

*ecological support,
management and solutions*



Manor Nursery

Hayling Island

Ecological Mitigation & Enhancement Plan

Authors: Adam Jessop BSc (Hons) MSc and Lyndsey McBean BSc (Hons) PGCert

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Client: Mr Chris Hurley

ecosupport ltd, Office A1, Knowle Village Business Park, Mayles Lane, Knowle, PO17 5DY
Tel: 01329 832841 www.ecosupport.co.uk

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1.0 INTRODUCTION

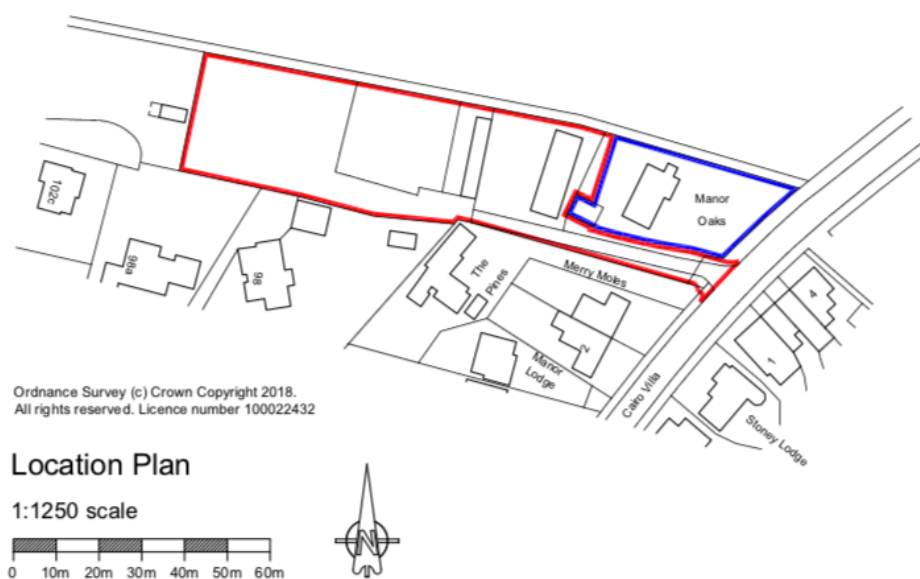
1.1 Brief

A planning application has been submitted to Havant Borough Council (under application number APP/18/01297) for the development of 9 dwellings on the land to the west of Manor Oaks, Manor Road, Hayling Island, PO11 0QU (centered on OS grid reference SU717004). An Initial Ecological Appraisal (Ecosupport, 2018) has been prepared for the site outlining the current ecological baseline of the site, as well as identifying the presence of 'primary support habitat' for Brent Goose and waders adjacent to the northern boundary. In response to this application, the competent authority (Natural England and HBC ecology) have requested the creation of an Ecological Mitigation & Enhancement Plan (EMEP) to ensure the proposals meet the requirements set out in the National Planning Policy Framework.

1.2 Site Description & Location

The site comprises of a former nursery and caravan storage area to the west of the Manor Oaks dwelling located off Manor Road, Hayling Island, PO11 0QU (centred on OS grid reference SU717 004 (**Fig 1**). The immediate surrounding environ is a mixture of urban and rural with the southern, western and eastern boundaries marked by residential housing and the northern boundary an arable field.

Figure 1. Location plan of the site with redline boundary.



2.0 LEGISLATION

2.1 The Conservation of Habitats and Species Regulations (2010)

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.

2.2 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).

2.3 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.

2.4 NERC Act

The Natural Environment and Rural Communities (NERC) Act 2006 requires that public bodies have due regard to the conservation of biodiversity. This means that Planning authorities must consider biodiversity when planning or undertaking activities. Section 41 of the Act lists species found in England which were identified as requiring action under the UK Biodiversity Action Plan and which continue to be regarded as conservation priorities under the *UK Post – 2010 Biodiversity Framework*.

2.5 National Planning Policy Framework

The National Planning Policy Framework (NPPF) sets out the Government's vision for biodiversity in England. It states that the planning system should maintain, enhance, restore or add to biodiversity and geological conservation interests. Key principles of the framework include:

- The protection of veteran trees
- The creation, protection, enhancement and management of networks of biodiversity and green infrastructure
- The preservation, restoration and recreation of priority habitats and ecological networks
- The recovery of priority species populations, including sections on legally protected species.

2.6 Local Planning Policy

Local policies relating to nature conservation within Havant Borough Council are outlined within the *Draft Havant Borough Council Local Plan 2036* (2018) where the following policies are relevant to this report:

E15 Ecological Conservation

Development on any site in the Borough should conserve and enhance the natural environment wherever possible. Planning permission on any site in the Borough will be permitted where:

- a. The applicant has identified and assessed the level of ecological value of the site through appropriate assessment(s) and any matters arising have been addressed through the development proposal at the earliest stage possible;*
- b. The development results in a net gain in biodiversity wherever possible;*
- c. Development avoids the fragmentation and isolation of habitats and wildlife corridors within or close to the development site;*
- d. The development is informed and influenced by the presence of woodlands, trees and hedgerows on site, particularly those protected by a Tree Preservation Order (TPO) or within a conservation area. If the removal of any tree is unavoidable because it would be in best arboricultural practice a replacement tree of at least equal value to that lost should be planted on site unless it is shown to be impractical to do so; and*
- e. Any necessary mitigation plan includes provision for ongoing management and maintenance.*

In addition to the above, priority habitats in the Borough have been identified and afforded protection by a network of designated sites. Development proposals which could affect a designated site will need to consider the impact and respond appropriately:

*For **international nature conservation designations**, planning permission will be refused where:*

- f. There is likely to be a significant effect on the SPA, SAC or Ramsar designation and the proposal is not directly connected with or necessary to the management of that site; and*
- g. The development proposal is not in compliance with the relevant regulations and national policy regarding the assessment of implication for SPAs, SACs or Ramsar sites.*

*For **national nature conservation designations**, planning permission will only be permitted where:*

- h. Development does not have an adverse effect on a SSSI, either individually or in combination with other developments.*

*For **local nature conservation designations**, planning permission will be permitted where either:*

- i. The value of the designation is retained or enhanced in line with its original criteria for designation through avoidance or mitigation measures; or*
- j. The benefit of the development can be shown to clearly outweigh the substantive nature conservation value of the site and the impact cannot be avoided or mitigated.*

Policy E16 Solent Special Protection Areas

Planning permission will be granted for residential development resulting in a net increase in population that mitigates a likely significant effect on the Solent SPAs. This mitigation can be provided through either:

- a. A financial contribution; or*
- b. A developer provided package of measures associated with the proposed development designed to avoid or mitigate any likely significant effect on the SPAs; or*
- c. A combination of measures in (a) and (b) above.*

Where these measures cannot be provided development proposals will be refused, unless the applicant can show, subject to meeting the tests of the Habitats Regulations, that there would not be a likely significant effect on the Solent SPAs

Policy E17 Brent Goose and Wader Feeding and Roosting Sites

Development proposals on or in the vicinity of sites which are used by Brent Geese and/or waders will be assessed in line with the appropriate regulations. Such proposals will thus require a project level Habitats Regulations Assessment and the Council will consider the Solent Waders and Brent Goose Strategy and the latest survey data when making such an assessment (only the section relevant to this application have been provided below).

For indirect effects:

- j. Appropriate mitigation will be required where new development or change to access and management has the potential to adversely impact the function of the Brent Goose and wader network.*
- k. The amount and kind of mitigation will be determined by the importance of the Brent Goose and Wader site within the overall network and how the indirect effects could impact of the function of the site.*
- l. Avoidance measures should be considered before moving on to mitigation. The package of avoidance and mitigation measures should be discussed with the Council and Natural England during the pre-application process and embedded into the development proposals at an early stage.*

Policy E18 Protected Species

Development proposals which are likely to affect protected species and/or their supporting habitats will only be permitted where:

- a. Appropriate surveys are undertaken to establish the presence/likely absence of protected species.*

If protected species are likely to be present, planning permission will only be granted where either:

- b. A Mitigation Plan is provided which is based upon appropriate ecological assessments to the satisfaction of the Local Planning Authority; or*
- c. A Compensation Plan is provided if it is not possible to mitigate the impact; and*
- d. Review and monitoring plans are put in place, where appropriate.*

*For sites that contain or are adjacent to sites **likely to contain Bechstein's bat**, planning permission will only be granted where:*

- e. Survey methods appropriate to Bechstein's bat are used and undertaken by a suitably-qualified ecologist. If the presence of Bechstein's bat is established, planning permission would only be granted where:*
- f. The net loss of woodland (including groups of trees) is avoided;*
- g. Impacts on Bechstein's bat breeding habitat (i.e. net loss of/excessive disturbance to woodland or trees containing maternity roosts) are avoided;*
- h. Proposals include appropriate buffers to woodlands, hedgerows and other flight corridors, taking into account the location of roosts and foraging/commuting habitats; and*
- i. Review and monitoring plans are put in place, where appropriate.*

Where the above measures cannot be met planning permission will be refused, unless the applicant can show, subject to meeting the tests of the Habitats Regulations, that there would not be an adverse effect on the population of the relevant protected species.

3.0 BASELINE DATA

3.1 Bats

The site comprises of bare ground with waste piles and limited areas of grassland. The only feature of potential value for bats would be the northern boundary hedgerow although this is not a continuous linear feature. Taking the poor on site and surrounding habitat (but accounting for the higher number and diversity of local records, including 6 records of Bechstein's bat) into account the site is considered to be of **Low** potential for foraging and commuting bats.

3.2 Badgers

No evidence of Badgers was noted on site during the walkover survey although trails were seen leading from the site under the fence along the western boundary (no Badger hairs found adhered to the underside of the fence). Based on the above and the amount of bare ground habitat (suitable for earth worm digging) the site can be considered to be of **Low** potential for foraging and commuting Badger.

3.3 Birds of Conservation Concern (BoCC)

Given the nature of the habitats on and around the site (Chichester and Langstone Harbours SSSI, Silent Maritime SAC), HBIC hold a high number of records for BoCC. Based on the number of records and taking into account the habitats present, the site is however only considered of **Low** potential for breeding and nesting birds due to the majority of the previously suitable habitat having been cleared (leaving only the northern boundary hedgerow).

3.4 Overwintering Birds

3.4.1 Pre-existing information

Figure 2 below provides the survey information for Brent Geese (*Brantra bernicla*) and waders as provided in the 2010 and 2017 strategies as provided by HBIC.

Figure 2. Listed sites within the 2010 and 2017 Solent Brent Goose and wader sites as provided by HBIC.

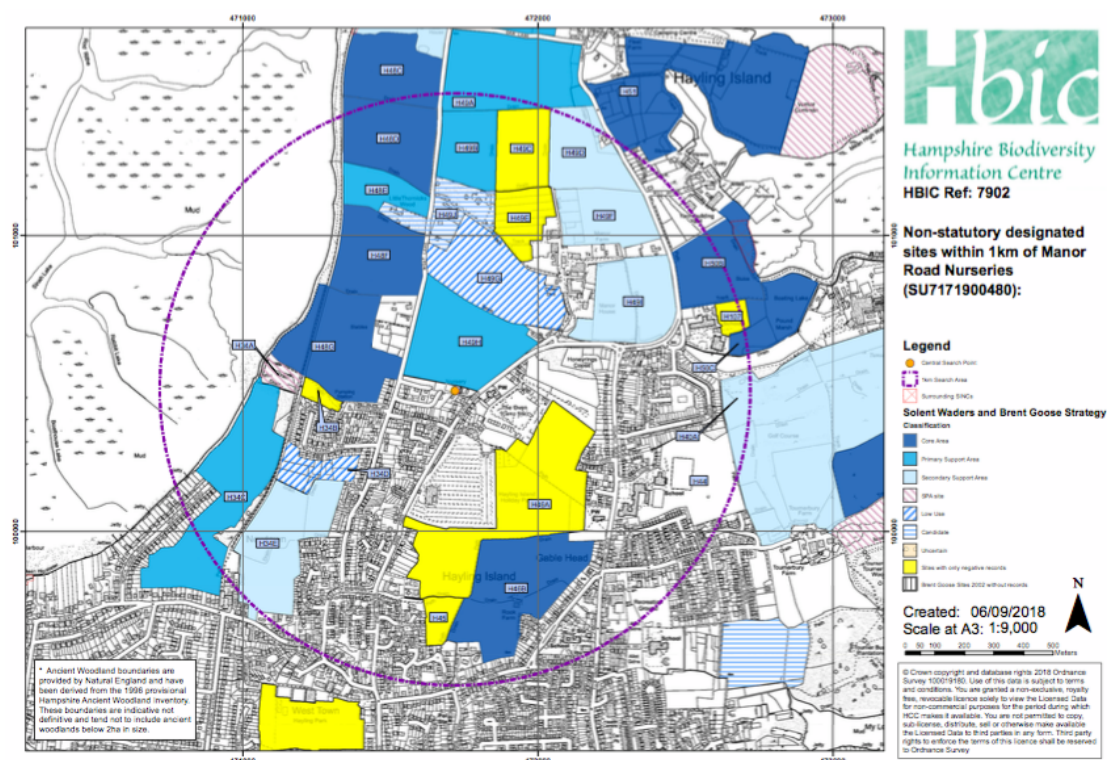


Fig 2 indicates parcel H49H is located along the northern boundary of the site. This parcel is classified as being a 'Primary Support Area' with a total of 17 records of SPA associated species. Primary Support Areas as described within the interim Silent Waders and Brent Goose Strategy as:

'... land that, when in suitable management, make an important contribution to the function of the Silent waders and Brent Goose ecological network'.

3.4.2 Site assessment

Although parts of the grassland on site do support a closely grazed sward height favoured by overwintering birds, given the very small size of this and enclosed nature of the site, it is not considered overwintering birds would be present on site. The site is therefore considered to be of **Negligible** potential.

3.5 Pre-intervention Biodiversity Units

The tables used to work out the number of pre intervention biodiversity units attributable to each habitat type on site are provided within **Tables 1 – 4** with the results for the site given in **Table 5**.

Table 1. Distinctiveness categories and scoring (DEFRA, 2018).

Distinctiveness categories (area habitat)		
Category	Score	Example of habitat type
Very High	8	Priority habitats as defined in Section 41 of the NERC Act that are highly threatened, internationally scarce and require conservation action e.g. blanket bog
High	6	Priority habitats as defined in Section 41 of the NERC Act requiring conservation action e.g. lowland fens
Medium	4	Semi-natural vegetation not classed as a priority habitat e.g. hazel scrub
Low	2	Semi-natural or modified vegetation not classed as a priority habitat and of lower relative value to most wildlife e.g. Temporary grass and overly intensive orchard; rhododendron scrub
Very Low	0	Habitats and land cover of little or no value to wildlife e.g. Developed land sealed surface

Table 2. Condition categories and scoring (DEFRA, 2018).

Condition categories (area habitat)	
Category	Score
Good	3
Fairly good	2.5
Moderate	2
Fairly poor	1.5
Poor	1
N/A - Agriculture	1

Table 3. Habitat connectivity categories and scoring (DEFRA, 2018).

Habitat connectivity categories	
Category	Score
High connectivity	1.15
Moderate connectivity	1.1
Low connectivity	1

Table 4. Strategic significance categories and scoring (DEFRA, 2018).

Strategic Significance Categories			
Category	Score	Point applied to calculation	
		Pre-impact	Post-impact
High Strategic significance Within an area formally identified as being of good environmental potential to local policy	1.15	Yes	Yes
Medium strategic significance Good environmental potential but not in an area formally identified as being of good environmental potential in local policy	1.1	Yes	Yes
Low strategic significance Low environmental potential and not in an area formally identified as being of good environmental potential in local policy	1	Yes	Yes

Table 5. Biodiversity value (units) of habitats on site pre-intervention. Total site area for calculation purposes 0.3 ha.

Habitat Type on Site (Pre-intervention)	Area (ha)	No of Biodiversity Units
Bare ground	0.19	0.38
Improved grassland	0.025	0.05
Defunct hedgerow	0.03	0.22
Hard standing	0.02	0
Building	0.035	0
Totals	0.3	0.65

Workings:

Area of habitat x distinctiveness x condition x strategic location x connectivity = No of biodiversity units

4.0 MITIGATION, COMPENSATION AND ENHANCEMENTS

The chapter is divided into three sections, dealing with mitigation, compensation and enhancement. Mitigation refers to measures that can be undertaken to avoid or reduce ecological impacts. Compensation refers to measures taken in order to offset potential significant impacts and finally enhancements results in a net gain for ecology.

4.1 Bats

4.1.1 Sensitive lighting

A new document (*Guidance Note 08/18 Bats and Artificial Lighting in the UK*) has recently been produced via a collaboration between the Institute of Lighting Professionals (ILP) and the Bat Conservation Trust (BCT), which outlines the latest recommendations to minimise the impacts of increased artificial lighting on bats. The key recommendations within this document have been outlined below and will be implemented provided there are no conflicts with any legal limits of illumination (in which case a suitable compromise should be reached).

‘Luminaires come in a myriad of different styles, applications and specifications which a lighting professional can help to select. The following should be considered when choosing luminaires:

- *All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used. LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.*
- *A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component.*
- *Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).*
- *Internal luminaires can be recessed where installed in proximity to windows to reduce glare and light spill.*
- *The use of specialist bollard or low-level downward directional luminaires to retain darkness above can be considered. However, this often comes at a cost of unacceptable glare, poor illumination efficiency, a high upward light component and poor facial recognition, and their use should only be as directed by the lighting professional.*
- *Column heights should be carefully considered to minimise light spill.*
- *Only luminaires with an upward light ratio of 0% and with good optical control should be used – See ILP Guidance for the Reduction of Obtrusive Light.*
- *Luminaires should always be mounted on the horizontal, i.e. no upward tilt.*
- *Any external security lighting should be set on motion-sensors and short (1min) timers.*
- *As a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed (Fig 3). This may be appropriate to use on roads adjacent to the central tree line and along the eastern boundary.*

Figure 3. (a) Shield 'barn doors' (b) cowl hood; (c) shield and; (d) external louvre Images from ILP & BCT (2018).



4.1.2 Bat boxes

In the interests of promoting ecology and to keep in line with National and Local planning policy, (i.e. Policy NC 26), Ibstock bat bricks (**Fig 4**) will be integrated within the brick work of at least 50% of new builds (see **Plan 1** for details with a total of 4 recommended).

Figure 4. Ibstock bat brick 'B' which will be integrated into the gable walls of 4 of the new dwellings.



The integrated bat bricks will be placed as close to the eaves as possible on the new dwellings orientated to gain some exposure to sunlight (south, south west, south east).

4.1.3 Landscape connectivity

Many bat species are reluctant to leave the cover of features such as tree lines and hedges as they move between their roost and foraging grounds. Fragmentation of the landscape can therefore be a serious issue for bats. To address these issues, a new hedgerow will be planted along the northern boundary to increase the east-west connectivity of the site. Recommended species composition for increasing food availability for bats include Holly (*Ilex aquifolium*), Elder (*Sambucus nigra*), Wild Cherry (*Prunus avium*), Field Maple (*Acer campstre*), Hazel (*Corylus avellana*) and Blackthorn (*Prunus spinosa*) (Gunnell *et al.*, 2012). The following species should also be used within general landscape planting (as they are of known benefit to bats as per *Landscape and Urban Design for Bats and Biodiversity* Gunnell *et al.*, 2012):

- Bell Heather (*Erica cinera*)
- Lavandula spp
- Honeysuckle (*Lonicera periclymenum*)
- Apple (*Malus* spp)
- Plum (*Prunus domestica*)
- Dog Rose (*Rosa canina*)
- Rowan (*Sorbus aucuparia*)
- Creeping Thyme (*Thymus serpyllum*)
- Guelder Rose (*Viburnum opulus*)

4.2 Nesting & Notable Birds

4.2.1 Mitigation

In order to avoid disturbance of nesting birds or damage to their nests, clearance of any vegetation will be undertaken outside of the bird nesting season (typically March – August dependant on weather). If this is not possible, sections to be cleared should be thoroughly checked by an SQE immediately prior to clearance. If any active nests are found they should be left undisturbed with a suitable buffer of vegetation (5m) until the nestlings have fledged.

4.2.2 Enhancements

To act as biodiversity enhancements, a total of 4 Swift bricks will be incorporated into the new dwellings (see **Plan 1** for details). Following information provided by Hampshire Swifts, the Ibstock 'Eco Home for Swifts' brick will be recommended (**Fig 5**) as this is a discreet and attractive box ideal for new dwellings. The box should be installed under the eaves or in high walls in shaded areas out of direct sunlight and away from windows. The installation of such boxes has also been shown to be beneficial for House Sparrows (*Passer domesticus*) which are a nationally declining species.

Figure 5. Ibstock 'Eco Home for Swifts' brick which will be integrated into 20 of the new dwellings.



4.3 Hedgehogs

The landscaping areas along the western boundary will have 2 Hedgehog (*Erinaceus europaeus*) homes incorporated (such as the Igloo Hedgehog home or Hogitat Hedgehog house). These will be provided within or adjacent to areas of planted / retained trees / shrubs and will provide a rapidly declining species with a place to shelter / hibernate. All garden fences in the new dwellings will also ensure at least 2 gaps are present within the gravel boards / bases of each fence to allow for movement of Hedgehogs between gardens and into the wider area. The gaps should be at least 15 cm high by 15 cm wide.

4.4 Solent Area SPA

4.4.1 Construction Phase

Disturbance to 'primary support habitat' adjacent to the site during the construction phase will be mitigated for through the following of the ECEMP (Ecosupport, 2019). This will reduce the effects of impact pathways on waders and Brent Geese that form qualifying features of the SPA.

4.4.2 Operational Stage-Visitor Disturbance

The below text is from the Bird Aware Solent website ¹ regarding contributions towards offsetting impacts to the SPA.

'Most visits to the Solent Special Protection Areas (SPAs) are made by people who live within 5.6 kilometres of them. Consequently, new homes built within that 5.6 kilometre zone are likely to lead to more people visiting the SPAs with a potential to have an impact on the birds. Legislation requires that measures must be implemented to mitigate that impact.'

¹ <http://www.birdaware.org/article/28101/Developer-contributions>

Housebuilders can provide mitigation themselves. They will need to satisfy the local planning authority and Natural England that their proposed measures will fully mitigate the impact of the development.

In most cases, it is more straightforward for a builder to make a developer contribution towards implementing the Bird Aware Solent Strategy.

A developer contribution needs to be paid for every net additional dwelling. Until the end of March 2018 it will remain at the Interim Strategy level of £181 per dwelling. The Bird Aware Solent Strategy was endorsed in December 2017 and introduced a sliding scale of developer contributions based upon bedroom size.

This is as follows:

£337 for 1 bedroom dwelling

£487 for 2 bedroom dwelling

£637 for 3 bedroom dwelling

£749 for 4 bedroom dwelling

£880 for 5 bedroom dwelling

These new charges will come into effect from 1st April 2018 and will be updated each year in line with the Retail Price Index.'

4.5 Biodiversity Units Post Intervention

The below calculations (**Table 6**) for the number of biodiversity units post-intervention per habitat type and for the entire site have been based on the latest layout for the scheme as provided PLC Architecture (drawing No 18-3060-100, Rev P7).

Table 6. Biodiversity units post-intervention.

Habitat Type on Site (Pre-intervention)	Area (ha)	No of Biodiversity Units
Improved grassland	0.07	0.28
Hedgerow	0.05	0.44
Hard standing	0.06	0
Shrubs (landscape planting)	0.01	0.09
Building	0.11	0
Totals	0.3	0.81

With a *pre-intervention score of 0.65* and a *post intervention score of 0.81* there will be a **Net Gain of 0.16 biodiversity units.**

5.0 HABTAT MANAGEMENT

5.1 Hedges

Over-management, or trimming a hedge too severely, can have a detrimental effect on conservation. In general, taller, bushier hedgerows provide more wildlife potential than smaller, thinner hedges. Annual cutting is not always needed. It is recommended that a hedge is cut every two years. The hedge cannot be cut back to the same height repeatedly, varying the cutting height each time will avoid placing the hedge under stress and allow it to regenerate more vigorously.

5.1.1 Timing

The trimming of hedgerows should not take place between March and August to avoid the nesting season for birds. Therefore the ideal time for hedges to be trimmed, laid and coppiced is from September to February ideal as late in the winter as possible so wildlife can take advantage of the nuts and berries produced in the autumn.

6.0 REFERENCES

Bat Conservation Trust / Institute of Lighting Professionals (2018) *Guidance Note 08/18 Bats and Artificial Lighting in the UK*

DEFRA (2012) Biodiversity Offsetting Pilots- Technical Paper: the metric for the biodiversity offsetting pilot in England

DEFRA (2018) Updating the DEFRA Biodiversity Metric

Ecosupport Ltd (2018) Manor Nursery Initial Ecological Appraisal

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