LAND AT PALK ROAD BEDHAMPTON HAVANT

ECOLOGICAL IMPACT ASSESSMENT (EcIA)

ACD ENVIRONMENTAL

Ecology
Archaeology
Arboriculture
Landscape Architecture

Bellway

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QUALITY ASSURANCE

1.1. This report has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Report Writing (2nd Edition, December 2017).

1.2. The facts stated in this report are true to the best of our knowledge and belief, and any opinions expressed are held genuinely and in accordance with the accepted standards of the profession. ACD Environmental Ltd is a CIEEM Registered Practice.

Client:	Bellway Homes Limited (Wessex)
Site/job:	Land at Palk Road Havant
Author:	D. Wood

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1 EXECUTIVE SUMMARY

Purpose of report	To assess the ecological impacts of a proposed development known as Land at Palk Road, Bedhampton, Havant, clearly identifying any 'significant effects' on important ecological features (including designated sites or protected species) and detailing any mitigation and/or compensation measures required, and how these could be secured. The report also identifies how the proposed development will achieve Biodiversity Net Gain.
Brief description of the Site	Full permission is being sought for the redevelopment of a brownfield site to include the provision of 90 residential dwellings (including 27 affordable units) (C3 use), parking, public open space, landscaping and other associated works, including demolition of existing buildings on site, with access from Palk Road.
Designated Sites	The proposed development is located within the zone of influence of the Solent European Sites, which are vulnerable to increases in nitrates from wastewater. To avoid any adverse effects from the development, a Nutrient Neutrality Statement has been produced, which includes a nutrient budget calculator. Either Little Duxmore Farm, IOW, or the Knowle scheme will be used to mitigate the effects of the proposed development, to ensure nutrient neutrality is secured.
Key habitats	The Application Site comprises a brownfield site, dominated by hard standing, with smaller areas of semi-improved grassland, scrub, and ruderal vegetation. The site is of negligible ecological value. The Hermitage Stream is located on the southern site boundary. The Hermitage Stream is severely degraded, as a result of canalisation by concrete lining undertaken in the 1960s. To inform the Biodiversity Metric, the Hermitage Stream was subjected to a River Condition Survey and was classified as being in 'poor' condition, due to extensive hard engineering, riparian encroachment, and lack of natural features.
Key species	The Application Site does not support any significant populations of key species. However, precautionary advice is provided in relation to foraging and commuting bats, nesting birds, badgers, hedgehogs, and reptiles.

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Key impacts & mitigation/ compensation measures	A Biodiversity Metric, using the DEFRA 3.1 metric, has been completed to support the planning application. The proposed development would generate a net gain of 3.36 habitat units, which translates to a 108.5% net gain, and a net gain of 1.01 hedgerow units, which translates to a 100% net gain. This is a significant benefit of the scheme and is above the current planning policy and legislative requirement. The riparian zone along the right-hand bank of the Hermitage Stream will be re-landscaped into public open space. This will result in a meaningful improvement to the existing situation and an uplift in condition within the River Condition Assessment category, rather than into another condition class. In Biodiversity Metric terms, this is not sufficient to uplift the river condition score from 'poor' to 'moderate', due to the presence of a hard-engineered bank face and channel bed, which are outside the red line boundary. However, the proposed development will provide an opportunity for future restoration of the Hermitage Stream, in line with planning policy objectives.
Enhancements	The proposed development will provide meadow grassland, native trees, species-rich hedgerow, and wildlife-friendly shrubs. In addition, the proposed development will generate net gains in bat roosting and bird nesting habitats.
Conclusions	The ecological mitigation, compensation, and enhancements outlined in this report comply with the NPPF and local planning policy.

2 INTRODUCTION

2.1. ACD Environmental Ltd was commissioned to carry out an Ecological Impact Assessment (EcIA) of a parcel of land at Palk Road, Havant, PO9 1NL (**Image 1**). The principal author of this report is Daniel Wood MCIEEM. The client is Bellway Homes Limited.

Background

2.2. The Application Site is a parcel of brownfield land, located on the southern edge of the town of Bedhampton to the west of Havant. The Application Site is located between Hermitage Stream to the south, a railway line to the north, and a mosaic of residential and commercial buildings within the wider surrounding landscape. Ordnance Survey Grid Reference for the centre of the Application Site is SU 70731 06454.

2.3. Habitats within the Application Site predominantly comprise hardstanding with a small area of semi-improved grassland, tall ruderal and scrub, with scattered trees around the boundary.

2.4. Bellway Homes are submitting a full planning application for 90 residential dwellings (including 27 affordable units) (C3 use), parking, public open space, landscaping and other associated works, including demolition of existing buildings on site, with access from Palk Road.

Competence

2.5. The Extended Phase 1 Habitat Survey was undertaken by Siobhan Pryke of ACD Environmental Ltd. Siobhan is an Ecologist and has been involved in a wide range of surveys including Extended Phase 1 and Phase 2 Surveys for protected species and reports, including Preliminary Ecological Appraisals (PEAs), and EcIAs. Siobhan is a qualifying Member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

2.6. The botanical survey was carried out by Hayley Roberts. Hayley is a Senior Ecologist with 5 years' experience working for commercial consultancy. She is a FISC Level 4 botanist

2.7. This report was written by Daniel Wood, Director of Ecology at ACD Environmental Ltd. Daniel has 15 years' experience in ecological consultancy and oversees the work of the Ecology Team at ACD. He holds Natural England Class licences for bats (Level 2), barn owl, hazel dormouse, and great crested newt (Level 2). He is a Registered Consultant on the Bat Mitigation Class Licence and the Badger Class licence. He is qualified in River Condition Assessment. He has managed river restoration projects in collaboration with the Bristol Avon Rivers Trust and secured permits for river restoration projects in Surrey and Essex. He has co-authored published articles on otters and

badgers, has acted as an Expert Witness at Public Inquiry, and attended planning appeal hearings. He is a Full Member of CIEEM.

Purpose of the report

2.8. The purpose of this EcIA is as follows:

- To identify and describe all potentially significant ecological effects associated with the proposed development
- To set out the mitigation measures required to ensure compliance with nature conservation legislation and relevant planning policy, and to address any potentially significant ecological effects
- To identify how mitigation measures will/could be secured
- To identify any significant residual ecological effects and set out any compensation measures proposed to address these
- To identify appropriate enhancement measures in order to achieve Biodiversity Net Gain

Image 1: Application Site location and approximate site boundary shown in red. Map data (2021): Google. Imagery (2021): Getmapping plc.

3 PLANNING POLICY AND LEGISLATION

Legislation

3.1. The following pieces of legislation are of specific relevance to this assessment:

- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019[1].
- Wildlife and Countryside Act 1981[2] (as amended, including by the Countryside and Rights of Way Act 2000).
- Natural Environment and Rural Communities (NERC) Act 2006[3]. Section 41 includes lists of habitats and species recognised as of 'principal importance' for the conservation of biodiversity. Section 40 of the NERC Act 2006 requires all public bodies to have regard for biodiversity conservation when carrying out their function. This is commonly referred to as the 'biodiversity duty'.
- Water Framework Directive 2000.

3.2. The following piece of legislation has been considered, but are not considered to be of specific relevance in this case:

- Protection of Badgers Act 1992.

Planning policy

National Planning Policy Framework 2021[4]

3.3. Paragraph 175 of the NPPF states that when determining planning applications, local planning authorities should apply the following principles:

- If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be

[1] Great Britain. *The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019* No.579 [online]. Available from: https://www.legislation.gov.uk/ukdsi/2019/9780111179512/contents
[2] Great Britain. *Wildlife and Countryside Act 1981* [online]. Available from: http://www.legislation.gov.uk/ukpga/1981/69/contents
[3] Great Britain. *Natural Environment and Rural Communities Act 2006* [online]. Available from: http://www.legislation.gov.uk/ukpga/2006/16/contents
[4] Great Britain. *National Planning Policy Framework (2021)*. Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2

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refused.

- Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists.

- Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

Local Planning Policy

Havant Borough Core Strategy 2011[5]

3.4. Havant Council Local Plan is the main planning policy document for Havant providing the development strategy to deliver sustainable growth to the year 2026. Policies relevant to the proposed development include:

- Policy CS11 Protecting and Enhancing the Special Environment and Heritage of the Havant Borough

- Policy CS12 Chichester Harbour Area of Outstanding Natural Beauty (AONB)

- Policy CS13 Green Infrastructure

- Policy DM8 Conservation, Protection and enhancement of existing Natural Features

- Policy DM9 Development in the Coastal Zone

- Policy HB1 Havant and Bedhampton Housing Allocation

Havant Borough Local Plan

3.5. Policy E7 of the Havant Borough Local Plan (allocations)[6] refers to the Hermitage Stream. It states that planning permission will be granted for development proposals that positively contribute to the improvement of the Hermitage Stream, as shown on the Policies Map.

[5] Havant Borough Council (2011) Havant Borough Core Strategy – *Local Development Framework* Adopted 1st March 2011
[6] Havant Borough Council (2014). *Havant Borough Local Plan (Allocations). Adopted Version*. July 2014.

3.6. Planning applications for development proposals within proximity of the Hermitage Stream that prevent improvements to the Hermitage Stream being delivered, may be refused.

3.7. The Hermitage Stream Restoration Project is a project being coordinated by Havant Borough Council, the Environment Agency, Hampshire Wildlife Trust, Groundwork Solent and Hampshire County Council (for the Park School section). The aim of the project is to restore five reaches of the canalised Hermitage Stream to a more natural setting. These improvements are planned for the land adjacent to the stream as well as the channel itself. These are mostly in the Leigh Park area, with a small section in Havant and Bedhampton.

Position Statement and Mitigation plan for Nutrient Neutral development[7]

3.8. New housing schemes and other proposals which include a net gain in overnight accommodation or development will need to prevent any increase in nutrients into the harbour in order for them to be 'nutrient neutral'. Otherwise, they would lead to a likely significant impact on a European site.

3.9. A nutrient avoidance and mitigation package will be needed to achieve nutrient neutral development before a planning application can lawfully be issued in accordance with The Conservation of Habitats and Species Regulations 2017.

Havant Biodiversity Action Plan[8]

3.10. The Havant Biodiversity Action Plan provides a vision and a framework for future action to conserve biodiversity in Havant Borough. The Havant Biodiversity Action plan provides Havant with a mechanism for meeting Green Infrastructure objectives to enhance existing biodiversity, restore habitats, mitigate for the impacts of development and reduce the effects of climate change

[7] Havant Borough Council (2020) *Position Statement and Mitigation Plan for Nutrient Neutral Development* August 2020
[8] Havant Borough Council (2011) *Havant Biodiversity Action Plan 2011*

4 METHODOLOGY

Scope of assessment

4.1. The EcIA focuses on 'important ecological features', i.e. those which are considered to be of relevance to the decision-making process and could be affected by the proposed development. Important ecological features include protected species, habitats/species of 'principal importance' for biodiversity conservation (i.e. Section 41 habitats/species[9]), birds of conservation concern[10], invasive non-native plant species[11], and habitats and species identified as priorities for conservation in the Local Biodiversity Action Plan. PEAs are not intended to be submitted alongside planning applications but are designed to help inform layout decisions, constraints and opportunities for biodiversity within a site and to identify the need for further ecological survey and assessment.

Zone of influence

4.2. The 'zone of influence' (ZOI) is the area over which important ecological features (on-site or off-site) may be affected as a result of the proposed development and associated activities. The ZOI can vary for different ecological features, depending on their sensitivity to environmental change.

4.3. The ZOI for statutory designated sites has been informed by Natural England's Sites of Special Scientific Interest Impact Risk Zones[12] (SSSI IRZs). IRZs define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts. This has been determined as part of the desk study, as discussed below. The ZOI is defined within each species section.

Desk Study

4.4. The following information was requested from Hampshire Biodiversity Information Centre for a search area of 2km around the central grid reference of the Application Site:

[9] Section 41 (41) of the Natural Environment and Rural Communities (NERC) Act, which came into force on 1st October 2006, requires the Secretary of State to publish a list of habitats and species which are of principle importance for the conservation of biodiversity in England.
[10] Red list species are those that are globally threatened, whose population or range has declined rapidly in recent years (i.e. by more than 50% in 25 years), or which have declined historically and not recovered. Amber list species are those whose population or range has declined moderately in recent years (by more than 25% but less than 50% in 25 years), those whose population has declined historically but recovered recently, rare species (<300 breeding pairs or <900 wintering individuals), those with internationally important populations in the UK, those with localised populations, and those with an unfavourable conservation status in Europe. Species that meet none of these criteria are Green-listed.
[11] Invasive non-native plants (Section 14) on Schedule 9 of the Wildlife & Countryside Act 1981 (as amended).
[12] Natural England (June 2019). Natural England's Impact Risk Zones for Sites of Special Scientific Interest (For use by Local Planning Authorities to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites and determine when to consult Natural England).

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- Non-statutory Designated sites; and
- Protected and Notable species.

4.5. The data was requested on 8th December 2021 and received on 16th December 2021.

4.6. The MAGIC website[13] was used to search for nearby granted EPS licences within 2km; and carry out a 5km data search for SSSIs, Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) with an IRZ that falls within the Application Site, in December 2021.

Field surveys

Extended Phase 1 Habitat Survey

4.7. An Extended Phase 1 Habitat Survey was carried out on the 16th December 2021.

4.8. Incidental records of fauna were made during the Extended Phase 1 Habitat Survey and the habitats identified were evaluated for their potential to support legally protected species and Species of Principal Importance.

MoRPH5 River Condition Assessment

4.9. A River Condition Assessment (MoRPH5) survey was carried out on 8th August 2022 by Daniel Wood. Water levels were low at the time of the survey, and full access to the river was possible.

Botanical survey

4.10. A botanical survey was carried out on 31st May 2023 by a FISC level 4 botanist. The survey comprised taking a stand sample of each habitat type, to obtain a full species list. Each species was assigned a DOMIN score. All notable species present were recorded. The survey was carried out on a clear day with no rainfall. Full access to the site was provided. The temperature was 17○C.

Assessment methodology

4.11. The habitats and species evaluations and likely effects are made with reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment[14].

[13] Multi Agency Geographic Information for the Countryside [online]. Available at: https://magic.defra.gov.uk/
[14] CIEEM (2019). Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater and Coastal, Version 1.1. updated September 2019. Chartered Institute of Ecology and Environmental Management, Winchester.

4.12. The importance of ecological features has been assessed by carrying out an Extended Phase 1 Habitat Survey to determine whether protected species/habitats and/or species/habitats of conservation concern are present in the Application Site or its ZOI, then comparing their status at the international/national/county/regional/local scale, through the use of available contextual information, to establish the importance of those features in a geographical context.

4.13. The overall effect of the proposed development on a given feature has been predicted, considering the baseline data collected through desk study and field survey, and the various impacts expected to occur. An assessment has then been made as to whether the effect on each important ecological feature is likely to be significant or not.

4.14. Significance is the weight that should be attached to effects when decisions are made. For the purpose of EcIA, a likely significant effect is an effect that either supports or undermines biodiversity conservation objectives for important ecological features (which could be species populations/groups of species, habitats, or a designated site), or for biodiversity in general. Effects have been considered significant at a wide range of scales, from international to local.

4.15. A sequential process has been adopted to avoid/mitigate, and if required, compensate for significant negative ecological effects. This is referred to as the 'Mitigation Hierarchy'. Avoidance includes measures to change the design of the proposed development to avoid an impact occurring. Mitigation includes measures to avoid or reduce the negative impacts of the proposed development. Compensation addresses significant negative residual effects (those likely to occur after avoidance and mitigation have been considered). It is this objective of compensation, and not its location, that distinguishes compensation from 'mitigation'.

4.16. In EcIA, it is only essential to assess and report significant residual effects that remain after mitigation measures have been taken into account. However, the potential significant effects without mitigation, as well as the residual significant effects following mitigation, have been presented where the mitigation proposed is experimental, unproven, or controversial and/or to demonstrate the importance of securing the measures proposed through planning conditions or obligations.

Valuation

4.17. The value of important ecological features (sites, habitats, and species) is assigned according to their scale of importance using the following terms:

- International importance – ecological features of international importance such as SPAs and SACs, and/or sites that support internationally-important populations of

species.

- National importance – ecological features of national importance such as SSSIs, features which meet the criteria for designation as a SSSI, and/or sites that support nationally-important populations of certain species.

- Regional importance – ecological features of regional importance, such as a species population that is of importance at a scale greater than the County but does not meet the criteria for National Importance.

- County importance – ecological features of county-scale importance, including features that have been designated as local wildlife sites, or meet the criteria for designation as a local wildlife site, and/or county-important populations of species.

- Local importance – ecological features of local importance, including habitats or species populations listed as being of nature conservation importance (e.g. S41, local Biodiversity Action Plan (BAP), or listed in local planning policy), which are not considered to be of County importance by virtue of the quality, size/number, rarity, the extent to which they are threatened throughout their range, or to their rate of decline.

River Condition Assessment

4.18. The River Condition Assessment tool evaluates river condition within a project site. It incorporates field (MoRPh module) surveys of one or more MoRPh5 subreaches (sets of five contiguous MoRPh module surveys) and a desk-based assessment of the indicative geomorphic type of the river reach containing the project site. MoRPh5 surveys are conducted to cover at least 20% of the river length within the project site, ensuring that no two subreaches are more than four subreach lengths apart, and that one of the subreaches captures the apparently most degraded part of the river channel. The length of each MoRPh module is 10, 20, 30, or 40 m depending, respectively, upon whether the river is <5 m, 5–<10 m, 10–<20 m or 20–<30 m wide.

4.19. MoRPH5 indicators are automatically calculated from a contiguous set of 5 MoRPH5 surveys. 35 indicators are calculated for each MoRPH5 survey. Three contribute to the River Type Assessment (A6, A7, A8) and describe the size and type of bed material in the MoRPH5 subreach. Thirty-two contribute to the River Condition Score and describe natural and human-influenced properties of the bank tops (B1 to B5), bank faces (C1 to C10), channel-water margins (D1 to D5) and channel bed (E1 to E12).

4.20. Positive indicators score 0 to +4 and reflect natural elements. Negative indicators score 0 to -4 and reflect human pressures and interventions.

4.21. The following indicators, which are extracted from the desk study and field survey data, are used to estimate the indicative river type and preliminary condition score for the subreach:

- A1 – Braiding index (desk study)
- A2 – Sinuosity index (desk study)
- A3 – Anabranching index (desk study)
- A4 – Level of confinement (desk study)
- A5 – Valley gradient (desk study)
- A6 – Bedrock features (field survey)
- A7 – Coarsest bed material (field survey)
- A8 – Average alluvial bed material size class

4.22. Figure 1[15] shows the thirteen indicative river types (A to M) that may be found in England, reflecting their bed material, planform, and valley confinement.

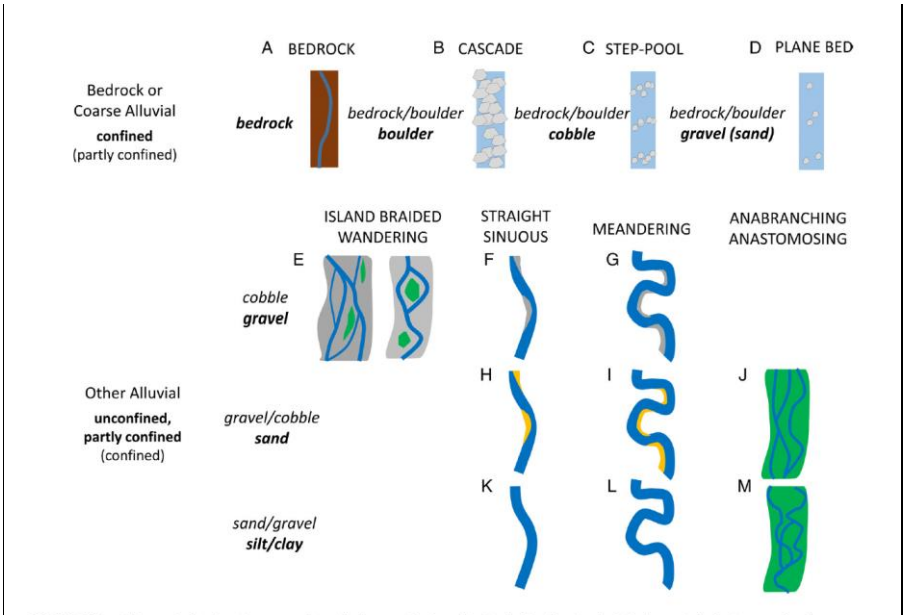

FIGURE 2 Thirteen indicative river types (A to M) that may be found in England, reflecting their bed material, planform, and valley confinement. (Bed material size is indicated in an italic font with the most likely dominant type emboldened. The most likely level of valley confinement is emboldened) [Colour figure can be viewed at wileyonlinelibrary.com]

Figure 1: River Types that may be found in England. Taken from Gurnell et al (2020).

[15] Gurnell, A. M., Scott, S. J., England, J., Gurnell, D., Jeffries, R., Shuker, L., Wharton, G. *Assessing river condition: A multiscale approach designed for operational application in the context of biodiversity net gain*. *River Res Applic*. 2020; 36:1559-1578.

4.23. The following indicators are extracted from the MoRPH5 field survey data and used to estimate the preliminary river condition (+ is a positive indicator and – is a negative indicator):

- B1 - Bank top vegetation structure (+)
- B2 -Bank top tree feature richness (+)
- B3 - Bank top water-related features (+)
- B4 - Bank top non-native invasive plant species (NNIPS) (-)
- B5 - Bank top managed ground cover (-)
- C1 – Bank face riparian vegetation structure (+)
- C2 – Bank face tree feature richness (+)
- C3 – Bank face natural bank profile extent (+)
- C4 – Bank face natural bank profile richness (+)
- C5 – Bank face natural bank material richness (+)
- C6 – Bank face bare sediment extent (+)
- C7 - Bank face artificial bank profile extent (-)
- C8 - Bank face reinforcement extent (-)
- C9 - Bank face reinforcement material severity (-)
- C10 - Bank top NNIPS (-)
- D1 - Channel margin aquatic vegetation extent (+)
- D2 - Channel margin aquatic morphotype richness (+)
- D3 - Channel margin physical feature extent (+)
- D4 - Channel margin physical feature richness (+)
- D5 – Channel margin artificial features (-)
- E1 – Channel aquatic morphotype richness (+)
- E2 – Channel bed tree features richness (+)
- E3 – Channel bed hydraulic features richness (+)
- E4 – Channel bed physical feature extent (+)
- E5 – Channel bed physical feature richness (+)
- E6 – Channel bed material richness (+)
- E7 – Channel bed siltation (-)
- E8 – Channel bed reinforcement extent (-)
- E9 – Channel bed reinforcement material severity (-)
- E10 – Channel bed artificial features severity (-)
- E11 – Channel bed NNIPS extent (-)
- E12 - Channel bed filamentous algae extent (-)

4.24. The MoRPH Pro system averages all the positive scores and all of the negative scores, then adds them together to give a preliminary condition score. All the scores are equally weighted, no individual indicators are given more (or less) weight than others.

4.25. The preliminary condition score, estimated from the field survey of the 5-module subreach, is combined with the indicative river type, estimated from the reach-scale desk study, to assign a final condition score.

4.26. The final condition scores are as follows:

- 1 – Poor
- 2 – Fairly Poor
- 3 – Moderate
- 4 – Fairly Good
- 5 - Good

4.27. The final condition score is inputted in the Rivers Tab in the Biodiversity Metric, to provide an assessment of river condition.

Precautionary principle

4.28. The evaluation of significant effects is based on the results of the ecological surveys carried out in the Application Site and other available evidence. In cases of reasonable doubt, where it is not possible to robustly justify a conclusion of no significant effect, a significant effect is assumed. Where uncertainty exists, it has been duly acknowledged.

5 BASELINE ECOLOGICAL CONDITIONS

Context

5.1. The Application Site is a brownfield site, currently occupied by a drainage and civils supplier. The Application Site is located on the southern edge of Bedhampton, to the west of Havant. The Application Site is sandwiched between Hermitage Stream to the south, a railway line to the north with a mix of residential and commercial buildings within the wider landscape.

Designated Sites

5.2. NNRs, SSSIs, SACs and SPAs within 5km of Application Site are shown in **Table 1**.

Table 1: Statutory designated sites within 5km the Application Site

Name of statutory designated sites	Approximate distance and direction from Application Site	Reason for designation	Scale of importance
Solent Maritime SAC	1km south	Comprising Annex 1 habitats Esturaries, Spartina sward *Spartinion maritimae*, Atlantic salt meadow *Glauco-Puccinellietalia maritimae*.	International
Langstone Harbour SSSI	1.1km south	Tidal basin with large areas of mixed salt marsh. Rich intertidal system supporting high densities of intertidal invertebrates and large populations of migrant and overwintering waders and wildfowl. Species include Grey plover *Pluvialis squatarola* and black-tailed godwit *Limosa limosa.*	National
Chichester and Langstone Harbour SPA	1.1km south	Harbour habitat supports extensive algae beds and a diversity of avian species, including breeding little tern *Sterna albifrons* and sandwich tern *S. sandvicensis*; on passage little egret *Egretta garzetta* and overwintering bar-tailed godwit *Limosa lapponica.*	International

		Also supports 20,000 waterfowl.	
Chichester Harbour SSSI	1.8km south-east	Harbour significant for wintering wildfowl and waders as well as breeding birds due to the combination of Harbour habitat and surrounding permanent pasture fields and woodlands. Bird species include redshank *Tringa tetanus* and godwit *Limosa* sp. Rare floral species include green-winged orchid *Orchis morio* and adder's tongue fern *Ophioglossum vulgatum*	National
Farlington Marshes LNR	2km south-west	Hampshire Trusts oldest nature reserve consisting of flower-rich grazing marsh, internationally important for the bird populations it supports.	County
Solent and Isle of Wight Lagoons SAC	2.1km south-west	Series of coastal lagoons with Diverse faunal assemblage, supports three rare species: foxtail stonewort *Lamprothamnium papulosum*, the nationally scarce lagoon sand shrimp *Gammarus insensibilis*, and the nationally scarce starlet sea anemone *Nematostella vectensis.*	International
West Hayling LNR	2.4km south	Thousands of hectares of intertidal mudflats contain a massive assemblage of marine invertebrate life. The site is home to thousands of breeding seabirds.	County
Hayling Billy LNR	2.4km south	A section of Langstone Harbour with good floral diversity.	County
Warblington Meadow SSSI	2.5km south-east	Unimproved grazing marsh, designated for its graduation into saltmarsh,	National

		both of which support a diverse array of flora including many species of sedges and rushes along with grasses such as, crested dog's tail *Cynosurus cristatus*, quaking grass *Briza media* and several fescues *Festuca* species. Salt marsh flora include sea arrow-grass *Triglochin maritima*, sea plantain *Plantago maritim*a and sea milkwort *Glaux maritima.*	
Portsdown SSSI	4.2km west	Chalk grassland on steep escarpment supporting an array of flora and invertebrates. Uncommon species include horseshoe vetch *Hippocrepis comosa*, bastard toadflax *Thesium humifosum*, early gentian *Gentianella anglica*, knapweed broomrape *Orobanche elatior*, bee orchid *Ophrys apifera* and fly orchid *O. insectifera*.	National
Brook Meadow SSSI	4.3km east	Grassland surrounded by woodlands and flanked by two streams. Brook Meadow is full of birds, insects and wildflowers and has water voles *Arvicola amphibius* in the river.	National
Eames Farm LNR	4.7km south-east	A large area of coastal grazing marsh, wetland and reedbed, it provides vital habitat for a wide range of migrating waders and wildfowl, and many rare plant and insect species including the green winged orchid *Anacamptis morio.*	County

5.3. Many of the SSSs, SPAs and SACs that fall within 5km of the Application Site also form components of the SPAs and SACs that fall within 5km of the Application Site. The overlapping designations are grouped together below:

- Solent Maritime SAC, Chichester and Langstone Harbour SPA, Langstone Harbour SSSI

- Chichester and Langstone Harbours SPA, Langstone Harbour SSSI, Farlington Mashes LNR
- Solent Maritime SAC, Chichester and Langstone Harbours SPA, Chichester Harbour SSSI
- Solent Maritime SAC, Chichester and Langstone Harbours SPA, Chichester Harbour SSSI, West Hayling LNR
- Chichester and Langstone Harbours SPA, Chichester Harbour SSSI
- Chichester and Langstone Harbours SPA, Chichester Harbour SSSI, Eames Farm LNR

5.4. SACs are strictly protected sites designated under the Conservation of Habitats and Species Regulations 2017 (as amended) in England and Wales. Under these regulations, the UK Government and devolved administrations are required to establish a network of important high-quality conservation sites that will make a significant contribution to conserving the habitats and species identified in Annexes I and II, respectively, of European Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, known as the Habitats Directive. The listed habitat types and species are those considered to be most in need of conservation at a European level (excluding birds).

5.5. SPAs are strictly protected sites classified in accordance with Article 4 of the Birds Directive (formally known as the European Commission Directive on the conservation of wild birds (2009/147/EC)), which codifies an earlier EC Directive (79/409/EEC) which came into force in April 1979. SPAs are classified for rare and vulnerable birds listed in Annex 1 of the Birds Directive, and for regularly occurring migratory species.

5.6. The Application Site falls within Langstone Harbour SSSI and Warblington Meadow SSSI IRZ. The IRZ is used as a tool to identify where development has the potential to affect the features for which a SSSI is designated. In this case, the IRZ has identified that the SSSIs could be affected either directly or indirectly from residential development. In addition, it is noted that strategic solutions are in place and the LPA should be contacted for more information on specific requirements.

5.7. Furthermore, the Application Site falls within the Solent Nutrient Impact Area and for new residential development, the local planning authority will be required to follow Natural England's Solent Nutrient Advice in line with Regulation 63 of the Conservation of Habitats and Species Regulations 2017.

5.8. There are a total of 23 SINCs within 2km of the Application Site. The closest SINC is located approximately 970m east named St Faith's Churchyard. Due to spatial separation, impacts on these SINCs are considered to be unlikely.

Habitats

5.9. The Application Site supports the following habitats:

- Hardstanding;
- Tall ruderal;
- Scrub – dense & scattered;
- Semi-improved neutral grassland; and
- Scattered trees.
- Watercourse (Hermitage Stream)

5.10. For ease of reference, habitat types have been described alphabetically below. All the features described are shown on the Phase 1 Habitat Map in **Appendix 1** and photographs in **Appendix 3**.

Hardstanding

5.11. The majority of the Application Site comprises hardstanding concrete used for access roads, parking, and storage areas. Metal storage containers are also present within the hardstanding. Access to an area in the south-east was not possible, however aerial imagery would indicate that the area is predominantly hardstanding. Hardstanding is considered to be of negligible value.

Tall Ruderal

5.12. Tall ruderal is present predominantly in an area to the north. Species present are typical of those found on disturbed ground. Species recorded include teasel *Dipsacus fullonum*, hogweed *Heracleum sphondylium*, thistle sp., ragwort *Jacobaea vulgaris*, fleabane *Pulicaria dysenterica,* bristly oxtongue *Helminthotheca echioides*, marshwort *Apium sp*., ribwort plantain *Plantago lanceolata*, cranes bill *Geranium sp*., horsetail *Equisetum sp*., bramble *Rubus fruticosus*, pendulum sedge *Carex pendula,* willow herb *Epilobium sp*., common nettle *Urtica dioica*, dog rose *Rosa canina*, dock *Rumex sp*., Yorkshire fog *Holcus lanatus,* sorrel *Rumex acetosa* buttercup *Ranunculus sp.,* and fescue *Festuca sp*.

5.13. Given the small area and common species recorded the tall ruderal habitat is of negligible value.

Scrub

5.14. Dense scrub is also present in the north of the Application Site in the area next to the tall ruderal. The dense scrub is dominated by bramble *Rubus fruiticosus* agg.

5.15. Scattered scrub is also present is small areas around the boundaries of the Application Site. species recorded include bramble, horsetail, buddleja sp., ivy *Hedera helix* and nettle.

5.16. Given the small area and limited species recorded the scrub habitat is of negligible value.

Semi-improved Grassland

5.17. A small area of semi-improved grassland is present in the north-east corner of the Application Site. This area is surrounded by tall ruderal and scrub. Species recorded as present within the semi improved grassland include Yorkshire fog *Holcus lanatus*, bristly oxtongue *Helminthotheca echioides*, teasel *Dipsacus fullonum*, false oat grass *Arrhenatherum elatius*, common nettle *Urtica dioica*, St. John's Wort *Hypericum perforatum*, willow herb sp., buttercup., plantain sp. Mare's tail *Equisetum arvense*, an invasive species, is also present within the Application Site.

Botanical survey

5.18. The botanical survey carried out on the 31st May 2023 recorded the following species:

- Teasel (O)
- Horsetail *Equisetum arvense* (A)
- Common nettle (A)
- Creeping buttercup *Ranunculus repens* (O)
- Bristly oxtongue (F)
- Rough meadow grass *Poa trivialis* (R)
- Soft rush *Juncus effusus* (R)
- Spear thistle *Cirsium vulgare* (O)
- Oxeye daisy *Leucanthemum vulgare* (O)
- Ribwort plantain (R)
- Staghorn sumac *Rhus typhina* (O)
- Forget-me-not Myosotis *scorpioides* (O)
- Broad leaved dock *Rumex obtusifolius* (O)

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- White dead nettle *Lamium album* (LA)
- Yorkshire fog (LA)
- Pendulous sedge *Carex pendula* (O)
- Hairy sedge *Carex hirta* (F)
- Smooth tare *Ervum tetraspermum* (F)
- Changing forget-me-not *Myosotis discolor* (O)
- Hedge bedstraw *Galium album* (LA)
- Germander speedwell *Veronica chamaedrys* (R)
- Creeping thistle Cirsium arvense (LA)
- Columbine *Aquilegia vulgaris* (R)
- False oat grass (O)
- Iris (R)
- Ground ivy *Glechoma hederacea* (R)
- Field rose *Rosa arvensis* (R)
- Cleavers *Galium aparine* (O)
- Meadow foxtail *Alopecurus pratensis* (R)
- Cocksfoot *Dactylis glomerata* (R)
- Water figwort *Scrophularia auriculata* (R)
- Lesser stitchwort *Stellaria graminea* (O-R)
- Common sorrel *Rumex acetosa* (LA)
- Cut leaf cranesbill *Geranium dissectum* (R)
- Yarrow *Achillea millefolium* (R)
- Japanese honeysuckle *Lonicera japanonica* (LA)
- Common spotted orchid *Dactylorhiza fuchsia* (R)
- Compact rush *Juncus conglomeratus* (R)
- Perforate St John's wort *Hypericum perforatum* (R)
- White clover *Trifolium repens* (LA)
- Tall fescue Festuca *arundinacea* (R)
- Hogweed (LA)
- Common vetch *Vicia sativa* (R)
- Soft brome *Bromus hordeaceus* (R)
- Lavatera (LA)
- Red fescue *Festuca rubra* (R)
- Hoary ragwort *Jacobaea erucifolia* (R)

- Small willowherb *Epilobium parviflorum* (R)
- Stone parsley *Sison amomum* (O)
- Common fleabane (A)
- Remote sedge *Carex remota* (R)
- Buddleia (A)

5.19. The botanical survey found that the vegetated area comprised made-up ground, containing building debris, which has become dominated by tall ruderal vegetation, with sparse grasses. Common species dominated the sward, particularly horsetail, buddleia, marestail (all non-native species), and fleabane. A smaller area of grassland was present in the north-eastern part of the site, which was dominated by false oat grass and rough meadow grass, with soft brome, white clover, and locally abundant red fescue, and oxeye daisy. The grassland was not tussocky or dense.

5.20. The only notable species recorded during the botanical survey were common spotted orchid (one plant), lesser stitchwort (occasional to rare), hairy sedge, and perforate St John's wort (1-3 plants). All these plants were recorded in low numbers, other than hairy sedge, which was frequent. These species are indicative of less-disturbed grassland, but they were not reflective of the character of the entire vegetated area. Hairy sedge can be indicative of seasonally wet grassland, but it can also grow in drier habitats. In this case, its presence is probably a result of some of the made-up ground containing pockets of seasonally waterlogged ground.

5.21. Given the infrequency of notable species recorded, dominance of common species, and presence of non-native species, the semi-improved grassland and ruderal vegetation are considered to be of site-level value only.

Photograph A: Common spotted orchid in grassland (north-east of site).

Photograph B: Vegetated area dominated by ruderal vegetation.

Photograph C: Marestail along northern boundary.

Scattered trees

5.22. Scattered trees are present around the Application Site, predominantly along the northern boundary adjacent to the railway line and along the southern boundary adjacent to the stream. Species include ash *Fraxinus excelsior*, sycamore *Acer pseudoplatanus*, alder *Alnus glutonisa*, poplar sp. and oak *Quercus robur*.

5.23. Native trees are of intrinsic ecological value, in addition policy DM8 of the local plan encourages the retention of natural features such as trees within planning proposals.

Watercourse

5.24. A 0.6km section of the Hermitage Stream (right-hand bank) abuts the south-eastern site boundary. According to the (withdrawn) Submission Local Plan, the Hermitage Stream has suffered in terms of environment and water quality from canalisation by concrete lining undertaken in the 1960s. The proposed restoration to a more natural environment includes improving public access alongside the stream for recreational purposes. The section between Barncroft Way and Middle Park Way was naturalised in 2000 and a new footpath/cycleway from Middle Park Way to Park House Farm Way was implemented in 2016.

5.25. Within the Application Site, the Hermitage Stream comprised hard engineered banks, and a hard-engineered channel, which comprised brickwork and concrete. Water levels were very low at the time of the survey, with no perceptible flow, high amounts of filamentous algae, and only trace amounts of aquatic vegetation.

5.26. The upper 2-3rd of the left and right-hand banks supported pioneer vegetation, which had grown through the concrete, and was dominated by bramble scrub and tall herbs. The 10-metre riparian zone along the right-hand bank top (within the Application Site) mainly comprised hard standing and storage materials, with some scattered ruderal vegetation and scrub, and small numbers of scattered mature trees (alder and sycamore). Mare's tail, an invasive, non-native species, was recorded on the river banks. The bank was fenced off from the Application Site with chain link fencing. The left-hand bank of the Hermitage Stream, opposite the Application Site, comprised woodland, which formed part of a public open space. Several mature weeping willows were overhanging the channel. To the west of the Application Site, there were several bridges crossing the channel, and in-channel concrete step weirs, immediately downstream of the Portsmouth Water complex.

5.27. To inform the Biodiversity Metric, the Hermitage Stream was subjected to a River Condition Assessment, which comprised a MoRPH5 survey. The 5 survey modules were located between the

Application Site (grid reference SU 70769 06414), downstream to the footbridge west of Portsmouth Water (grid reference SU 70651 06280).

5.28. The River Condition Assessment results are presented below.

Table 2: Survey Details

River	Hermitage Stream
Reach	Portsmouth Water
Subreach	Footbridge to JDP Havant
Project name	Land at Palk Road, Havant.
MoRPH correlation code	BELL23607

Table 3: Dimensions

River shape	5.95
Average width	9.4m

Table 4: River Type Calculations

A1 – Braiding index	1
A2 – Sinuosity index	1.07
A3 – Anabranching index	1
A4 – Level of confinement	Confined
A5 – Valley gradient	0.0041
A6 – Bedrock reach?	No
A7 – Coarsest bed material	Silt
A8 – Average alluvial bed material size	Silt
Calculated River Type	K (straight/sinuous)

Table 5: River Condition Calculations

B1 - Bank top vegetation structure (+)	3
B2 - Bank top tree feature richness (+)	1
B3 - Bank top water-related features (+)	0
B4 - Bank top NNIPS (-)	-2
B5 - Bank top managed ground cover (-)	-3
C1 – Bank face riparian vegetation structure (+)	1
C2 – Bank face tree feature richness (+)	1
C3 – Bank face natural bank profile extent (+)	1
C4 – Bank face natural bank profile richness (+)	1
C5 – Bank face natural bank material richness (+)	0

C6 – Bank face bare sediment extent (+)	0
C7 - Bank face artificial bank profile extent (-)	-2
C8 - Bank face reinforcement extent (-)	-4
C9 - Bank face reinforcement material severity (-)	-4
C10 - Bank top NNIPS (-)	-1
D1 - Channel margin aquatic vegetation extent (+)	0
D2 - Channel margin aquatic morphotype richness (+)	0
D3 - Channel margin physical feature extent (+)	3
D4 - Channel margin physical feature richness (+)	1
D5 – Channel margin artificial features (-)	-1
E1 – Channel aquatic morphotype richness (+)	2
E2 – Channel bed tree features richness (+)	1
E3 – Channel bed hydraulic features richness (+)	0
E4 – Channel bed physical feature extent (+)	0
E5 – Channel bed physical feature richness (+)	0
E6 – Channel bed material richness (+)	0
E7 – Channel bed siltation (-)	-1
E8 – Channel bed reinforcement extent (-)	-4
E9 – Channel bed reinforcement material severity (-)	-4
E10 – Channel bed artificial features severity (-)	-4
E11 – Channel bed NNIPS extent (-)	0
E12 - Channel bed filamentous algae extent (-)	-3

Table 5: River Condition:

Condition Score (Preliminary)	-1.75
Average of positive indicators	0.79
Average of negative indicators	-2.54
Condition Class / Score (Final)	**Poor/1**

Fauna

Invertebrates

5.29. The data search returned a vast number of invertebrate records within 2km of the Application Site. These include stag beetle *Lucanus cervus* and butterfly species listed on 'The Butterfly Red List for Great Britain' such as, small heath *Coenonympha pamphilus* white admiral *Limenitis Camilla,* and small blue *Cupido minimus.* The data search also returned a large number of moth, dragonfly and damselfly records.

5.30. Given the habitats present and under its current management, the Application Site is considered to be of limited value to invertebrate species with the tall ruderal, semi-improved grassland and scrub providing some value.

5.31. The Application Site is unlikely to be of particular importance to invertebrate species, and therefore is considered to be of **negligible value.**

Amphibians

5.32. No great crested newt records were returned from the data search within 2km of the Application Site. The data search returned common amphibian records such as records of common toad *Bufo bufo*, within 2 km of the Application Site.

5.33. A search of MAGIC map EPS licence records reveal that no EPS great crested newt licenses have been granted within 2km of the Application Site. Also, no great crested newt class survey licence return records were returned from within 2km of the Application Site and no ponds within 2km of the Application Site have been surveyed for eDNA.

5.34. No ponds are present within or adjacent to the Application Site boundary, however three ponds are present within 500m of the Application Site and a stream runs adjacent to the southern boundary. Ponds 1 and 2 are located approximately 365m and 420m respectively, south-east of the Application Site and form part of the Brockhampton springs within privately owned land. Pond 3 is a small body of water approximately 320m south-east of the Application Site located adjacent to commercial buildings. There is limited connectivity from the Application Site to the ponds within the wider landscape due to the presence of dense urban environment. In addition to the ponds already mentioned above, it should also be noted that Hermitage Stream is located adjacent to the southern boundary of the Application Site. Hermitage Stream has been partly canalised to improve flow and feeds into Langstone Harbour. Due to the anthropological modifications, the stream is fast flowing

with steep reinforced banks (unvegetated in many parts). Resulting in Hermitage stream being a barrier to dispersal for great crested newt rather than providing connectivity.

5.35. Suitable terrestrial habitat for great crested newt within the Application Site is very limited, comprising only of the small areas of tall ruderal scrub and semi-improved grassland habitats. There is also very minimal connectivity to suitable off-site habitat in the wider landscape.

5.36. There is an absence of a cohesive pond network on-site or within the immediate landscape and limited suitable connecting terrestrial habitat for use by great crested newt in addition to no great crested newt records, it is assessed that the Application Site is of negligible value to support great crested newt.

Reptiles

5.37. The data search returned a number of reptile records including four grass snake *Natrix helvetica* records, 18 records of slow worm *Anguis fragilis* record and a single common lizard *Zootoca vivipara* record within 2km of the Application Site. The records are predominantly returned along green space along the Havant-Emsworth by-pass. None of the records are from within or adjacent the Application Site or have connecting habitats to the Application Site.

5.38. Habitats such as the tall ruderal and the semi-improved grassland may provide some sheltering and foraging opportunities for common reptiles, however the available habitat is small and isolated from connecting habitat. The railway line may provide some off-site connectivity; however, the offsite railway embankment appears to be heavily managed with very little vegetation.

5.39. On the botanical survey of 31st May 2023, an assessment of the site's potential to support reptiles was made. The vegetated area in the north of the site was dominated by ruderal vegetation, which was not dense at ground level. Where grasses were dominant (in the south-east), the sward was not tussocky or dense. There was no thatch layer. Given the limited quantum of suitable habitat for reptiles within the Application Site, historic management, and limited surrounding connecting off-site habitats, it is assessed that the Application Site is of negligible value for reptiles.

5.40. However, it is considered that small numbers of reptiles could occasionally move through the site. Given the potential presence of small numbers of reptiles, advice with regards to site management have been provided, to avoid any harm.

Birds

5.41. The data search returned records of various bird species within 2km of the Application Site. Species considered relevant to the Application Site have been grouped by their UK conservation status according to RSPB, where birds are split into conservation priority ranging from red (most critical), amber (next most critical) to green (least critical):

- Red listed species: herring gull *Larus argentatus*, grey wagtail *Motacilla cinereal*, house sparrow *Passer domesticus*, starling *Sturnus vulgaris,* redwing *Turdus iliacus*, song thrush *T. philomelos*, fieldfare *T. pilaris* and mistle thrush *T. viscivorus*. skylark *Alauda arvensis,* yellowhammer *Emberiza citronella,* linnet *Linaria cannabina,* redstart *Phoenicurus phoenicurus,* cuckoo *Cuculus canorus,* lapwing *Vanellus vanellus,* lesser redpoll *Acanthis cabaret,* lesser spotted woodpecker *Dendrocopos minor,* spotted flycatcher *Muscicapa striata and* yellow wagtail *Motacilla flava,* marsh tit *Poecile palustris.*

- Amber listed species:, barnacle goose *Branta leucopsis,* Bewick's swan *Cygnus columbianus,* Black-headed Gull *Chroicocephalus ridibundus,* great black backed gull *Larus marinus,* lesser black backed gull *Larus fuscus,* short eared owl *Asio flammeus,* brent goose *Branta bernicla,* pied flycatcher *Ficedula hypoleuca.*

- Green listed species: red kite *Milvus milvus*, barn owl, brambling *Fringilla montifringilla, firecrest Regulus ignicapillus,* Cetti's Warbler *Cettia cetti,* grey heron *Ardea cinerea,* hobby *Falco Subbuteo,* swallow *Cirrhia icteritia,* siskin *Spinus spinus,* woodlark *Lullula arborea.*

5.42. The southern area of the Application Site falls within the Solent Waders & Brent Goose Strategy area labelled H10B which forms part of a larger area extending south. Although H10B falls within the strategy, nine negative records for waders and brent geese have been returned. Given the predominant habitats of hardstanding present within the Application Site, it is unlikely to support waders and Brent Goose, with the wider H10B allocated area providing more suitable habitat.

5.43. There is potential for common birds to nest and forage within the trees and to forage within the grassland, tall ruderal and scrub. However, suitable habitats within the Application Site are small and unlikely to be of sufficient size or quality to support important bird assemblages of conservation concern.

5.44. Habitats within the Application Site are of value within the zone of influence, in this case includes the Application Site only.

Bats

5.45. The data search returned various bat species within 2km of the Application Site. Species identified are as follows: common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *P .pygmaeus*, pipistrelle spp., brown long-eared *Plecotus auritus,* long-eared species *Plecotus* sp*., Myotis* sp*.,* Daubenton's bat *M. daubentonii,* Whiskered bat *M. mystacinus,* Whiskered/Brandts *M. mystacinus/brandtii,* serotine *Eptesicus serotinus*, noctule *Nyctalus noctule* and Leisler's *N. leisleri*.

5.46. A search of MAGIC maps EPS licence records identified a single granted EPS licence for bats within 2km of the Application Site. This is for the damage of a resting site for common pipistrelle bat (2014-1826-EPS-MIT) approximately 130m south of the Application Site.

5.47. There are no buildings within the Application Site that are suitable to support roosting bats. No Potential Roosting Features (PRFs) for bats were recorded within the trees.

5.48. The Application Site provides minimal opportunity for foraging bats however the small area of tall ruderal, scrub and semi-improved grassland fields may provide some opportunity. The trees along the railway embankment and along the stream contribute to providing dark linear features for commuting and foraging opportunities. The Application Site is on the outskirts of Bedhampton and surrounded by suburban and rural landscape. The Application Site is connected by the railway line and the stream to suitable off-site foraging and commuting habitat to the south and within the wider landscape. Given the location of the Application Site, most bats likely to use the Application Site are likely to be common and widespread species that are light-tolerant.

5.49. Habitats within the Application Site are assessed as being of low suitability for commuting and foraging bats and are of interest within the zone of influence which in this case includes the Application Site only. However, adjacent linear features to the north and south provide moderate to high suitability, these features are likely to be of value to commuting bats up to local level.

Badger

5.50. The data search returned two records of badger *Meles meles* within 2km of the Application Site. These records are identified as sensitive therefore further information about these records cannot be disclosed.

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5.51. No evidence of badger (setts, snuffle holes, snagged hairs) was recorded during the Extended Phase 1 Habitat Survey.

5.52. Given that badgers diets primarily comprise earthworms and that the Application Site is predominantly hardstanding, it is not considered to provide suitable foraging or sett building opportunities.

5.53. Badgers are highly mobile animals and are likely to be present within the wider landscape. It may be possible that badgers could commute across the Application Site. However, the habitats within the Application Site are assessed as having negligible suitability for badger.

Hazel Dormouse

5.54. The data search returned eight records of hazel dormouse *Muscardinus avellanarius* within 2km of the Application Site. These records are all from the same woodland approximately 1.7km north-west of the Application Site. One EPS licence was granted for hazel dormouse within 2km of the Application Site, this was for destruction of a breeding site (2014-3156-EPS-MIT). The site was approximately 1.7km north-west of the Application Site.

5.55. The Application Site does not contain hedgerows and tree lines suitable for use by hazel dormouse. There is no connectivity to suitable off-site habitat and the Application Site is isolated from the existing records by lack of suitable habitat, urban environment and major roads, providing barriers to dispersal.

5.56. The habitats within the Application Site are assessed as providing negligible importance to hazel dormouse.

Hedgehog

5.57. The data search returned 23 records of hedgehog *Erinaceus europaeus* within 2km of the Application Site. these records are scattered throughout the search area.

5.58. Sheltering and foraging habitats for hedgehog within the Application Site is limited to the grassland, tall ruderal and scrub area in the north east corner of the Application Site. Given the location of the Application Site, minimal connectivity is present except towards the south where hedgehogs may be present within the immediate area and could forage and commute across the Application Site.

5.59. Hedgehogs are a Species of Principle Importance as per Section 41 of the NERC Act 2006 and therefore should be a consideration when designing the layout. As such hedgehogs are of value within the zone of influence, in this includes the Application Site.

6 ASSESSMENT OF EFFECTS AND MITIGATION MEASURES

6.1. In accordance with CIEEM guidelines, the following important ecological features have been scoped into the impact assessment, owning to the conclusion that significant effects could occur.

Table 6: Ecological features scoped into the impact assessment

Statutory sites	Solent Maritime SAC, Solent and Isle of Wight Lagoons SAC, Chichester and Langstone Harbour SPA and Ramsar.
Non-statutory sites	N/A
Habitats	Hermitage Stream
Species and species groups	N/A

6.2. The following ecological features have been scoped out of the impact assessment, either because they are not of significant ecological importance, and/or they will not be impacted.

Table 7: Ecological features scoped out of the impact assessment.

Statutory sites	All statutory sites other than Chichester and Langstone Harbour SPA and Ramsar.
Non-statutory sites	All non-statutory sites
Habitats	Semi-improved grassland, scrub, tall ruderal, hardstanding, scattered trees.
Species and species groups	Invertebrates, amphibians, birds, badger, reptiles, hedgehog, bats – roosting, foraging, and commuting.

6.3. Although no significant impacts are predicted on the following species, precautionary measures of working and good practice measures are outlined below, to ensure no accidental harm is caused during construction works.

6.4. Although no significant impacts are predicted on the following species, precautionary measures of

working and good practice measures are outlined below, to ensure no accidental harm is caused during construction works.

Bats: Roosting

6.5. Trees scheduled for felling can develop potential roost features over time. Although no trees proposed for felling supported features that were considered suitable for bats, tree surgeons should be vigilant of the potential presence of bats. If potential roost features and/or bats are discovered on trees scheduled for felling, work should be postponed until the advice of an ecologist is sought.

Bats: Foraging and commuting

6.6. Given the limited quality of habitats suitable for foraging and commuting bats within the Application Site, other than the presence of the Hermitage Stream to the south, and the railway line to the north, bat activity surveys were not considered necessary to support the EcIA. The proposed public open space within the Hermitage Stream corridor will be a significant betterment to the existing habitats and land use, with regards to bat foraging and commuting. Notwithstanding the above, there is potential that increased lighting from the proposed residential development, could negatively affect the foraging and commuting value of the site. Given the above, the Lighting Strategy[16] has been designed to comply with the Institute of Lighting Professionals Guidance Note 08/18[17]. The Lighting Strategy confirms that vertical illuminance is less than 0.40 Lux (the maximum based on current layout is 0.09 Lux) and horizontal illuminance is less than 0.20 Lux (the maximum based on current layout is 0.10 Lux). These levels are considered lower than what may be expected on a moonlit night and are in line with research findings for the illuminance found at hedgerows used by light-sensitive species (ILP 2018). Therefore, the proposed lighting is considered to be appropriate.

Birds

6.7. The Application Site is not considered to be of particular importance to nesting and foraging birds, however, where possible, all vegetation removal works should be done outside the nesting bird season (February- August inclusive). If vegetation is to be cleared within nesting bird season, a qualified ecologist will need to check the vegetation for active birds' nests, before clearance can take place.

6.8. If active birds' nests are discovered, the nest should be cordoned off with an appropriate buffer (as

[16] DFL (2022). Land off Palk Road, Bedhampton. Lighting Strategy. November 2022.
[17] ILP (2018). Bats and Artificial Lighting in the UK. Bats and the Built Environment Series. Guidance Note 08/18. Bat Conservation Trust and Institute of Lighting Professionals.

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advised by an ecologist) and left undisturbed until the chicks have fledged.

Badgers and hedgehogs

6.9. Hedgehogs may be present in the Application Site. Badgers may exploit the Application Site occasionally.

6.10. To ensure mammals which may commute through the Application Site are adequately protected during the development, the following good practice measures will be implemented throughout the construction phase:

- Trenches will be covered at the end of each working day and any temporarily exposed pipes will be capped to prevent wildlife from gaining access during the night.
- Any trenches or deep pits which must be left open overnight will be provided with a means of escape, should an animal fall in. This would simply be in the form of a roughened plank of wood placed in the trench as a ramp to the surface.
- Any trenches/pits will be inspected each morning to ensure no animals have become trapped overnight, should a badger become trapped in a trench it may attempt to dig itself into the side of the trench and form a temporary sett. Should a trapped animal be encountered, the advice of an ecologist must be sought immediately.
- The storage of any chemicals within the construction site will be contained in such a way that they cannot be consumed or knocked over by wildlife.

Amphibians and reptiles

6.11. Tall grasses, weeds, and scrub, within the footprint of the proposed development, should be regularly managed, to discourage any amphibians and/or reptiles from colonising the site.

6.12. To avoid any harm to reptiles, it is recommended that the management of the site is kept up. Vegetation should be cut progressively during the spring/summer, on warm days (temperatures over 12°C). The first cut should be on a high setting (no lower than 150mm). Following the first cut, a second cut to ground level should be carried out. All arisings should be removed from the site. Prior to any cutting/removal, consideration should be given to control of non-native species, including marestail, to prevent spreading invasive species offsite.

6.13. Vegetation should ideally be cut back in winter, to avoid any conflicts with the bird nesting season.

All arisings should be removed from the site.

Invasive plants

6.14. Arrangements should be made to manage and control mare's tail, which is a non-native, invasive species. The exact methods and timings of control should be discussed with a specialist contractor.

Solent Maritime SAC, Solent and Isle of Wight Lagoons SAC, and Chichester and Langstone Harbour SPA and RAMSAR

Potential Impacts

6.15. The Application Site falls within 5km of the Solent Maritime SAC, Solent and Isle of Wight Lagoons SAC, and Chichester and Langstone Harbour SPA and RAMSAR.

6.16. In accordance with Havant Borough Council's Position Statement and Mitigation Plan for Nutrient Neutral Development[18], new development necessitates the provision of connections to the foul water drainage network and can increase surface water run-off. This could increase the amount of nutrients entering Solent European Sites, even if it is a proportionately small contribution. Therefore, new housing schemes and other proposals which include a net gain in overnight accommodation or development which has a high volume of water use, will need to prevent any increase in nutrients into the harbour, in order for them to be 'nutrient neutral', if they would otherwise lead to a likely significant impact on a European site.

Mitigation

6.17. For new residential developments that cannot achieve nutrient neutrality on site, Havant Borough Council have set out a process by which developers should follow. This includes completion of the Council's European Site Avoidance and Mitigation checklist, an occupancy calculator (to determine the occupancy figure for the development to be used within the budget), and a nutrient budget using Natural England's nitrogen budget calculator.

6.18. Following submission of the information, the Case Officer checks that there is sufficient capacity to accommodate the development by the mitigation scheme, then carries out a Habitat Regulations Assessment (HRA) on the basis of the information submitted, in addition to the necessary consultations.

[18] Havant Borough Council (2020). *Position Statement and Mitigation Plan for Nutrient Neutral Development*. August 2020 (updated September 2022).

6.19. At the same time, the Case Officer will instruct the CIL Team to issue draft unilateral undertaking(s) for SRMS and for nutrient neutrality mitigation. Provided Natural England agree with the HRA findings, there are no other issues which need to be resolved, and the signed unilateral undertaking(s) have been received with payment, planning permission will be granted, subject to conditions, which would include a) measures which achieve a maximum water use of 110 litres per person per day and b) ensure compliance with mitigation.

6.20. It is proposed that either Little Duxmore Farm, IOW, or the Knowle scheme will be used to mitigate the effects of the proposed development to ensure nutrient neutrality is secured.

Residual effects

6.21. Provided the above steps are taken, it is considered that no significant adverse effects would be generated upon the Solent European Designated Sites, as a result of the proposed development.

Hermitage Stream

6.22. Policy E7 of the Havant Adopted Allocations Plan (2014) states that planning permission will be granted for development proposals that positively contribute to the improvement of the Hermitage Stream.

6.23. The proposed development will transform a 0.6km section of the right-hand bank of the stream's riparian zone from hard standing into landscaped public open space. The public open space will comprise a mosaic of wildflower grassland and native trees, which will be a significant betterment to the current situation.

6.24. Although the proposed scheme will not result in any restoration of the river bank or channel, the scheme will not prevent future restoration, will result in enhanced access for maintenance, and will be capable of accommodating future planned improvements. These measures are considered to be policy compliant.

7 SCHEME DESIGN

7.1. The proposed development of the Application Site to build 90 dwellings, will result in the loss of the following habitats:

- Removal of 3 trees
- Buildings and hard standing – 0.98 hectares
- Ruderal vegetation – 0.15 hectares
- Scrub – 0.09 hectares
- Semi-improved grassland – 0.01 hectares

7.2. The proposed development of the Application Site will result in the following habitat creation:

- 52 new trees
- 0.12km of native hedgerow
- Amenity grassland – 0.17 hectares
- Meadow grassland – 0.27 hectares
- Buildings and hardstanding – 0.72 hectares
- Shrubs and ornamental planting – 0.07 hectares

7.3. The proposed scheme will enhance the Hermitage Stream, by providing a landscaped green corridor along the right-hand bank.

8 BIODIVERSITY NET GAIN

Biodiversity Metric results and evaluation

8.1. The full results of the Metric have been provided separately as an Excel document. A summary of results can be found in **Table 8**.

Table 8: Results of Biodiversity Metric

On-site baseline	Habitat units	3.10
	Hedgerow units	0.00
	River units	0.16
On-site post-intervention	Habitat units	6.46
	Hedgerow units	1.01
	River units	0.16
On-site units loss/gain	Habitat units	3.36
	Hedgerow units	1.01
	River units	0.00
On-site net % gain	Habitat units	108.50%
	Hedgerow units	100%
	River units	0.00

8.2. The Biodiversity Metric demonstrates that the proposed development will result in a 3.36-unit net gain in habitat units, which equates to a 108.5% net gain, and a 1.01-unit net gain in hedgerow units, which equates to a 100% net gain. This is more than the current planning policy and legislative requirement, and a significant benefit of the proposed scheme.

8.3. Given that the scheme would deliver in excess of 10% net gain, there is potential for excess credits to be traded with other developments. If the proposed development delivered a 10% net gain, there would be c. 3 biodiversity habitat units available to trade.

8.4. Although there is no net gain in river units, owing to the fact that the proposed enhancements to the river corridor are not sufficient to increase the condition from ‘poor’, to ‘moderate’, ‘fairly good’, or ‘good’, due to the hard-engineered channel and banks, there would be an uplift in river condition with the same category, the proposed green corridor along the Hermitage Stream would be a significant betterment to the existing situation, and allow for proposed future restoration at a catchment scale, in line with local planning policy.

8.5. In addition to measures included within the Biodiversity Metric, the proposed development will include:

- Installation of integrated bird and bat boxes on new buildings and boxes on trees;
- Installation of bee bricks;
- Hedgehog friendly fencing (hedgehog ‘highways’)
- Installation of reptile hibernacula and log piles

8.6. Should planning permission be granted, a Landscape and Ecological Management Plan (LEMP), which provides details of habitat creation, enhancements, and management prescriptions, should be stipulated as a suitably worded planning condition.

9 CONCLUSIONS

9.1. The Application Site falls within the zone of influence of the Solent European Designated Sites. Provided the development demonstrates nutrient neutrality in agreement with the Council, no significant adverse effects are predicted.

9.2. Habitats with the Application Site are dominated by hard standing, semi-improved grassland, tall ruderal, scrub and scattered trees. Habitats within the Application Site are considered to be of low ecological importance.

9.3. The proposed development would provide a comprehensive package of habitat creation, including biodiverse public open space, native trees, species-rich hedgerows, and a green corridor along the Hermitage Stream, a severely degraded watercourse. The proposed development would achieve a significant Biodiversity Net Gain in habitat units.

9.4. The proposed development is policy-compliant in ecological terms.

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APPENDIX 1: PHASE 1 HABITAT MAP

APPENDIX 2: POST-INTERVENTION HABITAT PLAN

LEGEND

- Red line boundary
- Amenity grassland
- Buildings
- Hardstanding
- Introduced shrub
- Meadow grassland
- Native species rich hedgerow
- Tree

ACD ENVIRONMENTAL

Bellway

scheme: Land at Palk Road, Bedhampton, Havant.
client: Bellway Homes.
drawing:
date: Post intervention habitats.
drawn: DW

APPENDIX 3: LANDSCAPE MASTERPLAN

APPENDIX 4: POND LOCATION PLAN

Key

redline

250m

500m

Ponds

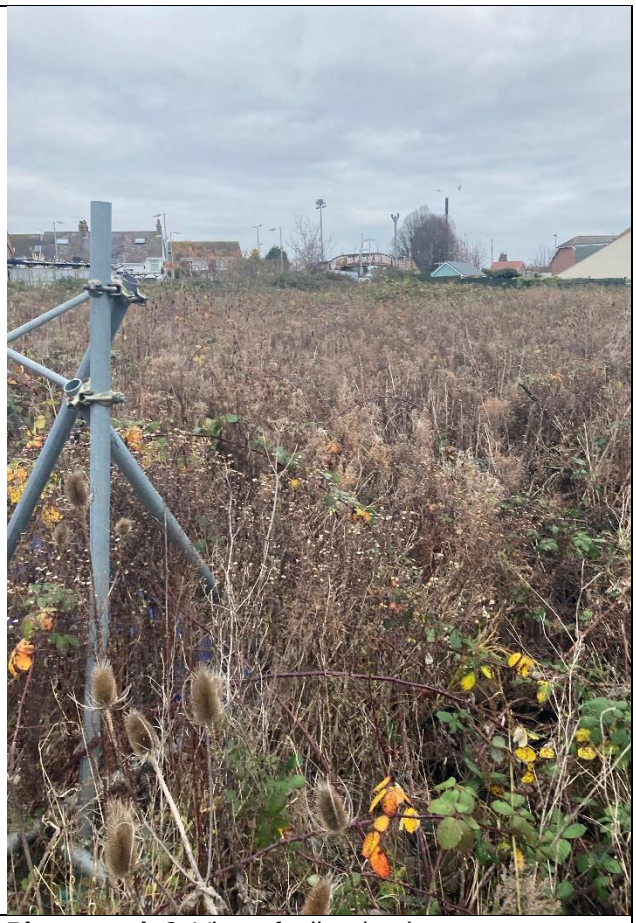
ACD ENVIRONMENTAL

Bellway

scheme: Land at Palk road Havant
client: Bellway Homes
drawing: BELL23607_67
date: 09/12/2021
drawn: KC
checked: RB

APPENDIX 5: SITE PHOTOGRAPHS

Photograph 1: View of hard standing typical of the site



Photograph 2: View of tall ruderal

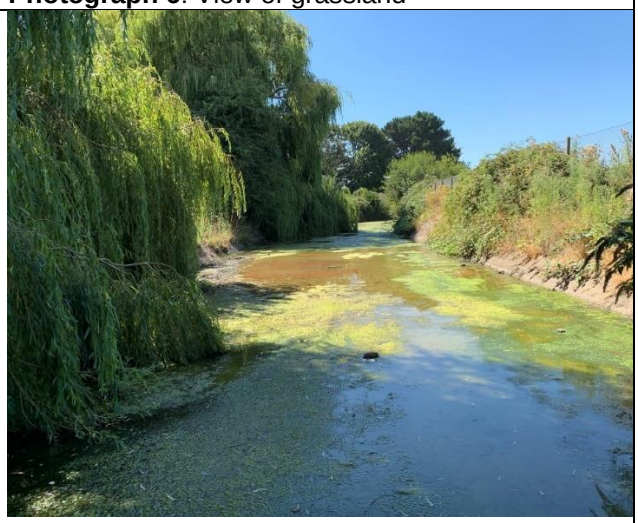
Photograph 3: View of dense scrub along boundary

Photograph 4: View of scattered tree

Photograph 5: Rubble/ spoil pile

Photograph 6: View of grassland

Photograph 7: Hermitage Stream, looking towards Application Site.



Photograph 8: Hermitage Stream, looking downstream.

Photograph 9: Hermitage Stream, looking upstream.	**Photograph 10**: Hermitage Stream (offsite) looking upstream towards weir, adjacent to Portsmouth Water.

APPENDIX 6: FIELD SURVEY METHODOLOGY

Extended Phase 1 Habitat Survey

9.5. The Phase 1 Habitat Map is shown in **Appendix 1**.

9.6. The Phase 1 Habitat Survey[19] was undertaken on 16th December 2021. The Phase 1 Habitat Survey was used to classify the Application Site into habitat types, as listed in the Phase 1 Manual. Where appropriate, dominant species codes within habitat types were recorded. Descriptive target notes were used for particular areas of interest.

9.7. Incidental records of fauna were made during the Phase 1 Habitat Survey and the habitats identified were evaluated for their potential to support legally protected species and species of Principal Importance.

Limitations

9.8. The Extended Phase 1 habitat survey falls outside the recommended seasonal period for botanical surveys. Access was denied to parts of the site therefore not all the Application Site could be thoroughly assessed for habitats and species. However, given the inaccessible areas were predominantly concrete hardstanding and buildings (metal structures) the evaluation and habitat descriptions are unlikely to change.

Badger field signs survey

9.9. A badger field signs survey was carried out during the Extended phase 1 habitat survey by ACD Environmental Ltd. Badger field signs surveys comprised walking the perimeter and interior boundaries of the Site, searching for evidence of badgers, in accordance with Harris *et al*[20] (1989) and Scottish Natural Heritage[21] (2018).

9.10. Where badger setts were found, they were described using the following criteria:

- Number of well-used holes - one or more of the features: well-worn entrance; freshly excavated soil; bedding material.
- Number of partially-used holes - leaves or twigs in entrance and/or mosses and other plants growing in or around entrance).

[19] JNCC, (2010), *Handbook for Phase 1 habitat survey - a technique for environmental audit.* JNCC, Peterborough.
[20] Harris, S., Cresswell, P., and Jefferies, D. (1989). *Surveying Badgers*. Mammal Society.
[21] Scottish Badgers (2018). *Surveying for Badgers: Good Practice Guidelines*. Version 1.

- Number of disused holes - partially or completely blocked, with considerable amount of excavation required for reoccupation.
- Main sett - continuously used, breeding and over-wintering sett for a social group of badgers. Only one main sett will exist in each social groups territory, and will be relatively centrally located within the group's range.
- Annexe sett - annexe of the main sett, linked by well-used paths to the main sett (but not connected underground). Not continuously used.
- Subsidiary sett - distant from the main sett. Several entrances, but with no well-used paths connecting to the main sett, and only used seasonally.
- Outlier sett - distant from the main sett. Small, with only one of two entrances only. Used for short periods sporadically, with no obvious, well-used paths connecting to other setts.

Limitations

9.11. There were no limitations associated with the badger field signs survey.

<u>Preliminary Bat Roost Assessment - trees</u>

9.12. A full Preliminary Roost Assessment (PRA) was not carried out on trees within the Application Site. However, potential roosting features were noted.

9.13. Features known to be suitable for bats were searched for on the trees with reference to the three broad categories of Potential Roost Features (PRFs) and sub-categories of PRFs from the Bat Tree Habitat Key[22]. These are as follows:

- Disease and decay PRFs:
    - Woodpecker and squirrel holes;
    - Knot holes;
    - Pruning-cuts;
    - Tear outs;

[22] Bat Tree Habitat Key 2018. *Bat Roosts in Trees – A Guide to Identification and Assessment for Tree-care and Ecology professionals*. Exeter: Pelagic Publishing.

    - Compression forks;
    - Wounds;
    - Cankers; and
    - Butt rots.
- Association PRFs:
    - Fluting; and
    - Ivy.
- Damage PRFs:
    - Hazard beams;
    - Frost cracks;
    - Subsidence/shearing and helical splits;
    - Lightning strikes;
    - Desiccation fissures;
    - Transverse snaps;
    - Welds; and
    - Lifting bark.

9.14. The following equipment was used for the bat survey:

- Binoculars
- Powerful torch
- Collection pots and labels for corpses and droppings; and
- Camera to record evidence and potential roosting sites;

Limitations

9.15. Due to the locations of the trees on the boundary access to view all aspects of the trees for PRFs was not possible.

Birds

9.16. Bird observations/birds heard were noted.

Limitations

9.17. There were no limitations.

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