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LAND AT PITT VALE, ROMSEY ROAD, WINCHESTER, HAMPSHIRE

BIODIVERSITY NET GAIN FEASIBILITY REPORT

Final Document

June 2023

Preliminary Ecological Appraisals • Protected Species Surveys and Licensing • NVC • EcIA • HRA • Management Plans
Habitats • Badger • Bats • Hazel Dormouse • Birds • Reptiles • Amphibians • Invertebrates • Riparian and Aquatic Species

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ECOSA Quality Assurance Record

This report has been produced in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Report Writing 2017 (CIEEM, 2017), the CIEEM Biodiversity Net Gain Good Practice Principles for Development (CIEEM, 2016) and the CIEEM Biodiversity Net Gain Report and Audit Templates (CIEEM, 2021). The survey work has been undertaken in line with references within CIEEM's Source of Survey Guidance (CIEEM, 2017).

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LAND AT PITT VALE, ROMSEY ROAD, WINCHESTER, HAMPSHIRE

BIODIVERSITY NET GAIN FEASIBILITY REPORT

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EXECUTIVE SUMMARY

Ecological Survey and Assessment Ltd (ECOSA) have been appointed by Countryside Partnerships Southern to undertake a Biodiversity Net Gain Feasibility assessment of land at Pitt Vale, Winchester. The purpose of the assessment is to determine the site's pre-development condition and identify the feasibility of delivering a net gain in biodiversity following development at the site. The site is located on the outskirts of Winchester and comprises arable fields with boundary vegetation. Detailed proposals are not currently known but the development will likely entail the construction of new residential dwellings and areas managed as informal green space.

The main findings of the Biodiversity Net Gain Feasibility assessment are:

- The site comprises modified grassland, mixed scrub, temporary grass and clover leys, hedgerows and lines of trees. The pre-development assessment on-site baseline units are 50.44 habitat units and 8.13 hedgerow units;
- The assessment, using the current Design Concept plan provides post-development units of 137.27 habitat units and 8.93 hedgerow units, representing a 172.16% gain of habitat units and a 9.77% gain of hedgerow units;
- For the purposes of this feasibility study a net gain of 10% for both habitat and hedgerow units has been targeted. Although the current calculation does not indicate that a 10% net gain in hedgerow units will be achieved, it is considered that there is scope to deliver more hedgerows or tree lines within the future proposals in order to be able to ultimately deliver a 10% net gain;
- Opportunities and risks have been discussed in relation to delivery of net gain for both habitats and hedgerows. Key opportunities include development of the initial proposals to include rural trees in the proposed parkland and creation of a community orchard, creation of hedgerows, and retention of tree lines through careful planning of pedestrian and cycle access routes. Key risks include challenges associated with establishing other neutral grassland in the informal open space, the need for long-term management to maintain proposed habitat and hedgerow conditions, and the need to liaise with a drainage specialist to ensure there are no conflicts between ecological objectives and drainage objectives for the sustainable drainage system;
- Other considerations have been highlighted, including the need to protect Important Ecological Features as recommended in ECOSA's previous Preliminary Ecological Appraisal report, and recommendations for continued stakeholder engagement; and

- Further recommendations will be given as the proposals develop. Once the proposals are finalised, the report will be updated to the Biodiversity Net Gain Design Stage for submission to support the planning application.

1.0 INTRODUCTION

1.1 Background

Ecological Survey & Assessment Limited (ECOSA) have been appointed by Countryside Partnerships Southern to prepare a Biodiversity Net Gain Feasibility Report to determine the net gain/loss of biodiversity as a result of the redevelopment of Land at Pitt Vale, Romsey Road, Winchester, Hampshire SO22 5PR (hereafter referred to as the site).

This report presents the findings of the Biodiversity Net Gain Feasibility Assessment, based on calculations using the DEFRA Metric 4.0, and provides an initial assessment of the feasibility of the any future proposals to deliver Biodiversity Net Gain.

This assessment has been produced primarily to inform the client of the feasibility for future proposals to delivery Biodiversity Net Gain. A Biodiversity Net Gain Design Stage Assessment will be required to support any future planning application. This calculation should be based on the exact details of the proposed development and associated landscaping, as they will be submitted to the relevant local authority.

1.2 The Site

The site is located in Winchester, Hampshire, centred on National Grid Reference (NGR) SU 4529 2839 (**Map 1**).

The site comprises large agricultural fields bounded by well managed hedgerows and tree lines. A small woodland lies adjacent to the north-eastern site boundary. Agricultural land belonging to the site landowner continues to the north and west of the site. To the north-east is a recently built residential development and an area of parkland. To the south of the site lies the B3040 ‘Romsey Road’ beyond which lies the South Winchester Golf Club golf course. To the south-west is a small number of residential dwellings associated with Enmill Lane.

The wider landscape is dominated by large agricultural fields with an extensive area of woodland to the north and urban and suburban development associated with the City of Winchester to the east.

1.3 Aims and Scope of Report

The aim of this document is to establish the feasibility of delivering measurable net gain in biodiversity using a recognised biodiversity metric to:

- Calculate the pre-development biodiversity units;
- Calculate the post-development biodiversity units; and

- Make recommendations for the retention, enhancement and creation of habitats to achieve a minimum of 10% net gain at the site post-development.

This document is a stand-alone assessment of the pre-development value of the site in terms of the biodiversity units and the feasibility of the proposals to deliver biodiversity net gain post-development. This does not supersede the Preliminary Ecological Appraisal (ECOSA, 2021a) and should be read in-conjunction with that document.

1.4 Site Proposals

Detailed proposals were not available at the time of writing this report. It is understood that the development will entail the construction of a residential development with a developable area of 8.4 hectares and areas of formal and informal green space, including sustainable drainage features, parkland and allotments.

The assessment made reference to a Design Concept Plan produced by Boyle and Summers, dated April 2021 (Drawing No. 21022 BSL-ZZ-XX-DR-A-1302-DF) (**Appendix 1**).

2.0 LEGISLATIVE AND PLANNING POLICY CONTEXT

2.1 Introduction

This section summarises the planning policy as relevant to Biodiversity Net Gain within the Winchester City Council administrative area. This information is then used to make necessary recommendations for mitigation and enhancements in order to ensure any future planning application accords with relevant planning policy.

2.2 Legislation

2.2.1 Environment Act

The legislative driver for Biodiversity Net Gain comes through the Environment Act 2021. At the time of preparing this report secondary legislation which will set out how Biodiversity Net Gain will be delivered in practice remains under consultation. However, Schedule 14 of the Act sets out the following:

- Sets a measurable Biodiversity Net Gain[1] objective of 10% for all development for which planning permission is granted;
- The Biodiversity Metric to calculate the Biodiversity Value of the site is produced and published by the Secretary of State[2];
- The pre-development and post-development biodiversity value of the site should be calculated using the metric and based on the pre-development biodiversity value on the date of planning application. However, this may be agreed as being an alternative date by the local planning authority;
- All planning permissions (with a few exceptions) granted in England will be subject to a general condition requiring that a Biodiversity Net Gain Plan is submitted for approval to the planning authority prior to commencement of the development; and
- The post-development value must be calculated based on the development at completion and the obligation for maintaining the proposed Biodiversity Net Gain measures will be a minimum of 30 years.

The Act also states that where activities are undertaken on a given site on or after the 30th January 2020, which result in a lower biodiversity value than otherwise would have been achieved (e.g. site clearance), then the biodiversity value should be calculated

[1] Biodiversity Net Gain is defined as "development that leaves biodiversity in a better state than before" (CIEEM, 2016).
[2] At the time of preparation of this report the Secretary of State's Metric has yet to be published which is anticipated to be in the first half of 2023. This will provide updates to the metric utilised within this report. The likely extent of these updates is currently unknown.

based on the value of the site prior to the activity commencing. The only exception is where activities undertaken are in accordance with an otherwise consented[3] activity, In practice this puts an onus on the applicant and the ecologist who completed the assessment to assume a "worst case scenario" approach where habitat clearance has been undertaken at the time of the site survey.

Where 10% Biodiversity Net Gain cannot be demonstrated on site the Act makes provision for offsite offsetting either through the purchase of biodiversity units on registered offsetting land or alternatively through the Government's credit system[4].

The requirements under Schedule 14 are due to come into force in November 2023. Therefore, it is currently anticipated that any planning permissions granted after November 2023 will be subject to a minimum requirement to demonstrate 10% Biodiversity Net Gain.

2.3 Planning Policy

2.3.1 National Policy

The National Planning Policy Framework (NPPF) sets out the government's requirements for the planning system in England. The original document was published in 2012 with the most recent revised NPPF published in July 2021. A number of sections of the NPPF are relevant when taking into account development proposals and the environment. As set out within Paragraph 11 of the NPPF "*Plans and decisions should apply a presumption in favour of sustainable development*". However, Paragraph 182 goes on to state that "*The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.*".

The NPPF sets out that development proposals should not only minimise the impacts on biodiversity but also to provide enhancement. Paragraph 174 states that the planning system should contribute to and enhance the natural environment by *"…minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures...".*

A number of principles are set out in Paragraph 180, including that where harm cannot be adequately avoided then it should be mitigated for, or as a last resort, compensated for. Where impacts occur on nationally designated sites, the benefits must clearly

[3] For example a previous planning permission.
[4] A market for biodiversity units has begun to develop. However, the statutory credits to be provided by central government remain unavailable at the time of preparation of this report.

outweigh any adverse impact and incorporating biodiversity in and around developments should be encouraged. Specific reference is also made to the protection of irreplaceable habitats[5], including ancient woodland[6]. Where loss to irreplaceable habitats occurs planning permission would normally be refused unless there are wholly exceptional reasons and an adequate compensation strategy is in place. Paragraph 180 also states "*development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.*".

2.3.2 Local Policy

The adopted local plan has a two overarching Policies in relation to biodiversity which are Policy CP16 and Policy DM24. However, the local plan does not make specific reference to Biodiversity Net Gain or a specific Biodiversity Net Gain target.

[5] The NPPF defines irreplaceable habitats as "*Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen."*

[6] Natural England defines ancient woodland as "An area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland and plantations on ancient woodland sites (PAWS)."

3.0 METHODOLOGY

3.1 Introduction

This section provides the methodology followed as part of the Biodiversity Net Gain Feasibility Assessment.

3.2 Biodiversity Metric Calculation Methods

The Biodiversity Net Gain Assessment was undertaken using DEFRA's Biodiversity Metric 4.0 Calculation Tool (Natural England, 2021).

The calculator provides a score which represents the biodiversity value of each area of habitat by applying multipliers, which can have a positive or negative effect on the overall score, based on a number of components of biodiversity quality. These components are set out in the paragraphs below.

Once these calculations are completed a pre- and post- development biodiversity value of the site is provided, which allows an assessment to be made of the net biodiversity gains achievable at the site.

As standard, the pre-development situation is based on the current ecological baseline as recorded during the field survey (see Paragraph 3.4). However, the pre-development situation may be based on a historic ecological baseline if a review of aerial imagery indicates that activities have been undertaken at the site on or after the 30th January 2020, which would have resulted in the site having a lower biodiversity value than otherwise would have been achieved (e.g. site clearance). In these instances, in accordance with the Environment Act (see Paragraph 2.2.1) the biodiversity value should be calculated based on the value of the site prior to the activity commencing.

3.2.1 Components of Biodiversity Quality

Habitat Type

The field survey followed UK Habitat Classification (UKHab) methodology (The UK Habitat Classification Working Group, 2018), to classify all habitats on site into specific habitat types. The UKHab classification system is used (with some minor modifications) within DEFRA's Biodiversity Metric 4.0 Calculation Tool.

Habitat Area

Areas of existing, retained and proposed habitats were mapped and measured by ECOSA using QGIS. The extents of existing habitats are based on information collected during the field survey and using aerial photography and Ordnance Survey (OS) mapping resources (**Map 2**).

The extents for retained and proposed habitats were based on the Design Concept Plan produced by Boyle and Summers, dated April 2021 (Drawing No. 21022 BSL-ZZ-XX-DR-A-1302-DF) (**Appendix 1**). This information was subsequently used to generate a Post- Development Habitat Map in ArcGIS (**Map 3**).

Non-linear habitats are measured in hectares whilst linear features are measured by length in kilometres. Therefore, for the purposes of the calculation they are addressed separately with separate biodiversity units calculated for linear and non-linear features.

Habitat Distinctiveness

The distinctiveness of a habitat represents its relative quality and importance compared to other habitat types, based on an assessment of the distinguishing features of a habitat, including consideration of species richness, rarity and the degree to which a habitat supports species rarely found in other habitats. The Habitat Distinctiveness scores are automatically assigned by the calculator in accordance with the assessment methodology detailed in the Biodiversity Metric 4.0 Technical Supplement (Natural England, 2023b).

Habitat Condition

The condition of a habitat represents its relative quality judged against the perceived ecological optimum state for that particular habitat type. Therefore, habitat condition is specific to the habitat type and not comparable between habitat types (unlike Habitat Distinctiveness). The condition assessment was based on the criteria within the Biodiversity Metric 4.0 Technical Supplement (Natural England, 2023a). Some habitat types (for example most agricultural habitats and hardstanding) are not subject to assessment and are assigned default scores by the calculation tool. For proposed habitat creation a 'Target Condition' is assigned, this is the condition that it is proposed the habitat will achieve post-development and is based on the same criteria as the condition assessment.

Strategic Significance

The Strategic Significance multiplier gives additional unit value to habitats that are located in preferred locations for biodiversity and other environmental objectives. The strategic significance of an area may change between pre- and post-development scenarios, where the strategic value of the habitat features has changed post-development. For example, newly developed residential units may no longer be strategically significant compared to the pre-development situation, whereas a newly created ecological corridor or buffer may be deemed as more strategically significant if created post-development. There are three categories of strategic significance.

Formally Identified In Local Strategy

Where land lies within a statutory or non-statutory designated site, such as Ramsar sites, Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Sites of Special Scientific Importance (SSSIs), National Nature Reserves (NNRs), Sites of Importance for Nature Conservation (SINCs) or Road Verges of Ecological Importance (RVEIs) these are considered to be areas 'formally identified in the local strategy'.

Location ecologically desirable but not in local strategy

ECOSA assess habitats to be 'ecologically desirable but not in local strategy' if they are not part of a statutory or non-statutory designated site (as outlined above), but provide one of the following features/functions:

- Serves an ecological function that benefits high distinctiveness habitats (e.g. a native hedgerow linking two blocks of high distinctiveness woodland);
- Lies adjacent to or is functionally connected to similar habitat that is formally identified in a local plan (e.g. chalk grassland adjacent to a local wildlife site designated for chalk grassland);
- Functions as a resource for a species which receives legal protection (e.g. habitat suitable for hazel dormouse which is connected to habitat known to support a locally important population of hazel dormouse);
- Habitat has been identified as being of local importance to a Species of Principal Importance;
- Habitat has been formally identified through the planning process to provide a physical buffer for areas formally identified in a local strategy (e.g. grassland within a site that lies within the root protection zone of an adjacent woodland which is the designating feature of a SINC);
- Habitat of medium/high distinctiveness in an otherwise low distinctiveness landscape (e.g. parkland in an otherwise built up urban area);
- Habitat that could act as a refuge or stepping stone to allow species to safely cross less suitable habitat to access needed resources.

3.2.2 Additional Factors for Habitat Creation and Enhancement

In addition to the above components, several additional multipliers are assigned to habitats which are proposed to be created or enhanced post-development. These factors take into account the risks associated with attempting to establish new habitats and are detailed below.

Difficulty Risk

This is the risk associated with the delivery of biodiversity creation or enhancement due to uncertainty in the effectiveness of techniques to create or restore a particular habitat type. For some habitat types it is much more difficult to replicate habitat losses because of the unique physical and ecological features of the habitat.

Temporal Risk

For some habitat types, it can take a long time to achieve the Target Condition (see Habitat Condition paragraph above). If there is a significant time lag between initial habitat loss and establishing new habitats of adequate condition to compensate for this loss, there will be lower levels of biodiversity for this period of time. The temporal risk multiplier reflects this temporary reduction in quality.

Spatial Risk

Where habitat creation is being undertaken to offset habitat loss as a result of the proposals, it is beneficial for such offsetting to be delivered in proximity to the original loss, ideally within the site itself, so that the ecosystem services provided by such habitat will benefit receptors that are affected by the proposals. Where this is not possible, it is considered that locating off-site compensation within the local planning authority area or the same National Character Area represents a minimal risk. For offsetting delivered further afield a negative multiplier is applied.

Trading Rules

When undertaking habitat creation it is also necessary to take into account trading rules. This means that "trading down" must be avoided. Habitat losses need to be compensated for on a "like for like" or "like for better" basis. This means that newly created habitats should be similar (for example grassland type habitats being replaced by grassland type habitats) and new habitat should aim to achieve either a higher distinctiveness and/or better condition than those which are lost. The only exception applies where low distinctiveness habitats are lost these can be offset with different but higher distinctiveness habitats. Losses of irreplaceable or very high distinctiveness habitat cannot be adequately accounted for through the metric. This should be avoided or a bespoke compensation scheme would need to be devised and agreed with the relevant authority.

3.3 Desk Study

3.3.1 Multi-Agency Geographic Information for the Countryside

The Multi-Agency Geographic Information for the Countryside (MAGIC) database (DEFRA, 2023) was reviewed on 10th May 2023 to establish the location of statutory designated sites located within the vicinity of the site. This included a search for all internationally and nationally designated sites such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Wetlands of International Importance (Ramsar sites), Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs) within one kilometre of the site.

3.3.2 Other Sources of Information

Given the requirement of the Environment Act that where operations have taken place which would decrease the unit value of the site after 30th January 2020, which are not otherwise part of a lawful operation, a review of publicly available aerial photography was undertaken to ensure that site conditions appear similar to those before the 30th January 2020.

In addition, a review was also undertaken of aerial photography to identify any potential features which may require consideration when assessing the strategic significance of habitat features on site (see Paragraph 3.2.1).

3.4 Field Survey

3.4.1 Habitat Classification and Condition Assessment

Areas of existing habitat that make up the on-site baseline and their current condition were identified during a field survey undertaken by ECOSA on 9th May 2023.

The field survey followed UK Habitat Classification (UKHab) methodology (The UK Habitat Classification Working Group, 2018). UKHab is the classification system used (with some minor modifications) within DEFRA's Biodiversity Metric 4.0 Calculation Tool.

The field survey covered all accessible areas of the site within the defined red line boundary.

The UKHab Survey Application, developed using the digital survey platform Coreo was used to map habitats in the field, collect the field survey data and photograph the site.

The condition assessment was based on the criteria within the Biodiversity Metric 4.0 Technical Supplement (Natural England, 2023a). Some habitat types (for example most agricultural habitats and hardstanding) are not subject to assessment and are assigned default scores by the calculation tool.

3.4.2 Field Survey Details

The UKHab survey and condition assessment were carried out by Georgina Timmis, Principal Ecologist of ECOSA on 9th May 2023. The weather conditions were dry with approximately 100% cloud cover, an ambient temperature of 10 °C and a light breeze.

During the survey, the surveyor was equipped with a digital camera.

3.5 Assumptions and Limitations

Whilst a best assessment is made of the post-development habitat types these do not always directly correlate into UKHab Classifications. Therefore, the creation of the

habitats proposed are also subject to any future management and monitoring regime to ensure that the post-development creation and target condition is achieved.

Scattered trees are indicated within the area described as parkland in the Design Concept plan. As the trees are indicative and details of number, location and species is not currently available, these have not been accounted for in the Biodiversity Net Gain feasibility study. This is discussed further in Paragraph 6.5.1.

A community orchard is indicated within the informal greenspace on site in the Design Concept plan. As the extent of this habitat type is not provided, this has not been accounted for in the Biodiversity Net Gain feasibility study. This is discussed further in Paragraph 6.5.1.

4.0 PRE-DEVELOPMENT CONDITIONS

4.1 Introduction

The detailed metric calculation is provided alongside this report, supported by a pre-development habitat map (**Map 2**). Further information on how the value of each component of biodiversity quality for pre-development habitats has been assigned is provided in this section of the report.

4.2 Date of Pre-Development Scenario

A review of historic aerial imagery as part of the desk study indicates that the land has been managed in its current use (agricultural) since before January 30th 2020, and there is no evidence of activities that would result in a lower biodiversity value at the site since this date, therefore the pre-development scenario has been based on the most recent field survey.

4.3 Pre-Development Habitat Type, Distinctiveness and Area/Length

The pre-development habitats within the development red-line boundary are detailed within **Table 1** and **Table 2** and are shown on **Map 2.**

Table 1: Pre-development Habitat Type, Distinctiveness and Area

Habitat Ref.	Habitat Type	Habitat Distinctiveness	Habitat Area (Hectares)
1	Modified grassland	Low	0.825
2	Mixed scrub	Medium	0.036
3	Cropland	Low	22.585

Table 2: Pre-development Hedgerow Type, Distinctiveness and Area

Hedge Number	Hedgerow Type	Hedgerow Distinctiveness	Hedgerow Length (Kilometres)
H1	Line of trees	Low	0.432
H2	Species Rich Native Hedgerow	Medium	0.193
H3	Line of trees	Low	0.184
H4	Species Rich Native Hedgerow	Medium	0.382
H5a	Other native hedgerow	Low	0.122
H5b	Other native hedgerow	Low	0.016
H5c	Other native hedgerow	Low	0.262
H6a	Ecologically Valuable Line of trees	Medium	0.06
H6b	Ecologically Valuable Line of trees	Medium	0.007
H6c	Ecologically Valuable Line of trees	Medium	0.011

4.4 Pre-Development Habitat Condition

Details of the condition criteria met by each habitat and hedgerow are provided in **Appendix 2** and summarised in **Table 3** and **Table 4**, respectively.

Table 3: Pre-development Habitat Condition

Habitat Ref.	Habitat Type	Habitat Condition
1	Modified grassland	Good
2	Mixed scrub	Moderate
3	Cropland	Condition Assessment N/A

Table 4: Pre-development Hedgerow Condition

Hedgerow Ref.	Hedgerow Type	Hedgerow Condition
H1	Line of trees	Poor
H2	Species Rich Native Hedgerow	Good
H3	Line of trees	Poor
H4	Species Rich Native Hedgerow	Good
H5a	Other native hedgerow	Good
H5b	Other native hedgerow	Good
H5c	Other native hedgerow	Good
H6a	Ecologically Valuable Line of trees	Moderate
H6b	Ecologically Valuable Line of trees	Moderate
H6c	Ecologically Valuable Line of trees	Moderate

4.5 Pre-Development Strategic Significance

4.5.1 Strategic Significance Context

Consultation of the MAGIC database did not identify any statutory designations on, adjacent to or functionally linked to the site. Historic work at the site has identified Pitt Manor A (Downland Meadow), designated for its chalk grassland habitat, lies adjacent to the eastern site boundary (ECOSA, 2021a). A network of ponds has been identified in the local area. Environmental DNA (eDNA) surveys undertaken in 2014 concluded no great crested newt were present within the network at that time. Consultation of the MAGIC database both during the Preliminary Ecological Appraisal (ECOSA, 2021a) and during this assessment identified a number of European Protected Species Mitigation (EPSM) licences issued for legally protected species hazel dormouse. The nearest of these is 100 metres east of the site, and highly likely to be associated with habitat functionally linked to the hedgerows and mixed scrub on site, which are currently suitable to support this species (ECOSA, 2021a).

4.5.2 Assigned Significance

Details of the strategic significance assigned to each habitat are provided in **Table 5** and **Table 6**, respectively, including a justification as to why this level of significance has been assigned.

Table 5: Pre-development Habitat Strategic Significance

Habitat Ref.	Habitat Type	Strategic Significance	Justification
1	Modified grassland	Area/compensation not in local strategy/ no local strategy	The modified grassland on site does not lie within a designation and does not provide any of the features/functions set out in Paragraph 4.5.
2	Mixed scrub	Location ecologically desirable but not in local strategy	The mixed scrub is connected to woodland and hedgerows which are known to support legally protected species hazel dormouse *Muscardinus avellanarius* and may provide a resource for this species. The mixed scrub also provides a resource for nesting birds, which are legally protected.
3	Cropland	Area/compensation not in local strategy/ no local strategy	The cropland on site does not lie within a designation and does not provide any of the features/functions set out in Paragraph 4.5.

Table 6: Pre-development Hedgerow Strategic Significance

Hedgerow Ref.	Hedgerow Type	Strategic Significance	Justification
H1	Line of trees	Location ecologically desirable but not in local strategy	All hedgerows and treelines on site provide habitat corridors for wildlife and have potential to support nesting birds, a legally protected species group. The hedgerows are functionally linked to habitat known to support hazel dormouse.
H2	Species Rich Native Hedgerow	Location ecologically desirable but not in local strategy	
H3	Line of trees	Location ecologically desirable but not in local strategy	
H4	Species Rich Native Hedgerow	Location ecologically desirable but not in local strategy	
H5a	Other native hedgerow	Location ecologically desirable but not in local strategy	
H5b	Other native hedgerow	Location ecologically desirable but not in local strategy	
H5c	Other native hedgerow	Location ecologically desirable but not in local strategy	
H6a	Ecologically Valuable Line of trees	Location ecologically desirable but not in local strategy	
H6b	Ecologically Valuable Line of trees	Location ecologically desirable but not in local strategy	
H6c	Ecologically Valuable Line of trees	Location ecologically desirable but not in local strategy	

4.6 Habitat Loss

Details of the pre-development habitats and hedgerows that will be lost as part of the proposals, and the reason they are anticipated to be lost are provided in **Table 7** and **Table 8**, respectively.

Table 7: Summary of Lost Pre-Development Habitats

Habitat Ref.	Habitat Type	Area Lost (Hectares)	Reason for Loss
1	Modified grassland	0.83	Part of the modified grassland will be given over to residential development, part will be lost to the creation of a proposed woodland buffer. Part will be re-established as Other Neutral Grassland post-development, but given its location between the developable area and the proposed woodland, it is likely to be lost in the process and need to be re-established.
3	Temporary grass and clover leys	22.59	Part of the cropland will be given over to create the Sustainable Drainage System and allotments. Part will be lost to plant woodland on the western site boundary

Table 8: Summary of Lost Pre-Development Hedgerows

Hedgerow Number	Hedgerow Type	Length Lost (Kilometres)	Reason for Loss
H5b	Native hedgerow	0.122	Removed to provide road access to developable area from the A3090.
H6b	Line of trees	0.007	Removed to provide a pedestrian and cycle link to/from Romsey Road.

4.7 Pre-Development Summary

Based on the value of each component of biodiversity quality determined as part of the Biodiversity Net Gain Assessment the pre-development value of the site is **50.44 habitat units** and **8.13 hedgerow units**.

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5.0 POST-DEVELOPMENT CONDITIONS

5.1 Introduction

The detailed metric calculation is provided alongside this report, supported by a post-development habitat map (**Map 3**). Further information on how the value of each component of biodiversity quality for post-development habitats has been assigned is provided in this section of the report. .

5.2 Post-Development Creation - Habitat Type, Distinctiveness and Area/Length

The type, distinctiveness and area of post-development habitats that will be created as part of the proposals are detailed within **Table 9** and are shown on **Map 3.**

Table 9: Post-Development Habitat Type, Distinctiveness and Area

Habitat Type	Habitat Distinctiveness	Habitat Area (Hectares)
Modified grassland	Low	0.879
Other neutral grassland	Medium	13.672
Developed land; sealed surface	V.Low	7.527
Sustainable drainage system	Low	0.379
Allotments	Low	0.229
Other woodland; broadleaved	Medium	0.724

5.3 Post-Development Habitat – Target Condition

The habitats created as part of the proposals and the condition that will be targeted for each is provided in **Table 10**. Further justification for the conditions targeted is provided in **Appendix 3**.

Table 10: Post-Development Habitats Created and their Target Condition

Habitat Type.	Habitat Area (Hectares)	Target Condition
Modified grassland	0.879	Good
Other neutral grassland	13.672	Good
Developed land; sealed surface	7.527	N/A - Other
Sustainable Drainage System	0.379	Good
Allotments	0.229	Poor
Other woodland; broadleaved	0.724	Moderate

5.4 Post-Development Habitat – Anticipated Strategic Significance

Details of the strategic significance assigned to each habitat post-development are provided in **Table 11**, including a justification as to why this level of significance has been assigned.

Table 11: Post-development Habitat Strategic Significance

Habitat Type	Strategic Significance	Justification
Modified grassland	Area/compensation not in local strategy/ no local strategy	The modified grassland proposed on site does not lie within a designation and is not anticipated to provide any of the features/functions set out in Paragraph 4.5.
Other neutral grassland	Area/compensation not in local strategy/ no local strategy	The other neutral grassland proposed on site does not lie within a designation and is not anticipated to provide any of the features/functions set out in Paragraph 4.5. Although the grassland lies adjacent to chalk grassland associated with the Pitt Manor SINC (Paragraph 4.5.1), due to the lands historic use as cropland and proposed use as public open space, it is not anticipated that chalk grassland could be established within the site or that the grassland lying adjacent to the SINC would provide any additional resource or function for the SINC.
Developed land; sealed surface	Area/compensation not in local strategy/ no local strategy	The developed land; sealed surface created on site is not anticipated to provide any of the features/functions set out in Paragraph 4.5.
Sustainable Drainage System	Area/compensation not in local strategy/ no local strategy	The sustainable drainage system created on site is not anticipated to provide any of the features/functions set out in Paragraph 4.5. Although the water feature will be functionally connected to a network of ponds in the wider landscape, these ponds are not currently known to support legally protected species such as great crested newt (Paragraph 4.5.1). However, if further surveys were to discover this species is present in the local pond network this may increase the strategic significance of this habitat.
Allotments	Area/compensation not in local strategy/ no local strategy	The allotments proposed on site do not lie within a designation and is not anticipated to provide any of the features/functions set out in Paragraph 4.5.
Other woodland; broadleaved	Location ecologically desirable but not in local strategy	The woodland proposed to be created will be functionally connected to hedgerows known to support legally protected species hazel dormouse. The species and structure of the woodland is anticipated to provide additional resource for this species.

5.5 Post-Development Habitat Enhancement

The only habitat to be retained as part of the proposals is the mixed scrub (Habitat Ref. 2). This is not proposed to be enhanced as due to its limited size it is not considered feasible to improve the habitat type or distinctiveness.

The type, distinctiveness and area of post-development hedgerows that will be enhanced as part of the proposals of the proposals are detailed within **Table 12** and are shown on **Map 3.**

Table 12: Post-Development Enhanced Hedgerow Type, Distinctiveness and Area

Hedgerow Number	Hedgerow Type	Hedgerow Length (Km)	Quality Components Enhanced	Justification
H1	Line of trees	0.432	Condition	Condition increased from 'Poor' to 'Moderate', see **Appendix 4** for condition criteria targeted.
H3	Line of trees	0.184	Condition	Condition increased from 'Poor' to 'Moderate', see **Appendix 4** for condition criteria targeted.

5.6 Post-Development Summary

Creation of habitats post-development will deliver 137.27 habitat units. There will be no additional habitat units delivered as a result of habitat enhancement as most of the pre-development habitats will be lost and the retained mixed scrub is not suitable for enhancement. Therefore the total habitat units delivered post-development will be **137.27 units**.

The design concept plan does not include the creation of any new hedgerows, therefore no additional hedgerow units will be delivered as a result of hedgerow creation. Two tree lines on site (H1 and H3) are targeted for enhancement, this will deliver 0.79 additional hedgerow units. Therefore the total hedgerow units delivered post-development will be **8.93 units**.

6.0 FEASIBILITY OF BIODIVERSITY NET GAIN

6.1 Introduction

This section discusses the feasibility of the scheme to achieve a net gain in biodiversity and what measures may be required to achieve a net gain in biodiversity, if not achievable with the current design.

6.2 Biodiversity Net Gain Target

Although it does not currently form part of Winchester Planning Policy and is not yet a legal mandate, as it is anticipated that delivery of 10% net gain under Schedule 14 of the Environment Act will come into force in November 2023 (Paragraph 2.2.1), it is considered prudent to set 10% as the target for delivery when considering the feasibility of delivering Biodiversity Net Gain as part of these proposals.

6.3 Biodiversity Net Gain Good Practice Principles for Development

Best practice guidelines state that in order to achieve true Biodiversity Net Gain, in addition to calculating the change in biodiversity value using a metric, Biodiversity Net Gain Good Practice Principles for Development (CIEEM, 2016) must be followed. These principles, and how they will be or should be met, are set out in **Appendix 5** and associated considerations and recommendations are discussed in the remainder of this section.

6.4 Feasibility of Design

6.5 Feasibility of Net Gain in Habitat Units

Based on the design concept plan, the current metric calculation indicates that the scheme has scope to deliver 172.16% net gain post-development. This is primarily due to the conversion of large areas of cropland and modified grassland (low distinctiveness habitats) into other neutral grassland and other woodland; broadleaved (medium distinctiveness habitats). The metric calculation indicates there is considerable scope to deliver a net gain in habitat units.

6.5.1 Opportunities

In addition to the habitat creation proposed in the design concept plan, creation of new scattered rural trees and community orchard, which have not been included in this assessment (see Paragraph 3.5), would also increase habitat unit value post-development.

Creation of additional natural habitats within the developable area, such as vegetated gardens, would increase habitat unit value, this should be considered as the detailed design of the developable area is brought forward.

6.5.2 Risks

It is possible that some of the area currently categorised as other neutral grassland post-development may need to be categorised under a lower distinctiveness habitat type (such as modified grassland), or a lower habitat condition, if it requires significant management in order to serve its function as a public space (for example, where art sculptures are proposed to be installed). However, these areas are likely to be sufficiently limited in extent that it is not considered to affect the overall feasibility of the scheme to deliver the minimum 10% net gain in habitat units.

There are some challenges associated with establishing other neutral grassland in an area previously used for intensive cropland. This is because the agricultural management leaves the soil nutrient enriched. Nutrient rich soil encourages certain species to become dominant in a grassland sward, reducing its overall diversity, which would affect the condition, and potentially the distinctiveness, quality components of the created grassland. In order to ensure that the site is suitable to deliver other neutral grassland it is recommended that soil testing and preparation is undertaken prior to attempting to establish new grassland on site.

The assessment has predicted that 'good' condition can be achieved for the sustainable drainage system, this requires the design of the drainage system to meet the condition criteria set out in **Appendix 3**. It is recommended that these criteria are discussed with a drainage specialist in order to ensure that they do not conflict with the requirements of the drainage feature to serve its primary function.

It will be necessary to ensure newly created habitats are appropriately managed in order to ensure they continue to meet the targeted condition criteria as set out in **Appendix 3**. It is recommended that an ecological management plan is developed to support any future planning application, so that it can be demonstrated to the local authority how these target conditions will be achieved/maintained and who will be responsible for ensuring these measures are implemented.

6.6 Feasibility of Net Gain in Hedgerow Units

Based on the design concept plan, the current metric calculation indicates that the scheme has scope to deliver 9.77% net gain post-development. This is marginally less than the 10% net gain recommended.

The current gain has been delivered as a result of two tree lines on site that are proposed to be retained, which are currently of low condition due to their recent creation. As they mature, the canopy will develop and join, creating a better condition habitat.

Although the initial calculation is showing a percentage net gain of less than 10%, it is still considered that there is scope for the scheme to deliver 10% net gain in hedgerow units, as there are further opportunities to deliver more hedgerow units as part of the detailed design.

6.6.1 Opportunities

As the concept design plan does not indicate the creation of any hedgerows, no hedgerow creation has been factored into the metric calculation at this stage. However, it seems that there are considerable opportunities to incorporate more hedgerows into the developing design. Incorporating of hedgerows into future proposals provides an opportunity to maximise the hedgerow unit score post-development. The design of these hedgerows should seek to meet as many condition criteria as possible to maximise the condition quality component, and should consider opportunities to provide wildlife corridors, which could improve the strategic significance quality component.

For the purpose of this assessment it has been assumed that part of an Ecologically Valuable Line of trees (H6b) will be lost in order to facilitate the creation of pedestrian/cycle access. However, there may be an opportunity to avoid this loss or any significant degradation of condition by establishing narrow paths between the trees, or rerouting the paths around the existing treeline. This would increase the post-development hedgerow units available, and accord with Principle 1 of the Biodiversity Net Gain Good Practice Principles for Development (**Appendix 5**).

6.6.2 Risks

The current hedgerow unit score relies on the retention of the two treelines (H1 and H3) and their continued management to achieve good condition. If the tree lines are lost or mismanaged, the hedgerow units predicted would not be achieved.

The hedgerow loss factored into the metric as a result of establishing vehicle and pedestrian access is based on the level of detail provided in the design concept plan. It is considered a risk that the extent of loss may be greater than currently estimated, if wider visibility splays or further vehicle or pedestrian infrastructure is required. If this is the case, additional hedgerow creation should ideally be implemented to offset the net loss in habitat units. As this loss also has implications for notable and protected species (see Preliminary Ecological Appraisal (ECOSA, 2021a)), the design of any new hedgerow creation should be undertaken in consultation with an ecologist, to ensure the ecological functionality of hedgerows for these important ecological features is maintained.

It will be necessary to ensure newly created habitats are appropriately managed in order to ensure they continue to meet the targeted condition criteria as set out in

Appendix 3. It is recommended that an ecological management plan is developed to support any future planning application, so that it can be demonstrated to the local authority how these target conditions will be achieved/maintained and who will be responsible for ensuring these measures are implemented. This is compliant with Principle 8 of the Biodiversity Net Gain Good Practice Principles for Development (**Appendix 5**).

6.7 Other Considerations

6.7.1 Important Ecological Features

Further surveys for notable and protected species are recommended to support any future planning application (ECOSA, 2021a). Principle 4 of the Biodiversity Net Gain Good Practice Principles for Development states "*The metric focuses on typical habitats and widespread species; important or protected habitats and features should be given broader consideration.*". Therefore the findings of any further surveys, and species-specific mitigation measures will need to be considered in any final landscaping proposals and this may have positive or negative implications for the overall scores described above.

6.7.2 Stakeholder Engagement

Initial stakeholder engagement has been undertaken as a Biodiversity Metric Assessment (ECOSA, 2021b) was submitted to Winchester City Council as part of the 'Call for Sites' run between 15th February and 12th April 2021. It is recommended that continued engagement with stakeholders is considered throughout the development of the proposals, in line with Principle 3 of the Biodiversity Net Gain Good Practice Principles for Development (**Appendix 5**).

7.0 CONCLUSION

Based on the information currently available it is considered that there is scope to deliver a minimum of 10% net gain in both habitat and hedgerow units, if the target conditions for created habitats and hedgerows can be achieved and recommendations for incorporation of additional hedgerows into the developing scheme can be implemented.

8.0 REFERENCES

CIEEM, 2016. *Biodiversity Net Gain Good Practice Principles for Development,* Winchester: CIEEM.

CIEEM, 2017. *Chartered Institute of Ecology and Environmental Management Website.* [Online]
Available at: www.cieem.net

CIEEM, 2017. *Guidelines for Ecological Report Writing.* 2nd ed. Winchester: Chartered Institute of Ecology and Environmental Management.

CIEEM, 2021. *Biodiversity Net Gain Report and Audit Templates,* Winchester: Chartered Institute of Ecology and Environmental Management.

DEFRA, 2023. *Multi-Agency Geographic Information for the Countryside (MAGIC) Map Application.* [Online]
Available at: www.defra.magic.gov.uk

ECOSA, 2021a. *Land at Pitt Vale, Winchester - Preliminary Ecological Appraisal. Draft Document. 26th March 2021.,* North Baddesley: ECOSA.

ECOSA, 2021b. *Land at Pitt Vale, South of Kilham Lane, Winchester, Hampshire - Preliminary Biodiversity Net Gain Assessment,* North Baddesley: ECOSA.

Natural England, 2021. *The Biodiversity Metric 4.0.* [Online] Available at: https://publications.naturalengland.org.uk/publication/6049804846366720 [Accessed 22 May 2023].

Natural England, 2023a. *The Biodiversity Metric 4.0 - User Guide - Technical Annex 1 - Condition Assessment Sheets and Methodology (JP039),* s.l.: Natural England.

Natural England, 2023b. *The Biodiversity Metric 4.0 - User Guide - Technical Annex 2 (JP039),* s.l.: Natural England.

The UK Habitat Classification Working Group, 2018. *The UK Habitat Classification User Manual Version 1.0.* [Online]
Available at: https://ukhab.org/

Map 1 Site Location Plan

LAND AT PITT VALE, ROMSEY ROAD, WINCHESTER, HAMPSHIRE

BIODIVERSITY NET GAIN
FEASIBILITY REPORT

Map 1 - Site Location Plan

Client:	Drew Smith Group
Date:	May 2023
Status:	Final

KEY

Site Boundary

1:10,000

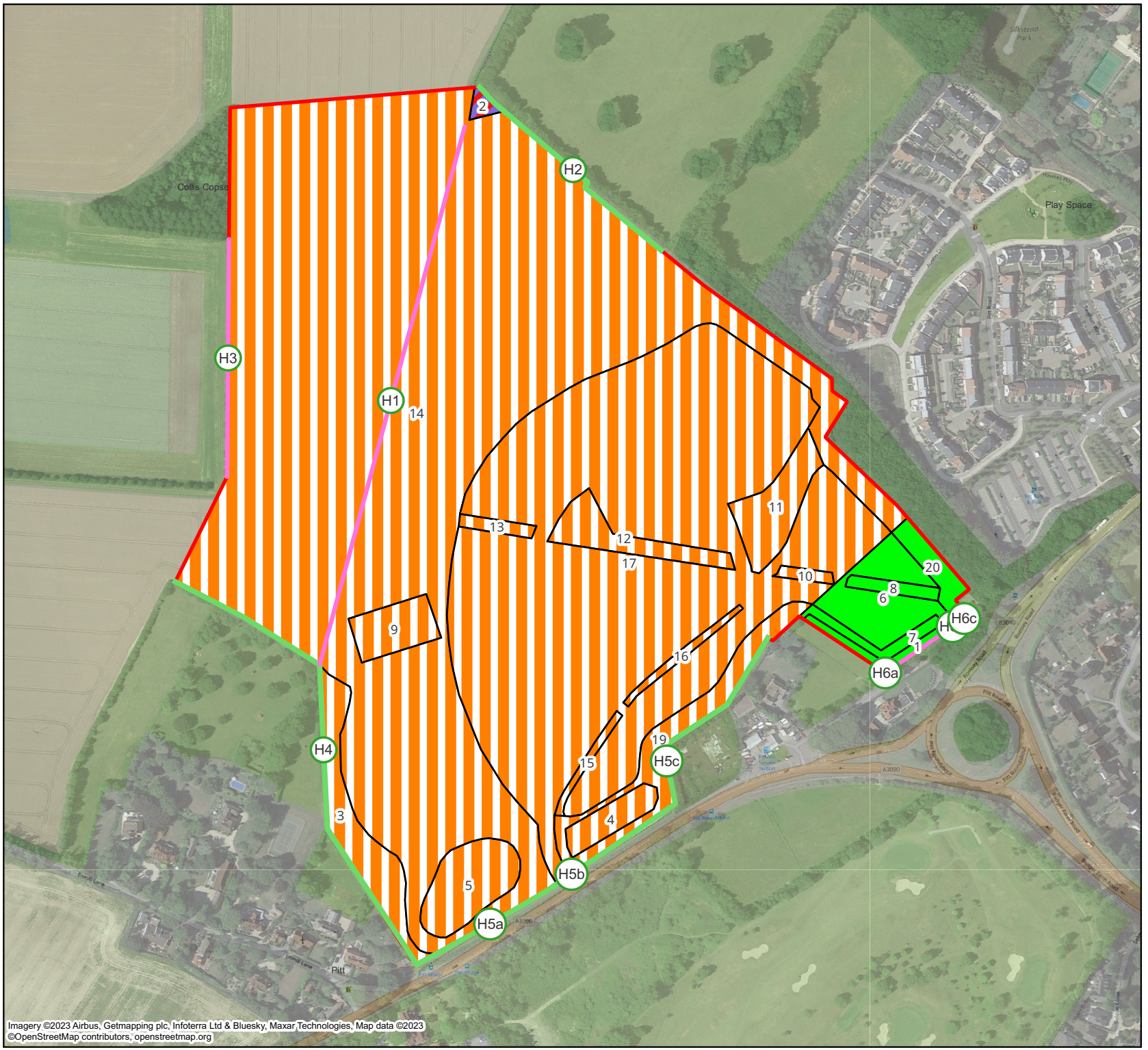
0 100 200 300 400 m

N

Prepared by: EV	Date: 190523
Last amended by:	Date:

ECOSA
Ecological Survey & Assessment
A Trinity Consultants Company
ECOSA Ltd., Ten Hogs House, Manor Farm Offices,
Flexford Road, North Baddesley, Hampshire SO52 9DF
Telephone: 02380 261065 Email: info@ecosa.co.uk
Web: www.ecosa.co.uk

Map 2 Pre-Development Habitat Map



LAND AT PITT VALE, ROMSEY ROAD, WINCHESTER, HAMPSHIRE

BIODIVERSITY NET GAIN
FEASIBILITY REPORT

Map 2 - Baseline Habitats

Client:	Drew Smith Group
Date:	May 2023
Status:	Draft

KEY

- Site Boundary
- Modified grassland
- Mixed scrub
- Rye-grass and clover ley
- Native hedgerow
- Line of trees

1:4,000

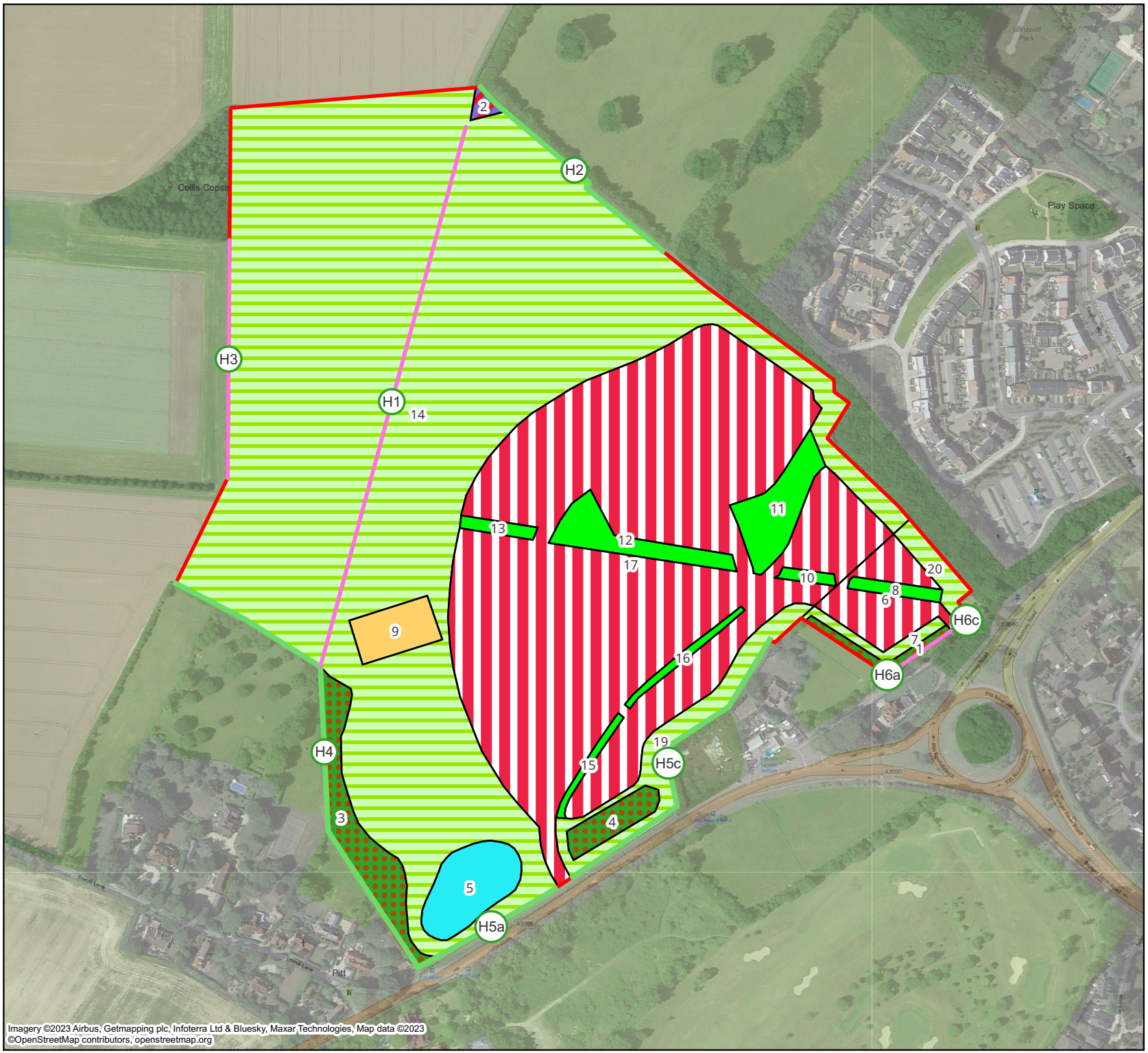
0 50 100 150 200 m

N

Prepared by: EV	Date: 190523
Last amended by: EV	Date: 230523

ECOSA
Ecological Survey & Assessment
A Trinity Consultants Company
ECOSA Ltd., Ten Hogs House, Manor Farm Offices,
Flexford Road, North Baddesley, Hampshire SO52 9DF
Telephone: 02380 261065 Email: info@ecosa.co.uk
Web: www.ecosa.co.uk

Map 3 Post-Development Habitat Map



LAND AT PITT VALE, ROMSEY ROAD, WINCHESTER, HAMPSHIRE

BIODIVERSITY NET GAIN
FEASIBILITY REPORT

Map 3 - Post-Development Habitats

Client:	Drew Smith Group
Date:	May 2023
Status:	Draft

KEY

- Site Boundary
- Sustainable Urban Drainage Feature
- Allotment
- Other neutral grassland
- Modified grassland
- Mixed scrub
- Developed land; sealed surface
- Other woodland; broadleaved
- Native hedgerow
- Line of trees

1:4,000

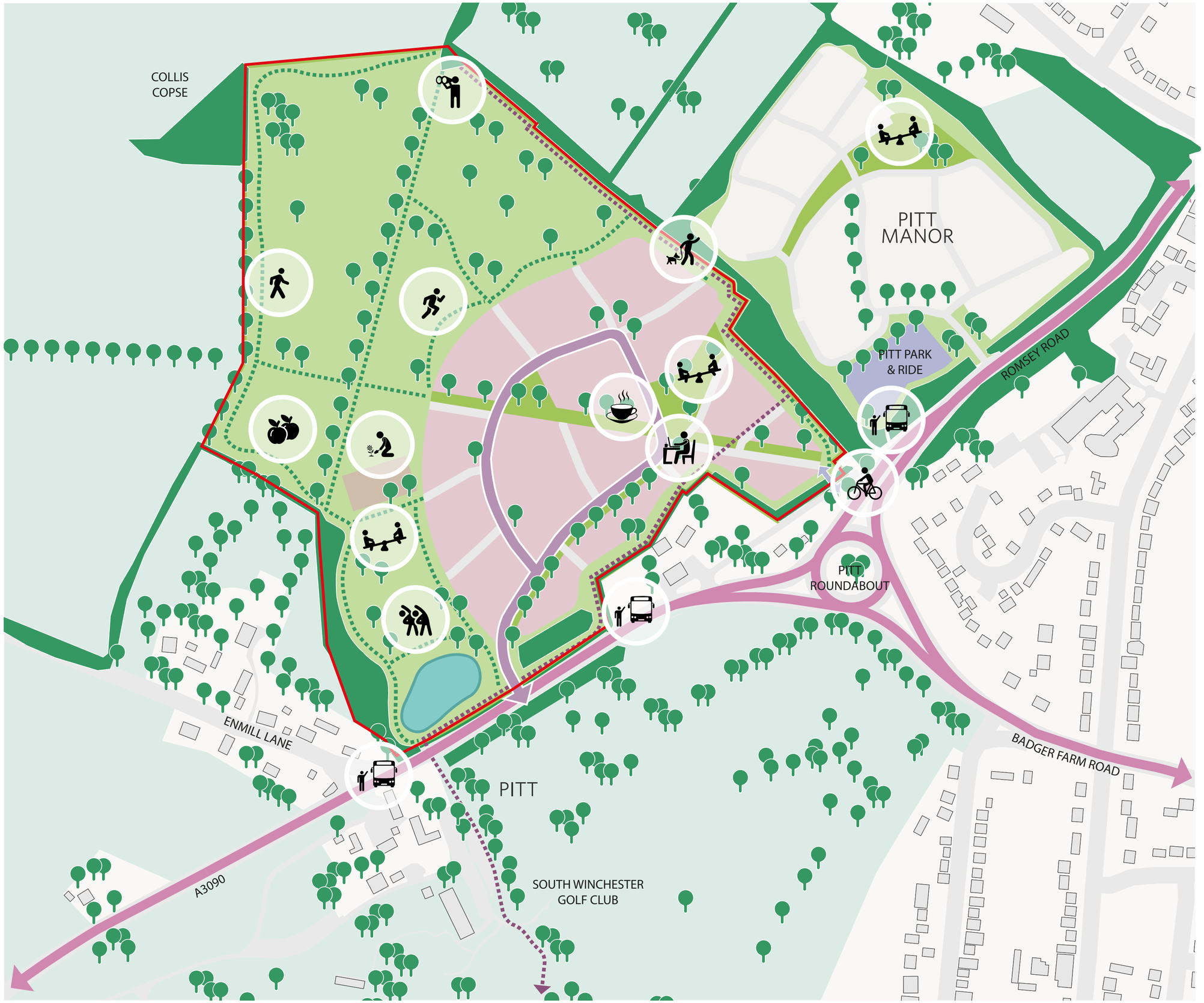
0 50 100 150 200 m

N

Prepared by: EV	Date: 190523
Last amended by: EV	Date: 230523

ECOSA
Ecological Survey & Assessment
A Trinity Consultants Company
ECOSA Ltd., Ten Hogs House, Manor Farm Offices,
Flexford Road, North Baddesley, Hampshire SO52 9DF
Telephone: 02380 261065 Email: info@ecosa.co.uk
Web: www.ecosa.co.uk

Appendix 1 Design Concept Plan



- Pitt Vale
- Woodland / Copse
- Trees
- Proposed Developable Area - 8.4ha
- Amenity Green Space Within Developable Area
- Proposed Parkland & Informal Green Space
- Clarendon Way Trail
- Sustainable Drainage Feature (Basin)
- Main Access Around Pitt Vale
- City Approach Route
- Local Route
- Pedestrian & Cycle Link onto Romsey Road
- Pitt Park & Ride
- Bus Stop
- Built Up Area / Building
- Footpath Network
- Indicative Allotments
- Bus Stop Including Pitt Park & Ride
- Proposed Community Hub: Cafe
- Proposed Community Hub: Workspace
- Opportunity for Outdoor Fitness
- Opportunity for Community Orchard
- Opportunity for Viewing Point With Art Sculptures
- Cycle Route
- Children's & Young People's Equipped Playspace
- Opportunity for Dog Walking
- Opportunity for Jogging
- Opportunity for Walking

0 10 20 30 40 50m

REV DATE DESCRIPTION DRAWN CHECK

BOYLE+SUMMERS
ARCHITECTURE AND MASTERPLANNING
Canute Chambers
Canute Road
Southampton
Hampshire
SO14 3AB

Client	DREW SMITH
Project	PITT VALE
Title	DESIGN CONCEPT

BS5792 | 21022 Project | BSL Originator | ZZ Volume | XX Level | DR Type | A Role | 1302 Series Number | DF Suitability Revision

B+S REF	Date	Scale @ A2	Drawn	Checked
PVW	APR 2021	1:2500	IC	SR/RS

Tel: 023 8063 1432 www.boyleandsummers.co.uk

Appendix 2 Pre-Development Habitat and Hedgerow Condition Criteria Results

Habitat Ref.	1
Broad Habitat	Grassland (g)
Habitat Type	Modified grassland (g4)
2° Codes	Horse grazed (61)


Species List

Clover *Trifolium* species, creeping buttercup *Ranunculus repens*, daisy *Bellis perennis*, yarrow *Achillea millefolium*, perennial rye grass *Lolium perenne*, selfheal *Prunella vulgaris*, speedwell *Veronica* species.

	Indicator	Condition
1	There must be 6-8 species per m2. Note - if a grassland has 9 or more species per m2 it should be classified as a moderate distinctiveness grassland habitat type. **NB - this criterion is non-negotiable for achieving good condition.**	Yes
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	No
3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note – patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Yes
4	Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities.	Yes
5	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	Yes
6	Cover of bracken less than 20%.	Yes
7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species[1] make up less than 5% of ground cover.	Yes
	Total Score	**6**
	All Essential Criteria Met?	**Yes**
	Condition	**Good**

Habitat Ref.	2
Broad Habitat	Heathland and shrub (h)
Habitat Type	Dense scrub (h3)
Habitat Type	Mixed scrub (h3h)
2° Codes	Tall herb (16)


Species List

Hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa*, oak *Quercus robur*, beech *Fagus sylvetica*, dogwood *Cornus sanguinea*, lime *Tilia* species, bramble *Rubus fruticosus*, *Cotoneaster* species.

	Indicator	Condition
1	The scrub is a good representation of the habitat type it has been identified as, based on its UKHab description (where in its natural range). The appearance and composition of the vegetation closely matches the characteristics of the specific scrub type. At least 80% of scrub is native, and there are at least three native woody species[1], with no single species comprising more than 75% of the cover (except hazel *Corylus avellana*, common juniper *Juniperus communis*, sea buckthorn *Hippophae rhamnoides* or box *Buxus sempervirens*, which can be up to 100% cover).	Yes
2	Seedlings, saplings, young shrubs and mature (or ancient or veteran[2]) shrubs are all present.	Yes
3	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]) and species indicative of sub-optimal condition[5] make up less than 5% of ground cover.	Yes
4	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	No
5	There are clearings, glades or rides present within the scrub, providing sheltered edges.	No
	Total Score	**3**
	All Essential Criteria Met?	**N/A**
	Condition	**Moderate**

Habitat Ref.	3
Broad Habitat	Cropland (c)
Habitat Type	Temporary grass and clover leys (c1b)
2° Codes	N/A


Species List

Clover *Trifolium* species, creeping buttercup *Ranunculus repens*, daisy *Bellis perennis*, yarrow *Achillea millefolium*, perennial rye grass *Lolium perenne*, selfheal *Prunella vulgaris*, speedwell *Veronica* species.

Condition Assessment

This habitat is automatically given a condition score of zero. No condition assessment is required.

Habitat Ref.	H1
Broad Habitat	Heathland and shrub (h)
Habitat Type	Line of trees (1174)
2° Codes	Native (47), Plantation (36)


Species List

A line of semi-mature ash *Fraxinus excelsior*, well spaced, with recent infill planting of immature cherry *Prunus avium*.

	Indicator	Condition
1	At least 70% of trees are native species.	Yes
2	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	No
3	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	No
4	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice2.	No
5	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Yes
	Total Score	**2**
	Condition	**Poor**

Habitat Ref.	H2
Broad Habitat	Heathland and shrub (h)
Habitat Type	Species Rich Native Hedgerow (h2a5)
2° Codes	Native (47), Active Management (75), Hedgerow with trees (190)


Species List

Woody species: Hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa*, dogwood *Cornus sanguinea*, hazel *Corylus avellana*, field maple *Acer campestre*, holly *Ilex aquifolium*, ash *Fraxinus excelsior*.

Ground Flora: Common vetch *Vicia sativa*, ground ivy *Glechoma headrace,* cow parsley *Anthriscus sylvestris*,scentless mayweed *Tripleurospermum inodorum*, lady's bedstraw *Galium verum*, dovesfoot cranesbill *Geranium molle*, greater plantain *Plantago major*, nettle *Urtica dioica* (infrequent), cocksfoot *Dactylis glomerata*, hogweed *Heracleum sphodylium*, cutleaf cranesbill *Geranium dissectum*, Timothy *Phleum pratense*, common cats ear *Hypochaeris radicata*, burdock *Arctium minus*, common sorrel *Rumex Acetosa*, germander speedwell *Veronica chamaedrys*, creeping buttercup *Ranunculus repens*.

	Indicator	Condition
A1	>1.5 m average along length	Yes
A2	>1.5 m average along length	Yes
B1	Gap between ground and base of canopy <0.5 m for >90% of length	Yes
B2	Gaps make up <10% of total length; and No canopy gaps >5 m	Yes
C1	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: • Measured from outer edge of hedgerow; and • Is present on one side of the hedgerow (at least).	Yes
C2	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	Yes
D1	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	Yes
D2	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	Yes
Applicable to Hedgerows with Trees only		
E1	There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient8), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	Yes
E2	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Yes
	No. of failures:	**0**

Number of functional groups where both attributes failed:	**0**
Condition	**Good**

Habitat Ref.	H3
Broad Habitat	Heathland and shrub (h)
Habitat Type	Line of trees (1174)
2° Codes	Plantation (36), Native (47)


Species List

Common lime *Tilia × europaea*

	Indicator	Condition
1	At least 70% of trees are native species.	Yes
2	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	No
3	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	No
4	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice2.	No
5	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Yes
	Total Score	**2**
	Condition	**Poor**

Habitat Ref.	H4
Broad Habitat	Heathland and shrub (h)
Habitat Type	Species Rich Native Hedgerow (h2a5)
2° Codes	Native (47), Active Management (75)


Species List

Woody species: Hawthorn *Crataegus monogyna* (dominant), dogwood *Cornus sanguinea*, field maple *Acer campestre*, elder *Sambucus nigra*, hazel *Corylus avellana* sycamore *Acer pseudoplatanus*, rose *Rosa* species, blackthorn *Prunus spinosa*, holly *Ilex aquifolium*, and bramble *Rubus fruticosus* aggregate.

Ground flora: Cleavers *Galium aparine*, cow parsley *Anthriscus sylvestris*, hogweed *Heracleum sphodylium*, nettle *Urtica dioica*, broad-leaved dock *Rumex obtusifolius*, dandelion *Taraxacum officinale*, greater plantain *Plantago major*, ground ivy *Glechoma hederace*, lords and ladies *Arum maculatum*, cocks foot *Dactylis glomerata*, curled dock *Rumex crispus*, barren strawberry *Potentilla sterilis*, cutleaf cranesbill *Geranium dissectum*, creeping thistle *Cirsium arvense*, creeping buttercup *Ranunculus repens*, ivy leaved speedwell *Veronica hederifolia*.

	Indicator	Condition
A1	>1.5 m average along length	Yes
A2	>1.5 m average along length	Yes
B1	Gap between ground and base of canopy <0.5 m for >90% of length	Yes
B2	Gaps make up <10% of total length; and No canopy gaps >5 m	Yes
C1	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: • Measured from outer edge of hedgerow; and • Is present on one side of the hedgerow (at least).	Yes
C2	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	No
D1	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	Yes
D2	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	Yes
Applicable to Hedgerows with Trees only		
E1	There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient8), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	N/A
E2	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	N/A
	No. of failures:	**1**

Number of functional groups where both attributes failed:	**0**
Condition	**Good**

Habitat Ref.	H5a, H5b and H5c
Broad Habitat	Heathland and shrub (h)
Habitat Type	Hedgerows (h2)
2° Codes	Active Management (75)


Species List

Woody species: Hawthorn *Crataegus monogyna*, beech *Fagus sylvatica*, ash *Fraxinus excelsior*, dogwood *Cornus sanguinea*, bramble *Rubus fruticosus*, spindle *Euonymus europeus*.

	Indicator	Condition
A1	>1.5 m average along length	Yes
A2	>1.5 m average along length	No
B1	Gap between ground and base of canopy <0.5 m for >90% of length	Yes
B2	Gaps make up <10% of total length; and No canopy gaps >5 m	Yes
C1	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: • Measured from outer edge of hedgerow; and • Is present on one side of the hedgerow (at least).	Yes
C2	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	Yes
D1	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	Yes
D2	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	Yes
Applicable to Hedgerows with Trees only		
E1	There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient8), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	N/A
E2	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	N/A
	No. of failures:	**1**
	Number of functional groups where both attributes failed:	**0**
	Condition	**Good**

Habitat Ref.	H6a, H6b and H6c
Broad Habitat	Woodland and forest (w)
Habitat Type	Line of trees (w1g6)
2° Codes	Native (47), Unmanaged (80)

Species List

Woody species: Blackthorn *Prunus spinosa*, hawthorn *Crataegus monogyna*, field maple *Acer campestre*, holly *Ilex aquifolium*, pedunculate oak *Quercus robur*, sycamore *Acer pseudoplatanus*.

	Indicator	Condition
1	At least 70% of trees are native species.	Yes
2	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Yes
3	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	Yes
4	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice2.	No
5	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Yes
	Total Score	**4**
	Condition	**Moderate**

Appendix 3 Post Development Habitat Creation – Target Condition

Broad Habitat	Grassland (g)	
Habitat Type	Modified grassland (g4)	
Description	It is considered feasible that grassland created for amenity purposes within the developable area could be seeded with a suitable wildflower lawn mix that would provide a suitably diverse range of species while still being subject to regular management. Due to the amenity use of this grassland it has been conservatively assumed that a diverse sward height may not be feasible, with the preference being for grassland to be managed to a uniform sward height. However, it is considered likely that as the grassland would be subject to regular management it would be possible to prevent encroachment of scrub, bracken and invasive species, and to avoid significant damage or degradation to bare ground.	
	Indicator	**Condition**
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (this may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.**	Yes
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	No
C	Some scattered scrub (including bramble *Rubus fruticosus* agg.) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Yes
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Yes
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	Yes
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Yes
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Yes
	Total Score	**6**
	Condition	**Good**

Broad Habitat	Grassland (g)	
Habitat Type	Other Neutral Grassland (g3c)	
Description	Subject to soil testing and preparation it is considered feasible that this area could be seeded with a suitable diverse wildflower seed mix that would result in a sufficiently diverse sward and result in a grassland that is a clear representation of 'Other Neutral Grassland'. As the proposals for this area of grassland are 'informal' it is considered feasible that the sward could be subject to less management and be allowed to develop a more varies sward height overall. It is considered credible that a managing agent could undertake regular management of the grassland (in accordance with a provided management plan) to ensure grassland does not become encroached by bracken or invasive species, and that the grassland does not become damaged or degraded, resulting in patches of bare ground.	
	Indicator	**Condition**
A	The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by UKHab for the specific grassland habitat type are consistently present. **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	Yes

B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Yes
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[1].	Yes
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Yes
E	Combined cover of species indicative of sub-optimal condition[2] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]) are present, this criterion is automatically failed.	Yes
Additional Criterion – must be assessed for all non-acid grassland types		
F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 2 and 4 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	Yes
	Total Score	**6**
	Essential Criteria Met?	**Yes**
	Condition	**Good**

Broad Habitat	Urban (u)
Habitat Type	Developed land; sealed surface
Description	Buildings and roads associated with the proposed residential development.
Condition Assessment	
This habitat is automatically given a condition score of zero. No condition assessment is required.	

Broad Habitat	Urban (u)	
Habitat Type	Sustainable Drainage System (1190)	
Description	It has been anticipated that the sustainable drainage system can be designed to have naturalised banks, and to permanently hold water, so that it can be planted with a range of submerged and emergent native or wildlife friendly species (6.5.2). It is considered feasible that the pond could be managed in the long term to ensure the vegetation structure remains varied and that to ensure there are no invasive non-native species present.	
	Indicator	**Condition**
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	Yes
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	Yes
C	Invasive non-native plant species (listed on Schedule 9 of WCA[1]) and others which are to the detriment of native wildlife (using professional judgement)[2] cover less than 5% of the total vegetated area[3]. **Note - to achieve Good condition, this criterion must be satisfied by a**	Yes

	complete absence of invasive non-native species (rather than <5% cover).	
Additional Criteria - must be assessed for Open mosaic habitat on previously developed land only:		
D1	The parcel shows spatial variation and forms a mosaic of at least four early successional communities (a) to (h) PLUS bare substrate. (a) annuals; (b) mosses/liverworts; (c) lichens; (d) ruderals; (e) inundation species; (f) open grassland; (g) flower-rich grassland; (h) heathland.	N/A
D2	The parcel contains pools of water such as permanent and ephemeral waterbodies.	N/A
Additional Criteria - must be assessed for Bioswale and SuDS habitat types only:		
E1	Plant species are mostly native. If non-native species are present, they should not be detrimental to the habitat or native wildlife[4].	Yes
E2	The vegetation is comprised of plant species suited to wetland or riparian situations.	Yes
Additional Criterion - must be assessed for Intensive green roofs only:		
F	The roof has a minimum of 50% native and non-native wildflowers. 70% of the roof area is soil and vegetation (including water features).	N/A
Additional Criterion - must be assessed for Biodiverse green roofs only:		
G	The roof has a varied depth of 80 – 150 mm; at least 50% is at 150 mm and is planted and seeded with wildflowers and sedums or is pre-prepared with sedums and wildflowers. **Note – to achieve Good condition some additional habitat, such as sand piles, stones, logs etc are present.**	N/A
	Total Score	**5**
	Condition	**Good**

Broad Habitat	Urban (u)	
Habitat Type	Allotments (910)	
Description	Given that the allotments will be primarily in the control of third parties it is considered suitably precautionary to assume that the variation in vegetation structure and diversity of planting within the allotment may not be sufficient to meet the condition criteria. It is considered achievable that a management agent or similar could monitor the allotments and arrange to remove any Schedule 9 invasive species or any species that could be harmful to native wildlife. As the woodland is newly created, it has been conservatively assumed that the vertical structure of the woodland would comprise only one storey and concluded that no veteran trees will be present.	
	Indicator	**Condition**
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	No
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	No
C	Invasive non-native plant species (listed on Schedule 9 of WCA[1]) and others which are to the detriment of native wildlife (using professional judgement)[2] cover less than 5% of the total vegetated area[3]. **Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).**	Yes
Additional Criteria - must be assessed for Open mosaic habitat on previously developed land only:		

D1	The parcel shows spatial variation and forms a mosaic of at least four early successional communities (a) to (h) PLUS bare substrate. (a) annuals; (b) mosses/liverworts; (c) lichens; (d) ruderals; (e) inundation species; (f) open grassland; (g) flower-rich grassland; (h) heathland.	N/A
D2	The parcel contains pools of water such as permanent and ephemeral waterbodies.	N/A
Additional Criteria - must be assessed for Bioswale and SuDS habitat types only:		
E1	Plant species are mostly native. If non-native species are present, they should not be detrimental to the habitat or native wildlife[4].	N/A
E2	The vegetation is comprised of plant species suited to wetland or riparian situations.	N/A
Additional Criterion - must be assessed for Intensive green roofs only:		
F	The roof has a minimum of 50% native and non-native wildflowers. 70% of the roof area is soil and vegetation (including water features).	N/A
Additional Criterion - must be assessed for Biodiverse green roofs only:		
G	The roof has a varied depth of 80 – 150 mm; at least 50% is at 150 mm and is planted and seeded with wildflowers and sedums or is pre-prepared with sedums and wildflowers. **Note – to achieve Good condition some additional habitat, such as sand piles, stones, logs etc are present.**	N/A
	Total Score	**1**
	Condition	**Poor**

Broad Habitat	Woodland and forest (w)
Habitat Type	Broadleaved mixed and yew woodland (w1)
Description	No nutrient enrichment or damaged ground evident

It is considered likely that in the timescales of the delivery of the new woodland planting, two age-classes of trees (Young 0-20 years old and Intermediate 21-150 years old) could be achieved. A precautionary assumption has been made that some but not all browsing by wild herbivore could be prevented. It is credible that the woodland could be managed in the long-term (as set out in a management plan) to encourage woodland regeneration including trees 4-7 centimetres Diameter at Breast Height, saplings and seedlings. Management could also credibly prevent the encroachment of invasive plant species, excessive nutrient enrichment and ground damage (including preventing public access) as well as to keep tree mortality to less than 10%. The woodland planting would comprise a good number of native tree and shrub species,. As proposed woodland blocks comprise less than 10 hectares 0-20% temporary open space is achievable. It is considered that deadwood is likely to occur naturally in the woodland over time and that prior to this, artificial deadwood from hedgerow clearance or imported deadwood from nearby woodland management activities could be used to create similar opportunities. It is considered likely that a ground flora which would fall into a woodland NVC plant community could develop over time with appropriate management. However, given that the woodland is newly created, it would be highly unlikely to be strongly characterised by ancient woodland flora specialists.

	Indicator	Condition	Score
A	Age distribution of trees	Two age-classes present	2
B	Wild, domestic and feral herbivore damage	Evidence of significant browsing pressure is present in 40% or less of whole woodland	2
C	Invasive plant species	No invasive species present in woodland	3
D	Number of native tree species	Five or more native tree or shrub species4 found across woodland parcel.	3
E	Cover of native tree and shrub species	>80% of canopy trees and >80% of understory shrubs are native5.	3
F	Open space within woodland	10 - 20% of woodland has areas of temporary open space.	3

		Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted.	
G	Woodland regeneration	All three classes present in woodland; trees 4 - 7 cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth.	3
H	Tree health	Tree mortality less than 10%, no pests or diseases and no crown dieback	3
I	Vegetation and ground flora	Recognisable woodland NVC plant community at ground layer present.	2
J	Woodland vertical structure	One or less storey across all survey plots	1
K	Veteran trees	No veteran trees present in woodland	1
L	Amount of deadwood	50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities13.	3
M	Woodland disturbance	No nutrient enrichment or damaged ground evident	3
		Total Score	**32**
		Condition	**Moderate**

Appendix 4 Post-Development Hedgerow Enhancement – Target Condition

Below is a summary of the proposed target condition of each condition indicator for hedgerows which will be enhanced post-development. Each indicator condition is colour coded.

- Green = Condition improves;
- Amber = Condition remains the same as pre-development; and
- Red = Condition deteriorates.

Habitat Ref.	H1
Broad Habitat	Heathland and shrub (h)
Habitat Type	Line of trees (1174)
2° Codes	Native (47), Plantation (36)


Species List

A line of semi-mature ash *Fraxinus excelsior*, well spaced, with recent infill planting of immature cherry *Prunus avium*.

	Indicator	Condition
1	At least 70% of trees are native species.	Yes
2	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Yes
3	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	No
4	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice2.	Yes
5	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Yes
	Total Score	**4**
	Condition	**Moderate**

Habitat Ref.	H3
Broad Habitat	Heathland and shrub (h)
Habitat Type	Line of trees (1174)
2° Codes	Plantation (36), Native (47)


Species List

Common lime *Tilia × europaea*

	Indicator	Condition
1	At least 70% of trees are native species.	Yes
2	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Yes
3	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	No
4	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice2.	Yes
5	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Yes
	Total Score	**4**
	Condition	**Moderate**

Appendix 5 Biodiversity Net Gain Good Practice Principles for Development

The principles set out in **Table 13** are taken from (CIEEM, 2016) and set out the best practice principles that projects should adhere to where designing Biodiversity Net Gain and sets out how the principle has been applied in the design of these proposals.

Table 13: Biodiversity Net Gain Good Practice Principles for Development

Principle	Descriptor	Proposal Design
Principle 1. Apply the Mitigation Hierarchy	Do everything possible to first avoid and then minimise impacts on biodiversity. Only as a last resort, and in agreement with external decision-makers where possible, compensate for losses that cannot be avoided. If compensating for losses within the development footprint is not possible or does not generate the most benefits for nature conservation, then offset biodiversity losses by gains elsewhere.	No high distinctiveness habitats will be lost as part of the proposals. Primarily low distinctiveness habitats (modified grassland and temporary grass and clover leys) will be lost to facilitate the proposals. The only medium distinctiveness habitat which could potentially be lost is a small stretch of Ecologically Valuable Line of trees to facilitate pedestrian and cycle access. Recommendations have been made to avoid or offset this minor loss (Paragraph 6.6.1).
Principle 2. Avoid losing biodiversity that cannot be offset by gains elsewhere	Avoid impacts on irreplaceable biodiversity - these impacts cannot be offset to achieve No Net Loss or Net Gain.	No irreplaceable biodiversity is present on site and therefore none will be lost as part of the proposals.
Principle 3. Be inclusive and equitable	Engage stakeholders early, and involve them in designing, implementing, monitoring and evaluating the approach to Net Gain. Achieve Net Gain in partnership with stakeholders where possible and share the benefits fairly among stakeholders.	Stakeholders have been engaged and further stakeholder engagement is recommended as the proposals are developed (Paragraph 6.7.2).
Principle 4. Address risks	Mitigate difficulty, uncertainty and other risks to achieving Net Gain. Apply well-accepted ways to add contingency when calculating biodiversity losses and gains in order to account for any remaining risks, as well as to compensate for the time between the losses occurring and the gains being fully realised.	Risks have been discussed within this feasibility study (Paragraph 6.5.2 and Paragraph 6.6.2) and a precautionary approach has been taken where there is uncertainty, for example, about whether a condition criteria may be met.
Principle 5. Make a measurable Net Gain contribution	Achieve a measurable, overall gain for biodiversity and the services ecosystems provide while directly contributing towards nature conservation priorities.	The purpose of this study is to determine whether achieving measurable, overall gain for biodiversity is feasible, and to provide initial design recommendations to deliver this principle.

Principle	Descriptor	Proposal Design
Principle 6. Achieve the best outcomes for biodiversity	Achieve the best outcomes for biodiversity by using robust, credible evidence and local knowledge to make clearly-justified choices when: ▪ Delivering compensation that is ecologically equivalent in type, amount and condition, and that accounts for the location and timing of biodiversity losses ▪ Compensating for losses of one type of biodiversity by providing a different type that delivers greater benefits for nature conservation ▪ Achieving Net Gain locally to the development while also contributing towards nature conservation priorities at local, regional and national levels ▪ Enhancing existing or creating new habitat ▪ Enhancing ecological connectivity by creating more bigger, better and joined areas for biodiversity.	All trading rules are satisfied as part of the proposals. Low distinctiveness habitats have been replaced with habitats of higher distinctiveness and which are considered credible to achieve, with any risks highlighted in Paragraph 6.5.2 and Paragraph 6.6.2. Currently there is scope to deliver net gain within the site itself. Recommendations for creating and enhancing habitats have been made within this report, including consideration of enhancing ecological function such as connectivity (Paragraph 6.5.1and Paragraph 6.6.1).
Principle 7. Be additional	Achieve nature conservation outcomes that demonstrably exceed existing obligations (i.e., do not deliver something that would occur anyway).	The scheme has been designed to deliver significant areas of natural open space, in excess of the do minimum option.
Principle 8. Create a Net Gain legacy	Ensure Net Gain generates long-term benefits by: ▪ Engaging stakeholders and jointly agreeing practical solutions that secure Net Gain in perpetuity ▪ Planning for adaptive management and securing dedicated funding for long-term management ▪ Designing Net Gain for biodiversity to be resilient to external factors, especially climate change ▪ Mitigating risks from other land uses ▪ Avoiding displacing harmful activities from one location to another ▪ Supporting local-level management of Net Gain activities	The delivery of an appropriate long-term management plan has been recommended in order to secure the net gain legacy.

Principle	Descriptor	Proposal Design
Principle 9. Optimise sustainability	Prioritise Biodiversity Net Gain and, where possible, optimise the wider environmental benefits for a sustainable society and economy.	The proposed area of open greenspace considers inclusion of public amenities such as opportunities outdoor fitness, walking, jogging and dog walking, children's play spaces, a viewing point with art sculptures, a community orchard and allotments. These amenities will provide wider benefits to society and encourage the public to make use of the local centre including workspaces and a café, which will benefit the economy. The proximity of these amenities to the existing Pitt Park and Ride and proposed pedestrian and cycle links will make accessing these amenities more sustainable.
Principle 10. Be transparent	Communicate all Net Gain activities in a transparent and timely manner, sharing the learning with all stakeholders.	The preparation of this report sets out transparently how biodiversity net gain has been designed and achieved at the site.