with relevant Planning Policy at a local and national level.

2.2.1 National Planning Policy Framework (2019)

The development seeks to comply with relevant Planning Policy. The National Planning Policy Framework (NPPF) 2019 supersedes the previous national policy and sets out the Government's vision for biodiversity in England in line with the country's 25 Year Environment Plan. Chapter 15 of this policy outlines key principles related to the natural

environment and states that plans should take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure and should provide net gains for biodiversity. Plans should promote the conservation, restoration and enhancement of priority habitats and ecological networks and the protection and recovery of priority species.

2.2.2 Arun District Council Local Plan 2011-2031

Adopted in July 2018 the Local Plan states Arun District Council will encourage and promote the preservation, restoration and enhancement of biodiversity and the natural environment through the development process and particularly through policies for the protection of both designated and non-designated sites. Where possible it shall also promote the creation of new areas for habitats and species. In relation to designated sites, development will be permitted where it protects these sites and the species and habitats contained within them.

Proposed development likely to have an adverse effect on land with the designated features of any Site of Biodiversity or Geological Importance as designated in the Arun Local Plan or any subsequently designated sites (either individually or in combination with other developments), will not normally be permitted. Development on wildlife sites with the highest value will only be permitted exceptionally where the following can be demonstrated:

- There is no alternative solution (which shall be adequately demonstrated by the developer).
- There are reasons of public health or public safety or
- There are benefits of primary importance to the environment or iv. There are imperative reasons of overriding public interest.

Aside from the above however, the presumption in favour of sustainable development does not apply where development requiring appropriate assessment under the Birds or Habitats Directives is being considered, planned or determined. In determining any planning application affecting Sites of Biodiversity or Geological Importance the Council will ensure that the intrinsic natural features of particular interest are safeguarded or enhanced having regard to;

- The European, National or Local status and designation of the site;
- The nature and quality of the site's features, including its rarity value;
- The extent of any adverse impacts on the notified features of interest;
- The need for compensatory measures in order to re-create remaining features of habitats on or off the site.

Where appropriate the Council will ensure the effective management of designated sites through the imposition of planning conditions or Section 106 agreements as appropriate.

Policy ENV DM3 states that any development will retain and incorporate important ecological habitats, wildlife corridors and stepping stones as well as be designed to minimise any disturbance to these habitats. Developments that fail to do so will have their proposal rejected. Where a development scheme would result in a habitat loss, mitigation measures will be proposed as part of the proposed scheme and such measures agreed with the Local Planning Authority prior to the determination of any planning application. Within Biodiversity Opportunity Areas (BOAs) identified within the local plan or where likely to have an impact on species or habitats within the BOAs, any application for planning permission shall include a properly conducted survey of the presence of that species and habitat and impact(s) that development may have on the BOA.

Development and biodiversity Development schemes shall, in the first instance, seek to achieve a net gain in biodiversity and protect existing habitats on site. They shall also however incorporate elements of biodiversity including green walls, roofs, bat and bird boxes as well as landscape features minimising adverse impacts on existing habitats (whether designated or not). Development schemes shall also be appropriately designed to facilitate the emergence of new habitats through the creation of links between habitat areas and open spaces. Together, these provide a network of green spaces which serve to reconnect isolated sites and facilitate species movement. Where there is evidence of a protected species on a proposed development site, planning applications shall include a detailed survey of the subject species, with details of measures to be incorporated into the development scheme to avoid loss of the species. This involves consideration of any impacts that will affect the species directly or indirectly, whether within the application site or in an area outside of the site, which may be indirectly affected by the proposals. All surveys shall be carried out at an appropriate time of year and shall be undertaken by a qualified and, where appropriate, suitably licensed person. All developments shall have regard to Natural England's standing advice for protected species.

3.0 METHODOLOGY

3.1 Desk Based Search

A search utilising online resources was undertaken to establish the presence of nearby statutory designated sites.

Prior to undertaking the site visit, a search for nearby ponds was undertaken utilising online imagery and maps. Guidelines state that ponds within 500m of a development site, must be surveyed as to their potential to support Great Crested Newts (*Triturus cristatus*) (Natural England, 2013).

3.2 Phase I Habitat Survey

The initial survey was carried out by Tristanna Boxall BSc (Hons) (Class Level 1 GCN license holder and Class Level 2 Bat license holder) an experienced ecologist of Ecosupport Ltd on the 29th May 2019. This incorporated a visual assessment of the site, loosely following the methodology outlined within the Joint Nature Conservation Committees (JNCC) *Phase I habitat survey handbook* (2003). The habitats present were noted, focusing particularly on their potential to support protected species. A thorough search for evidence of protected species was undertaken.

4.0 RESULTS

4.1 Desk Based Search

The site lies 2.16km southeast of Eartham Pit Site of Special Scientific Interest (SSSI), 2.6km southeast of Halnaker Chalk Pit SSSI and 3.6km southwest of Fairmile Bottom Local Nature Reserve (LNR) and SSSI.

Interest at Eartham Pit is due to several climatic events shown by the nature of the deposits and the interglacial mammal fauna present within the intertidal sediments. In addition to this an important archaeological horizon has been identified on the surface of the intertidal deposits which would at one time have been a beach. The combination of archaeology and Middle-Pleistocene fauna at this site has important implications for Pleistocene and Palaeolithic chronology in Britain and Northern Europe. The excavations at Eartham Pit have yielded important climatic information for the Middle- Pleistocene and are considered as internationally important due to the juxtaposition of the fossiliferous sediments with the archaeological evidence (Natural England, 1997).

Halnaker Chalk Pit consists of a partly vegetated pit in the Upper Chalk with peripheral areas of scrub and woodland. Halnaker Chalk Pit is important as the joint location of the largest population of a nationally rare plant species in Great Britain. This site is most significant for its population of the nationally rare and vulnerable Broad-leaved Cudweed (*Filago pyramidata*) with 10,000 plants comprising approximately 50% of the total British population (1990 figures). This plant is typically found as a cornfield flower but as a result of modern agricultural practice has been almost extirpated. Other flowering plant species found on the pit floor include Wild Basil (*Clinopodium vulgare*) and Wild Parsnip (*Pastinaca sativa*) (Natural England, 1992).

Fairmile Bottom contains Yew (*Taxus baccata*) woodland and scrub as well as unimproved chalk grassland, which are all nationally rare communities. Mature woodland occurs over much of the site with small patches of species-rich chalk grassland scattered throughout. The sward is dominated by Sheep's Fescue (*Festuca ovina*) and Upright Brome grasses (*Bromus erectus*), amongst which grow the herbs Salad Burnet (*Sanguisorba minor*), Yellow-rattle (*Rhinanthus minor*) and Common Milkwort (*Polygala vulgaris*). To the south, the main area of grassland is composed of coarser grasses including Tor-grass (*Brachypodium pinnatum*). This area is subject to considerable trampling from visitors but Wild Thyme (*Thymus praecox*), Eyebright (*Euphrasia nemorosa*) and Mouse-ear Hawkweed (*Hieracium pilosella*) are present. Orchid species at Fairmile Bottom include the Bee (*Ophrys apifera*), Frog (*Coeloglossum viride*) and Fragrant (*Gymnadenia conopsea*) orchids. The invertebrate fauna is rich and typical of the habitats present. The site supports an outstanding diversity of beetles (Coleoptera) including one species endangered with extinction which inhabits beech logs. The

uncommon Silver-washed Fritillary (*Argynnis paphia*) and the White Admiral (*Ladoga Camilla*) are amongst the many butterflies present (Natural England, 1987).

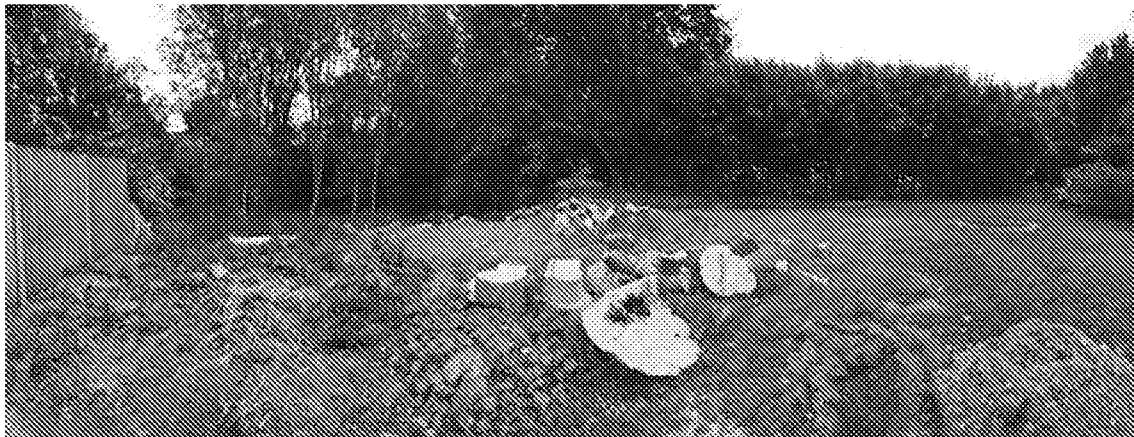
No ponds were identified within 500m of the site during the desk-based search.

4.2 Phase I Habitat Survey

The following dominant habitats were present on site:

Improved Grassland: The area of impact consists of managed improved grassland (**Figure 2**). This was dominated by common grass species with frequent patches of moss and Common Nettle (*Urtica dioica*), frequent Clover (*Trifolium Sp.*), Dock (*Rumex Sp.*), Creeping Buttercup (*Ranunculus repens*), Dandelion (*Taraxacum officinale*) and Daisy (*Bellis perennis*), occasional Cat's-ear (*Hypochaeris radicata*), Cow Parsley (*Anthriscus sylvestris*), Ground Ivy (*Glechoma hederacea*), Germander speedwell (*Veronica chamaedrys*) and rare Wild Strawberry (*Fragaria vesca*), Wood Avens (*Geum urbanum*), Wild Angelica (*Angelica sylvestris*) and Hogweed (*Heracleum sphondylium*). The majority of this area is subject to continual management, evident through the lack of diversity within the sward structure. The only areas of longer grass were recorded adjacent to the log piles.

Figure 2. The site of the proposed new dwelling consists of improved grassland.



Scattered Trees: Towards the rear of the redline boundary (western extent), a group of mature trees were recorded. Species included Ash (*Fraxinus excelsior*), Silver Birch (*Betula pendula*) and Hazel (*Corylus avellana*) (**Figure 3**). Bracken (*Pteridium aquilinum*), Ivy (*Hedera helix*) and Foxglove (*Digitalis purpurea*) were recorded in the understorey.

Figure 3. Scattered trees at the rear of the plot to be retained.



Hedgerow: Along the southern boundary of the site, a mature Laurel (*Prunus Sp.*) hedge was recorded (evident in the righthand side of **Figure 2**). This then led into the aforementioned woodland with Hazel and Elder (*Sambucus nigra*) also recorded within the eastern extent of the hedge. In addition, a linear scrub like feature was recorded along Littleheath Road (**Figure 4**). Species noted included a mature Hawthorne (*Crataegus monogyna*), Sycamore (*Acer pseudoplatanus*), Holly (*Ilex aquifolium*), Bramble (*Rubus fruticosus*) and Hazel with ornamentals including Buddleia (*Buddleja davidii*) and Hydrangea.

Figure 4. Vegetation parallel to Littleheath Road.



Log Piles: Numerous log piles were recorded throughout the site (an example of which is evident in **Figure 2**).

Although three part excavated Rabbit (*Oryctolagus cuniculus*) holes were recorded on site, no evidence of protected and/or notable species was recorded on site during the survey.

4.3 Limitations

The species list provided is not considered to be exhaustive, instead a record of those identified during the Phase I survey. This survey does not constitute a full site assessment for invasive species, such as Japanese Knotweed (*Fallopia japonica*), but no such species were found during the time on site.

5.0 EVALUATION

5.1 Desk Based Search

Due to the location of the site in relation to the designated sites (i.e. >2km) it is considered highly unlikely that they will be directly impacted during either the construction or the operational phase. Similarly, due to the scale of proposals (i.e. one new dwelling) it is considered the potential increase in pressures resulting from residential development (i.e. recreational disturbance) are limited and do not pose a significant threat.

5.2 Phase I Survey

Improved Grassland Reptiles require open habitats with a deep and diverse vegetation structure. Scrub and grass tussocks are also preferable (Edgar et al., 2010). Due to continual management, and resulting lack of sward structure, it is considered the majority of the site does not provide habitat suitable to support reptiles. The longer areas of grass are isolated and limited in their extent, therefore it is considered unlikely reptiles would be negatively impacted by proposals.

It is considered that bats would likely utilise the site for foraging. As a result, the site has potential to be of site/local value for bats.

Scattered trees: The trees across the site provide habitat for nesting birds. It is also considered that due to their age (mature) and origin (native) they are a valuable ecological asset at site level. However, all trees are to be retained and protected and therefore their value will be preserved.

Hedgerow: The hedgerow and linear feature along Littleheath Road provide opportunities for nesting birds as well as likely supporting commuting bats and Dormice. The hedgerow forms part of the local green network connecting this site to neighbouring gardens and woodland across the road. Therefore, it is considered to be of local value.

NB: *It has since come to the attention of the ecologist that nesting Dormice have been recorded in a garden immediately adjacent to the north west of the site. As suitable habitats are connected between the two gardens, it is considered highly likely Dormice will also be using suitable habitats on-site.*

Log piles: The log piles have potential to support hibernating animals such as Hedgehog (*Erinaceus europaeus*). Therefore, they are considered to be of potential site value.

6.0 IMPACTS IN THE ABSENCE OF MITIGATION

This chapter considers the likely ecological impacts of the proposals, in the absence of mitigation. The potential impacts are identified in reference to the likely biophysical changes associated with the scheme. In many cases, whilst a potential negative impact is identified at this stage, avoidance measures or mitigation can be implemented to ensure no residual negative impacts. Avoidance and mitigation measures to ensure that no significant impacts occur and ecological enhancements ensure there is a net gain for biodiversity (**Section 7**).

Any increase in artificial lighting would likely reduce the suitability of the site to support nocturnal wildlife. This would have a negative impact at site level.

The removal of vegetation, including trees, scrub and mature ornamentals, if undertaken during bird nesting season has the potential to negatively impact upon nesting birds and nesting Dormice. This would have a negative impact at a local level. In addition, the removal of native tree species would have a negative impact at a local level. Finally, the loss of boundary vegetation would negatively impact on potential dispersal and commuter routes for local wildlife (including Dormice). This would also have a negative impact at a local level.

Dismantling the log piles either mechanically or during winter would have the potential to negatively impact upon local wildlife. Thus, having a negative impact at a local scale. Finally, in the unlikely event reptiles are utilising the areas of longer grass, works resulting in direct impacts to these areas would have a negative impact at a local level.

7.0 REQUIREMENTS, RECOMMENDATIONS AND ENHANCEMENTS

7.1 Maintenance

As the area of impact consists of closely mown grassland, which is considered unlikely to support notable and/or protected species, it is essential that the current management regime is maintained to ensure it does not become suitable.

It is recommended that the small areas of longer grassland are gradually incorporated into this management regime. Initially the grass height should be reduced gradually over a number of days to passively encourage any animals out of these areas. Then, once at the same low level as the rest of the site, management should be maintained.

7.2 Tree Protection

The trees and hedgerow on site will be retained and protected during development. Tree protective fencing will protect boundary vegetation from direct impact and from severance or asphyxiation of the roots. Fences must be installed at the distance of the branch spread away from the tree trunk (British Standard 5837:2012 Trees in relation to construction) at a distance half the height of the tree and be of chestnut paling or of another similarly robust style of fencing. No vehicles should enter the protective ring fencing and no materials should be stored within their circumference. All protective fencing must be in place prior to any construction machinery arriving on site, before any works on site get underway, and will remain in place until all work is completed.

7.3 Log Piles

The log piles within the area of impact should be dismantled by hand outside of winter (i.e. between March – October). It is recommended that discrete, smaller log piles be created elsewhere on site, potential within the understorey of boundary vegetation to provide potential hibernacula.

Access for Hedgehogs along the boundaries can be achieved either through cutting a five inch hole into the bottom of the fence or leaving out a small a section of gravel board (ensuring five inch clearance).

7.4 Bats

A selection of bat boxes will be erected within trees across the site. The Schwegler 2F has been designed as a summer roosting space for bats and has a simple entrance hole at the front. The Schwegler 1FD has been developed specifically for smaller bats as both the interior and the type and size of the entrance hole match the requirements of smaller species. It features two grooved internal wooden front panels with precise spacing between them providing crevice dwelling opportunities. This model has proved highly effective as a nursing area. As well as Pipistrelles (*Pipistrellus Sp.*), Daubenton's (*Myotis daubentonii*) and Brown Long-eared bats (*Plecotus auritus*) have also been

recorded roosting within this style of bat box. The 1FF is spacious enough for bats to use as a summer roost or nursery site and is open at the bottom, allowing droppings to fall out so it does not need cleaning. To compensate for fluctuations in temperature in spring and autumn, the 1FF is provided with a roughened rear panel made of hard-wearing wood. Therefore, depending on their individual temperature requirements, the bats can choose between the cooler Woodcrete surface or the warmer wooden panel. The inner dimensions of the 1FF have a reducing width making it ideal for bat species which inhabit crevices such as Pipistrelle and Noctule bats.

The bat boxes are manufactured from Woodcrete meaning they will last for at least 20 - 25 years making them a valuable long-term ecological enhancement. The bat boxes will be sited on trees using the aluminium nails provided. They should be positioned at a height of between three to six metres from ground level. Bat boxes should ideally be sited in open sunny positions however having them face different directions will provide a variety of micro-habitats.

Lighting on site will be kept to a minimum. Any security lighting installed on site should be controlled by sensors to ensure prolonged periods of darkness and to minimise the impacts towards commuting and/or foraging bats.

7.5 Nesting Birds

Any vegetation requiring removal, should be cleared outside of nesting bird season (i.e. clearance to take place September – February). If this is not possible vegetation must be checked for nesting birds.

Bird boxes will be erected within trees. Ensuring there is a mixture of open and circle fronted will attract an array of species. Also, those constructed of woodcrete are favourable as they will last longer as opposed to wooden boxes.

In addition, a variety of entrance holes sizes will be installed to suit a variety of species i.e.:

- **32mm entrance hole** will attract Great, Blue, Marsh, Coal and Crested Tit, Redstart, Nuthatch, Collared and Pied Flycatcher, Wryneck, Tree and House Sparrow and bats.
- **26mm entrance hole** suits Blue, Marsh, Coal and Crested Tit and possibly Wren. All other species are prevented from using the nest box due to the smaller entrance hole.

7.6 Native Planting

7.6.1 Wildflowers

In order to attract nocturnal species, it is beneficial that the flowers vary in colour

(although pale flowers that are more easily seen in poor light and so attract insects at dusk), fragrance, shape, amount of nectar and time of flowering. Flowers with 'landing platforms' for insects (i.e. flowers from the Daisy and Carrot families) increase opportunities for insects and in turn foraging bats. Native and pollen rich species should be utilised on site.

7.6.2 Shrubs

As a general enhancement any proposed new planting should aim for a 70:30 ratio in favour of native species over non-natives and ornamentals. Ideally fruit bearing trees, providing food sources for birds and small mammals, during the autumn and winter, and nest sites during the spring and summer, should be utilised. Species that should be considered include:

- Hawthorn,
- Elder,
- Blackthorn (*Prunus spinosa*),
- Alder Buckthorn (*Frangula alnus*),
- Wild Cherry (*Prunus avium*),
- Crab Apple (*Malus sylvestris*),
- Rowan (*Sorbus aucuparia*).

Shrubs to be considered within the landscape planting include:

- Holly,
- Dogwood (*Cornus sanguinea*),
- Privet (*Ligustrum vulgare*),
- Dog Rose (*Rosa canina*),
- Guelder Rose (*Viburnum opulus*).

7.7 Dormice

Given all the boundary vegetation is to be unimpacted it is considered that dormouse surveys are not necessary. The tree/hedgerow protection measures outlined within **section 7.2** and the retention of the scrub on-site will ensure that if dormice are present on-site and in boundary vegetation, they will not be impacted upon during the proposed works. Despite this, it is recommended signage is erected on to the protective fencing to inform site personnel of the requirement to leave the area undisturbed and clear of any spoil/stored materials and equipment. Should the plans change and full-scale scrub removal works are required, then this report must be updated to include appropriate recommendations for further survey work/mitigation measures. Further to this, the new dwelling will be located well away from the woodland and scrub meaning there will be no indirect impacts through increased lighting or noise.

8.0 CONCLUSION

It is considered that the area of impact itself is of limited ecological value. Measures have been detailed to ensure the potential for protected species is taken into consideration and as a result it is considered highly unlikely any notable and/or protected species will be negatively impacted. It is considered that proposals will result in a net gain for biodiversity through the introduction of potential nesting and roosting opportunities and native planting. This will see increased opportunities for wildlife across the site.

Please note, although it is considered highly unlikely, if signs of any protected species are identified during works, works must halt immediately and advice sought from a suitably experienced Ecologist to ensure works comply in full with relevant legislation and policy.

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