



ECOLOGICAL IMPACT ASSESSMENT

276 Aldwick Road, Bognor Regis

On Behalf of: Acuba Developments

Planning Issue

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SUMMARY

Lizard Landscape Design and Ecology has been commissioned to undertake an Ecological Impact Assessment of land proposed for development at 276 Aldwick Road, Bognor Regis (*Grid Reference: SZ 913 992 – hereafter referred to as 'the site'*).

A Preliminary Ecological Appraisal and Preliminary Bat Roost Assessment of the site was undertaken on 23rd April 2019, to appraise the existing ecological resource within the land and the surrounding area. A full Ecological Impact Assessment was then undertaken using this baseline data.

The site is formed of the rear garden of a domestic dwelling. The habitats were dominated by bare ground; amenity grassland; scattered trees; introduced shrubs; tall ruderal; and scattered scrub. The site itself is of **low ecological value** with no habitats of interest noted.

The site was found to be of negligible value to roosting bats. The adjacent dwelling is not proposed for alteration. The surrounding trees and nearby woodland are likely to provide foraging and commuting opportunities for bats; mitigation measures have been devised to ensure the development does not contravene any UK or European legislation.

The tall ruderal vegetation offers limited potential for reptiles and amphibians; it is considered highly unlikely that protected species of reptile or amphibian would be present on the site, given the site's extent and relative isolation from other suitable habitats. A sensitive vegetation clearance should be undertaken to ensure no widespread amphibians are harmed through the proposals.

No potential for other protected species has been recorded on the site.

Once avoidance and mitigation measures have been taken into account, the impacts of the planned development upon biodiversity will be **negligible, non-significant** with proposed ecological enhancements resulting in a **net gain** and a **long-term positive increase** in biodiversity in line with national planning policy guidance.

1.0 INTRODUCTION

- 1.1 Lizard Landscape Design and Ecology has been commissioned to undertake an Ecological Impact Assessment of land proposed for development at 276 Aldwick Road, Bognor Regis (*Grid Reference: SZ 913 992 – hereafter referred to as 'the site'*).
- 1.2 A Preliminary Ecological Appraisal and Preliminary Bat Roost Assessment of the site was undertaken on 23rd April 2019, to appraise the existing ecological resource within the land and the surrounding area. A full Ecological Impact Assessment was then undertaken using this baseline data.
- 1.3 A summary of the results of these surveys, potential impacts of the proposals, and details of avoidance, mitigation and compensation measures have been detailed within this report. This report has been prepared by George Sayer (*PgDip, BSc, Project Ecologist; Lizard Landscape Design and Ecology*) and reviewed by Joe Jackson (*Landscape Architect BA (Hons) MALA CMLI; Principal; Lizard Landscape Design and Ecology*).

Site Information

- 1.4 The site is within the residential area between Aldwick and Bognor Regis. The site covers an area of approximately 500.0 m².

Surrounding Landscape

- 1.5 The immediate surroundings are largely residential for at least 500.0 m in all directions, with several parks and recreation grounds the only significant open spaces noted. The mean high water mark of the sea is approximately 930.0 m south-west. The soils on site are formed of loamy soils with naturally high groundwater.
- 1.6 Almost immediately to the west of the site is an area of land owned by the Aldwick Preservation Society. The southern portion of the land contains the Aldwick Duck Pond, a pond surrounded by amenity grassland, introduced shrub planting and areas of natural vegetation. The pond is noted as a distinguishing feature of the parish in The Aldwick Parish Design Statement 2015. The northern portion of the land contains a small area of land managed as deciduous woodland, although the woodland is not denoted as such on the *National Forest Inventory* or classed as *Priority Habitat – Deciduous Woodland*. The site is separated from the land by a footpath and wide grass verge lined with deciduous trees.

Development Proposals

- 1.7 The scheme proposals include the construction of a detached dwelling on the site. The access is currently proposed to be from the existing turning and parking area on Margaret Close to the west. Seven trees and an area of scrubby shrubs are proposed for removal as part of the tree survey for the proposals due to poor condition.

Survey Aims

- 1.8 The aim of this ecological appraisal survey has been:
- *To identify habitats and protected species present, and any other features of ecological value;*
 - *Identify any potential ecological constraints;*
 - *Identify impacts of the proposed development and set out appropriate avoidance, mitigation and compensation measures;*
 - *To provide suggestions for enhancements to be incorporated into the scheme.*

2.0 PLANNING POLICY AND LEGISLATION

Legislation

2.1 Legislation relating to wildlife and biodiversity of particular relevance to this EclA includes:

- *The Conservation of Habitats and Species Regulations 2017;*
- *The Wildlife and Countryside Act 1981 (as amended);*
- *The Natural Environment and Rural Communities (NERC) Act 2006;*

2.2 This above legislation has been addressed, as appropriate, in the production of this report.

National Planning Policy

2.3 The National Planning Policy Framework (NPPF) 2019 sets out the government planning policies for England and how they should be applied. '*Chapter 15: Conserving and Enhancing the Natural Environment*' states that development should be '*minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.*'

2.4 The Government Circular 06/2005, which is referred to by the NPPF, provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.

Local Planning Policy

- 2.5 Arun District Local Plan 2011 – 2031, the Arun District Planning Framework Policy SP1 & DM5 (*Natural Environment*) 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 sites that are recognised for the species and habitats contained within them;*
 - *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.*
- 2.6 The Aldwick Parish Design Statement 2015 requires development to preserve and where possible enhance existing green spaces and amenity trees within the area. Trees lost to damage or disease. should be replanted/replaced. The statement refers to the adjacent Duckpond, noting that ‘*The Duck Pond is set in secluded and attractive surroundings bounded by clusters of mature trees and grass and is an Area of Special Character*’. The statement refers to this area as a main open area within the parish.

3.0 METHODOLOGY

3.1 Desk Study

- 3.1.1 *The Multi-Agency Geographic Information for the Countryside (MAGIC)* was consulted for all designated sites, priority habitats and protected species licence records within 2.0km of the site. The desk search was conducted on 7th May 2019. Given the scale of the site and nature of the habitats present, a full data search of the local Biological Records Centre was not considered proportionate.

3.2 Field Survey

- 3.2.1 A preliminary ecological appraisal was undertaken on 23rd April 2019, and the site subjected to an ecology survey using guidelines set out in the *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit (JNCC, 2003)*.
- 3.2.2 Habitats within the site were classified and the presence, or potential presence, of certain protected and / or notable species of flora and fauna were identified. A summary description of the habitat within the site following the *Phase 1 Habitat Survey Methodology* is presented in Section 4.0. This involved identifying features that may be used by protected species, potential foraging areas and other signs of use. Water bodies were recorded wherever possible, within 500 metres of the proposed development site.
- 3.2.3 The results are summarised and accompanied in large part by photographic evidence contained in *Appendix A – Site Photographs*. Recommendations for further investigation and survey are made in the following report.

3.3 Preliminary Bat Roost Assessment

- 3.3.1 A Preliminary Bat Roost Assessment of trees on site was undertaken on 19th March 2019 by an experienced, licenced bat surveyor who undertook a ground-level examination of the existing trees on and adjacent to the site.

3.3.2 Trees were visually identified from the ground, using binoculars where necessary, for features that could be used by bats such as:

- *Woodpecker Holes;*
- *Knot Holes;*
- *Tear-outs;*
- *Flush Cuts;*
- *Double Leaders.*

3.3.3 Once features had been assessed the trees and buildings were then categorised in accordance with *Table 4.1 of the Bat Conservation Trust's Good Survey Guidelines (2016) (shown below):*

Table No. 01 – Bat Roost Suitability Guidelines (BCT, 2016)

Category	Buildings	Trees
Negligible	No suitable features identified.	No suitable features identified.
Low	A structure which could be used opportunistically, however, are not likely to be used on a regular basis / by a large number of bats.	Tree of sufficient size / age to support bat roost features; but with none identified from the ground.
Moderate	A building with features which, could be used regularly by a small number of bats.	Tree with features which, may support a bat roost of low conservation status.
High	A building with features suitable for use by a large number of bats on a regular basis.	A tree with several potential bat roost sites that are suitable for use by a large number of bats.

3.4 Great Crested Newt Habitat Suitability Index Assessment

3.4.1 The *Habitat Suitability Index (HSI)* was developed by *Oldham et al (2000)* as a way of providing a numerical index allowing a direct comparison to be made between different water bodies. This index assesses ponds against 10 no. different criteria, each of which have a bearing on the likelihood of great crested newts (*Triturus cristatus*) being present in the pond under consideration.

3.4.2 The 10 no. attributes against which ponds can be assessed are:

- *Geographic Location;*
- *Pond Area (at its highest level);*
- *Permanence;*
- *Water Quality;*
- *Perimeter Shading;*
- *Numbers of Wildfowl;*
- *Numbers of Fish Present;*
- *Pond Count (within a 1.0 km radius);*
- *Terrestrial Habitat (within 250.0 m);*
- *Macrophyte Coverage.*

3.4.3 The *HSI* results in a score between 1 and 0; with 1 being optimal conditions and 0 being unlikely to support a population. However, the index merely gives an indication as to whether a pond has the potential to support great crested newts and is not a substitute for more detailed presence / absence surveys for protected species of amphibian.

3.5 Ecological Impact Assessment

3.5.1 The methodology for *Ecological Impact Assessment (EclA)* follows best practice guidelines set by the *Chartered Institute of Ecology & Environmental Management (CIEEM): 'Guidelines for Ecological Impact Assessment' (CIEEM, 2018)*. This includes identifying the baseline conditions on the site and subsequently rating the potential effects of the development based on the sensitivity and value of the resource affected, combined with the magnitude, duration and scale of the impact (or change). This is initially assessed without mitigation measures, and then assessed again after allowing for the proposed mitigation measures; this provides the residual effects. The assessment is divided into construction effects and longer-term operational effects.

3.5.2 Each ecological feature within the site has been considered within a defined Geographic context such as:

- *International and European;*
- *National;*
- *Regional;*
- *County;*
- *District;*
- *Local;*
- *Site Level;*
- *Negligible.*

3.5.3 Based upon CIEEM guidance, value was determined with reference to the following factors:

- *Its inclusion as a Designated Site or other protected area;*
- *The presence of habitat types of conservation significance, e.g. Habitats of Principal Importance (NERC 2006);*
- *The presence (or potential presence) of species of conservation significance e.g. Species of Principal Importance (NERC 2006);*
- *The presence of other protected species e.g. those protected under The Wildlife and Countryside Act 1981;*
- *The sites social and economic value.*

3.5.4 The ecological impacts resulting from the proposals were then described according to a defined set of characteristics as defined within '*Guidelines for Ecological Impact Assessment in the UK and Ireland*' (CIEEM, 2018). This assessment considers residual impacts (once all mitigation has been taken into account), with any significant effects highlighted. A significant effect is defined as "*an effect which either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general*".

3.5.5 The confidence that a certain activity will result in a significant adverse effect has been ranked as follows:

- *Highly probable;*
- *Probable;*
- *Unlikely;*
- *Highly unlikely.*

3.5.6 Where initial impacts have been identified as significant, avoidance, mitigation and compensation measures have been proposed to avoid, prevent or offset such effects. Enhancement has been proposed to ensure that the development represents a net gain in biodiversity in accordance with National Policy.

4.0 BASELINE ECOLOGICAL CONDITIONS

4.1 Designated Sites

Statutory Protected Sites

4.1.1 Statutory protected sites within 2.0 km of the site are shown in *Table No. 02* below:

Table No. 02 – Statutory Protected Sites

Site	Reason for Designation	Location
Bognor Reef SSSI	A long stretch of foreshore of great geological interest and an extensive area of vegetated shingle, a habitat type which is rare in Britain. At the western end is a small area of old sand dune with an interesting flora.	1.0 km S

4.1.2 The site is within the following *Impact Risk Zones (IRZ)*: *Bognor Reef SSSI*; *Pagham Harbour SSSI/SPA*. The proposals increase the number of dwellings on the site and therefore are likely to require consultation of the potential impacts with Natural England, or potentially a contribution towards the strategic management of the Pagham Harbour SPA. Proposals are considered unlikely to have a negative impact upon these protected areas due to the small scale of the proposals, existing state of the site and intervening habitats.

Non-Statutory Protected Areas

- 4.1.3 *Sites of Nature Conservation Importance (SNCIs)* are non-statutory designations given to areas of high, local conservation value. Despite being non-statutory, *SNCIs* are still recognised by local planning authorities in their policies and plans. There are no *SNCIs* located within 2.0km of the site.
- 4.1.4 The site is neither located within nor adjacent to any *Non-Statutory Designated Site*. The intervening distance and discrepancy between habitats suggest that the development proposals would not have an adverse effect upon any *Non-Statutory Designated Site*.

4.2 Habitats

- 4.2.1 Within 2.0 kilometres of the site there are *Priority Habitats of intertidal sand and gravel foreshore* and *coastal vegetated shingle*.

- 4.2.2 Habitats within and adjacent to the site include:

- *Existing Building;*
- *Hard / Bare Ground;*
- *Amenity Grassland;*
- *Scattered Scrub;*
- *Tall Ruderal;*
- *Scattered Trees;*
- *Introduced Shrub;*
- *Pond;*
- *Deciduous Woodland.*

Existing Building

- 4.2.3 The dwelling to the south of the site is of brick construction with pitched tile roof and several gables and dormer windows. The building has not been assessed in detail for its potential for bats; however, extensive hanging tile cover was noted with several tiles missing. There were numerous tile valleys and dormer flashings where bats may access the building. The building is considered to offer potential for roosting bats.

Hard / Bare Ground

- 4.2.6 A concrete access path runs around the dwelling. Areas of grass to the rear of the garden have been worn to bare earth.

Amenity Grassland

- 4.2.7 The majority of the gardens were laid to amenity grassland. This varied in overall sward height and composition due to differing levels of maintenance but was generally kept low; the vegetation was of very low diversity. This common, widespread habitat is of **site value** only.

Scattered Scrub

- 4.2.8 To the boundaries of the garden patches of scrub are apparent. This is mainly formed of elder (*Sambucus nigra*); bramble (*Rubus fruticosus*) and ivy (*Hedera helix*). This common, widespread habitat is of **site value** only.

Tall Ruderal

- 4.2.9 To the rear of one garden, the grassland has begun to succeed, and is now dominated by tall ruderal vegetation. This is dominated by common species such as cleavers (*Galium aparine*); nettle (*Urtica dioica*) and garlic mustard (*Alliaria petiolata*). Several small piles of logs and grass cuttings are present within the habitat. This common, widespread habitat is of **site value** only.

Scattered Trees

- 4.2.10 The site itself contains a number of trees, mostly arranged around the boundary. The dominant trees are a mixture of ornamental cypress trees. In addition a small group of low apple trees and a single spruce tree are noted. The trees are of **site / local** value.

Introduced Shrub

- 4.2.11 The rear garden contained only small patches of introduced shrubs, dominated by roses (*Rosa sp.*) mock orange (*Philadelphus sp.*) and shrub honeysuckle (*Lonicera nitida*). This common, widespread habitat is of **site value** only.

Pond

- 4.2.12 The Aldwick Duckpond is present c. 45.0 m from the site. The pond appears deep and was green with algal growth at the time of survey. Almost no macrophyte vegetation was noted. One bank is lined with dense sedge growth whilst the others are lined with trees and scrub. A large koi carp was noted as were ducks and moorhen. Water flows over a small waterfall to keep the pond aerated with freshwater coming in from the mains as required. A small patch of yellow flag (*Iris pseudacorus*) was noted within the muddy shallows to the north. An island is maintained with duck houses and shrubs. Given the lack of other waterbodies locally, despite the impact of ducks and other introduced species the habitat likely provides a habitat for different birds and invertebrates than other local areas and is therefore of **local** value.

Deciduous Woodland

- 4.2.13 Approximately 25.0 m from the site, across a footpath and parking / turning area is a small patch of land managed as deciduous woodland. Trees were predominantly beech (*Fagus sylvatica*) with others noted including oak (*Quercus robur*) and horse chestnut (*Aesculus hippocastanum*). Understorey shrubs included holly (*Ilex aquifolium*) as well as rowan (*Sorbus aucuparia*) and alder buckthorn (*Frangula alnus*) which were likely planted. Groundcover plants include cow parsley (*Anthriscus sylvestris*) and bluebell which appeared to be Spanish bluebell (*Hyacinthoides hispanica*). The woodland is of very limited extent but does display some structure, and given the complete lack of other similar habitats locally is distinct and creates variation for wildlife. The habitat is of **local** value.

4.3 Protected Species

- 4.3.1 The following species assessment is based upon protected species records returned from desk study and the field study of the site. Those species for which no suitable habitat exists on site have been screened out of the assessment.

Bats

Desk Study

- 4.3.2 Within 2.0 km of the site there are only limited records of bats. The Aldwick Preservation Society has reported that bats have been recorded using the adjacent woodland and duck pond. Light-tolerant bats such as pipistrelles are also likely to use the wide tree-lined verges within Aldwick; however, given the density of dwellings in the local area the numbers are likely limited.

Site Assessment

- 4.3.3 The dwelling adjacent to the site area has not been assessed in detail but is considered to offer some potential for roosting bats. The trees within the adjacent woodland and pond offer foraging potential for bats as well as a potential link to Aldwick Village Green. The trees within the woodland contain cavities which offer roost potential for low numbers of bats. These habitats are of **local** importance to bats. No trees on the site offer any significant roosting potential, being coniferous trees or small fruit trees lacking in any suitable roost features. The trees on-site offer some limited foraging potential; however, the dominance of large conifers reduces the potential for good quality foraging. The vegetation on site is considered to be of importance within the **site area** only.

Breeding Birds

Desk Study

- 4.3.5 A number of bird species are recorded locally, including a number of migratory species which arrive onto the south coast. Birds of note which may visit the site would include redwing and fieldfare (*BoCC red-listed, Schedule 1 listed*). Birds such as kingfisher (*BoCC amber-listed, Schedule 1 listed*) may visit the adjacent pond.

Site Assessment

- 4.3.6 The scattered scrub and trees offer suitable nesting habitat for small passerines and common garden birds. During the site visit, a number of species were noted on-site including woodpigeon; goldcrest; wren; great tit; robin; and blue tit. The site contains limited value for foraging birds due to a lack of mature trees providing seeds, nuts or fruits. Due to the presence of other similar habitat in the local area, the habitat is of **site value** only to nesting birds. The adjacent pond contains both fancy ducks such as Muscovy duck as well as native mallard and moorhen, with duckhouses provided for breeding. The woodland contains mature trees which may offer nesting opportunities for birds such as treecreeper or nuthatch. The woodland and pond are considered of **local** value for birds.

Amphibians*Desk Study*

- 4.3.7 There are no records of Great Crested Newt within 2.0km of the site. Smooth Newt and Common Frog are known to be present within the local area.

Site Assessment

- 4.3.8 Tall ruderal habitat within the development footprint may provide some suitable terrestrial habitat for amphibians, however the habitat is sub-optimal and very limited in extent.

- 4.3.9 The nearby pond was subject to a HSI assessment, a summary of results is shown in table 07 below.

Table 03 – Summary of HSI results

HSI Criteria	P1
<i>SI1 - location</i>	<i>1.00</i>
<i>SI2 - pond area</i>	<i>1.00</i>
<i>SI3 - permanence</i>	<i>0.90</i>
<i>SI4 - water quality</i>	<i>0.33</i>
<i>SI5 - shade</i>	<i>1.00</i>
<i>SI6 - wildfowl</i>	<i>0.01</i>
<i>SI7 - fish</i>	<i>0.33</i>
<i>SI8 - ponds</i>	<i>0.57</i>
<i>SI9 - terrestrial habitats</i>	<i>0.67</i>
<i>SI10 - macrophyte coverage</i>	<i>0.30</i>
HSI Score	0.40
Suitability	Poor

- 4.3.10 It is considered highly unlikely that Great Crested Newt would be present within the pond due to the presence of ducks, at least one large koi carp, and a terrapin within the pond. The water whilst not stagnant was pumped in from mains supply and this combined with waste from the waterfowl would make the water high-nutrient and less suitable for aquatic macrophytes and newts. In the unlikely event that a small population of newts were present, it would be highly unlikely that they would visit this portion of the garden, which is well-fenced and lacking in botanical diversity. The site is considered to be of **negligible value** to Great Crested Newts.

Reptiles

Desk Study

- 4.3.11 Slow-worms are recorded within the local area, widespread reptiles such as slow-worms are likely to be present in suitable habitats.

Site Assessment

- 4.3.12 Tall ruderal and scattered scrub habitats within the development footprint may provide some suitable terrestrial habitat for reptiles, however the habitat is sub-optimal and very limited in extent. Individual reptiles may be present within compost heaps and beneath scrub; however, the habitat is insufficient to support a viable population. The site is largely well-fenced and there is very limited suitable habitat within adjacent areas. The site is considered to be of value to reptiles within the **site area only**.
- 4.3.13 A terrapin was noted within the pond adjacent the site; this is likely to be a released pet of either red-eared terrapin (*Trachemys scripta elegans*) or European pond terrapin (*Emys orbicularis*). Both are non-native with the European pond terrapin listed on Schedule 9 of the *Wildlife and Countryside Act (as amended) 1981* whilst the red-eared terrapin is listed within EU Regulation on Invasive Alien (Non-native) Species. The terrapin is highly unlikely to be able to leave the pond area due to the lack of appropriate alternative habitats nearby. Grass snakes may use the pond for foraging and the woodland for shelter, but the habitats are generally of low suitability for the species.

Others

- 4.3.14 No suitable habitat for any other protected species was recorded within or adjacent to the site area. No evidence of badger was recorded, and no suitable habitat for water vole or dormouse was noted.

5.0 ASSESSMENT OF EFFECTS AND MITIGATION MEASURES

5.1 Designated Sites

Potential Impacts

- 5.1.1 The site is within the following *Impact Risk Zones (IRZ)*: *Bognor Reef SSSI*; *Pagham Harbour SSSI/SPA*. The designated sites are at least 1.0 km away; no construction-phase impacts are predicted. The ongoing impact of a single further dwellings is likely to be very low.

Mitigation and Compensation

- 5.1.2 A contribution to the strategic management of Pagham Harbour SPA is likely which would mitigate any impacts.

Residual Impacts

- 5.1.3 **No likely significant effect** upon surrounding designated sites will arise from the proposed development.

5.2 Habitats

Potential Impacts

- 5.2.1 Development will cause the temporary loss of areas of scattered scrub, tall ruderal, scattered trees, introduced shrub and amenity grassland. In the absence of mitigation, impacts upon the surrounding trees and hedges could include increased disturbance through noise, vibration and lighting, degradation of habitat through dust smothering and pollution events such as fuel spills. Given the small scale of the site, impacts would be of minor impact magnitude, except for the pond and adjacent woodland, where the impacts could extend to moderate magnitude.

Mitigation and Compensation

- 5.2.2 All construction activities will be undertaken in accordance with best practice guidance with regards dust, vibrations and noise control. Construction lighting (if required) will be angled down and away from the surrounding trees and hedges. All light spill on the surrounding trees and hedges will be avoided during the operational phase. The construction compound and any storage of materials / fuel will be located outside of tree root areas under a protection scheme devised in accordance with BS5837. Tree protective barriers in accordance with BS5837 would protect adjacent habitats and should be fitted with fine debris netting to protect from dust and flying debris. The post-development landscape scheme will replace areas of amenity grassland, trees, and shrubs with like-for-like habitats; ornamental trees and scrub would be replaced with native trees and shrubs of higher ecological value.

Residual Impacts

- 5.2.3 Residual impacts after mitigation will be negligible and **non-significant**.

5.3 Bats*Potential Impacts*

- 5.3.1 In the absence of mitigation impacts could include the disruption of commuting corridors and foraging habitat through inappropriate lighting, loss of vegetation and construction disturbance. Given the small scale of the site and the vegetation proposed for removal, impacts would be of minor impact magnitude. Should impacts extend to the pond and woodland, these impacts would then be of moderate magnitude and may impact upon roosting bats within the woodland.

Mitigation and Compensation

- 5.3.2 All light spill upon surrounding scattered trees and hedges will be avoided. All valuable foraging habitat will be retained and protected within the scheme as detailed within 5.2.2. The vegetation proposed for removal is of low quality for foraging bats and connectivity along the site boundary would not be broken. Timings of work shall be strictly controlled to avoid key times for wildlife (*in particular around sunrise and sunset*). New planting shall replace trees and scrub lost with native replacement planting of higher ecological value. A bat box shall be fitted to an appropriate tree or integrated into the new building to provide a roosting opportunity for bats.

Residual Impacts

- 5.3.3 Residual impacts after mitigation will be negligible and **non-significant**.

5.4 Breeding Birds*Potential Impacts*

- 5.4.1 In the absence of avoidance / mitigation, the development could result in the damage / destruction of a bird nest.

Mitigation and Compensation

- 5.4.2 Vegetation should be removed outside the nesting season (*season: March-August, although pigeons may nest all year*) or should be checked prior to removal by a suitably qualified person. New tree planting and birdboxes would provide foraging and nesting opportunities for birds.

Residual Impacts

- 5.4.3 The overall impact of the scheme will be **negligible, non-significant**.

5.5 Amphibians

Potential Impacts

- 5.5.1 No impacts upon protected amphibian species are anticipated. In the absence of mitigation, proposals may harm common amphibians such as common toad.

Mitigation and Compensation

- 5.5.2 None required – no impacts anticipated. Vegetation clearance shall be undertaken by hand prior to site clearance, and any amphibians discovered relocated to the woodland area adjacent. A new compost pile should be created within the garden to allow for such species to continue using the site.

Residual Impacts

- 5.5.3 Residual impacts after mitigation will be negligible and **non-significant**.

5.6 Reptiles

Potential Impacts

- 5.6.1 In the absence of mitigation, proposals may harm individual widespread reptiles. Impacts would be of high magnitude at the site level but low magnitude at the local level, and very unlikely to occur.

Mitigation and Compensation

- 5.6.2 Vegetation clearance shall be undertaken by hand prior to site clearance. In the highly unlikely event that a reptile is found, it shall be relocated to the scrubby habitats on the verge to the north or west. A new compost pile should be created within the garden to allow for such species to continue using the site.

Residual Impacts

- 5.6.3 Residual impacts after mitigation will be negligible and **non-significant**.

6.0 ECOLOGICAL ENHANCEMENTS

6.1 The design of the proposed development includes ecological enhancements for the benefit of wildlife in line with the *National Planning Policy Framework* and *Local Planning Policy*. Ecological enhancements which will be included as part of development proposals include

- *The use of flowering shrubs as listed within the RHS 'Plants for Pollinators' plant list to create a border between the new building and adjacent path;*
- *Planting of new trees and hedges to the site boundaries;*
- *Creation of a compost pile in the garden, to accept grass and branch cuttings to provide a habitat for reptiles, amphibians and invertebrates;*
- *Installation of at least one bird and one bat box, either integrated into the new dwelling or installed to larger retained trees.*

7.0 CONCLUSIONS

- 7.1 The site is formed of common habitats as would be expected within a garden. The site itself is of low ecological value with no habitats of interest noted.
- 7.2 The site was found to be of negligible value to roosting bats, with the majority of the habitats providing very limited foraging potential. The surrounding trees, pond and nearby woodland are likely to provide foraging and commuting opportunities for bats; mitigation measures have been devised to ensure the development does not contravene any UK or European legislation. New tree and shrub planting is proposed which would result in a positive increase in the bat foraging potential of the site.
- 7.3 The site offers very limited potential for any other protected species. Measures have been proposed to protect widespread species and to ensure the development does not contravene any UK or European legislation in the unlikely event that a protected species is found.
- 7.4 Once avoidance and mitigation measures have been taken into account, the impacts of the planned development upon biodiversity will be **negligible, non-significant** with proposed ecological enhancements resulting in a **net gain** and a **long-term positive increase** in biodiversity in line with national planning policy guidance.

8.0 REFERENCES

JNCC: Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit; (2003);

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Mitchell-Jones and McLeish: Bat Workers Manual; JNCC, 3rd Edition (2004);

Streeter, D.: The Most Complete Guide to the Flowers of Britain and Ireland; Harper Collins, London (2010);

Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus). Herpetological Journal 10 (4), 143-155

www.magic.gov.uk.

Table No. 04 – Species List for Habitat Parcels within the Site**Amenity Grassland**

Common Name	Scientific Name	DAFOR
Broad-leaved Dock	<i>Rumex obtusifolius</i>	R
Broadleaved Plantain	<i>Plantago lanceolata</i>	R
Cocksfoot	<i>Dactylis glomerata</i>	D
Creeping Buttercup	<i>Ranunculus repens</i>	O
Dandelion	<i>Taraxacum officinale</i>	R
Ground Elder	<i>Aegopodium podagraria</i>	LA
Perennial Ryegrass	<i>Lolium perenne</i>	D
Speedwell	<i>Veronica sp.</i>	R

Scattered Scrub

Common Name	Scientific Name	DAFOR
Bramble	<i>Rubus fruticosus</i>	LD
Buddleia	<i>Buddleia davidii</i>	LA
Elder	<i>Sambucus nigra</i>	LA
Cleavers	<i>Galium aperine</i>	F
Rose	<i>Rosa sp.;</i>	O
Honeysuckle	<i>Lonicera sp.</i>	F
Ivy	<i>Hedera helix</i>	A
Broad-leaved Dock	<i>Rumex obtusifolius</i>	O

Tall Ruderal

Common Name	Scientific Name	DAFOR
Bramble	<i>Rubus fruticosus</i>	F
Broad-leaved Dock	<i>Rumex obtusifolius</i>	R
Cleavers	<i>Galium aperine</i>	LD
Garlic Mustard	<i>Alliaria petiolata</i>	LA
Lords and Ladies	<i>Arum maculatum</i>	O
Nettle	<i>Urtica dioica</i>	LA
Rose	<i>Rosa sp.;</i>	R
Stinking Iris	<i>Iris foetidissima</i>	O
Wood Avens	<i>Geum urbanum</i>	O

Scattered Trees

Common Name	Scientific Name	DAFOR
Apple	<i>Malus sp.</i>	F
Beech	<i>Fagus sylvatica</i>	R
Cherry Laurel	<i>Prunus laurocerasus</i>	R
Elder	<i>Sambucus nigra</i>	LA
Hawthorn	<i>Crataegus monogyna</i>	R
Lawson Cypress	<i>Chamaecyparis lawsoniana</i>	R
Leyland Cypress	<i>Cupressus x leylandii</i>	A
Monterey Cypress	<i>Cupressus macrocarpa</i>	LD
Spruce	<i>Picea sp.</i>	R

Introduced Shrub

Common Name	Scientific Name	DAFOR
Shrub Honeysuckle	<i>Lonicera nitida</i>	O
Rose	<i>Rosa sp.</i>	F
Apple	<i>Malus sp.</i>	F
Mock Orange	<i>Philadelphus sp.</i>	O
Buddleia	<i>Buddleia davidii</i>	A

Table No. 05 – Target Notes

Ref.	Description
TN01	Tall ruderal vegetation, with scattered scrub and compost piles with very limited potential for reptiles.

APPENDICES:

Appendix A – Site Photographs

APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 1 - View of the dwelling to which the garden belongs. No detailed assessment of the dwelling has been undertaken as the dwelling is to be retained; however, the building is considered to offer suitability for bats.



Photograph No. 2 - View of the site area looking north.

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APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 3 - Small areas of tall ruderal vegetation with compost piles and scattered scrub offer some very limited potential for reptiles, but are extremely limited in extent.



Photograph No. 4 - Small apple trees which require removal due to poor condition. Developing tall ruderal vegetation is present at the base.

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APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 5 - The proposed access point as seen from Margaret Close, looking east. Some of the scrub within the site to the far-right is proposed for removal.



Photograph No. 6 - The adjacent Aldwick Duckpond. Duck houses are present on the island. Native scrub habitats are present to the right with dense sedge to the left. The water was green with algal growth at the time of survey.

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APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 7 - View of the small area managed as deciduous woodland. Despite its small size there are understorey and groundcover plants present providing variation in structure and a resource for wildlife.



Photograph No. 8 - Between the pond, woodland and site is a footpath and wide verge lined with trees.

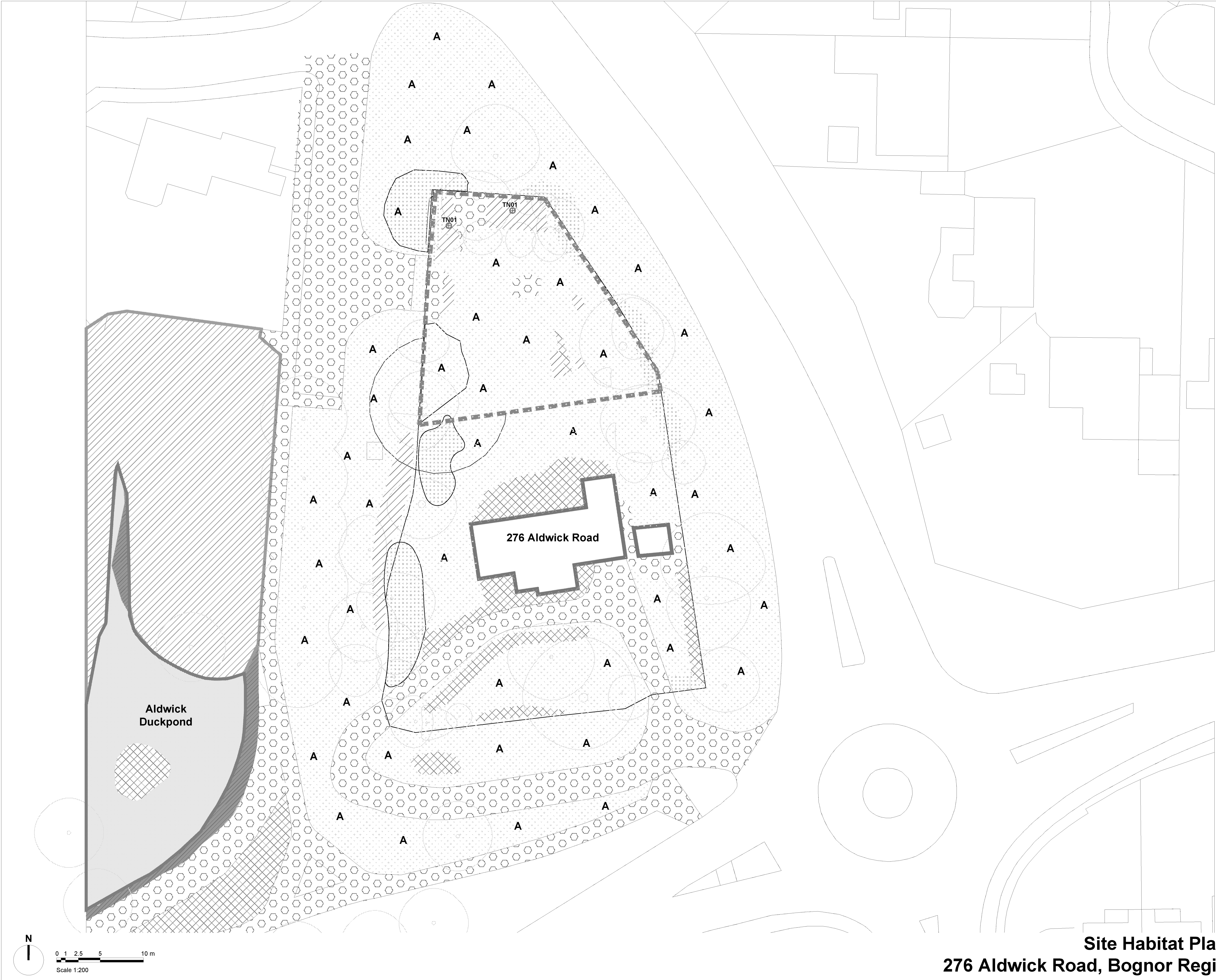
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APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 9 - The proposed access area as seen from the site, looking west. The suitability for foraging bats reduces once the site is reached due to the dominance of coniferous trees.

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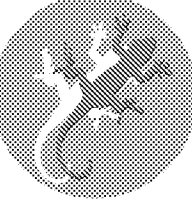
Legend

- Scattered Trees.
- Hard / Bare Ground.
- Amenity Grassland.
- Introduced Shrubs.
- Scattered Scrub.
- Tall Ruderal Vegetation.
- Marginal Vegetation.
- Deciduous Woodland.
- Pond.
- Existing Building / Structure.
- Target Notes.
- Site Area.

Notes: The original of this drawing was produced in colour - a monochrome copy should not be relied upon.

PLANNING ISSUE

Rev	Description	Date	Initials
00	Planning Issue	09.05.19	GS



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Client Acuba Developments			
Project Title and Location 276 Aldwick Road Bognor Regis			
Drawing Title Site Habitat Plan			
Scale 1:200@A1	Drawn GS	Approved NW	Date 09.05.19
Drawing No LLD1612-ECO-FIG-001	Revision 00		

Site Habitat Plan
276 Aldwick Road, Bognor Regis