



**ECOLOGY SOLUTIONS**

Part of the ES Group

## APPENDICES

**Land between Woodchurch Road  
and Appledore Road  
Tenterden, Kent**

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**Appendices to  
Proof of Evidence in  
respect of Ecology and  
Nature Conservation**

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**APPENDICES**

## **APPENDIX 1**

Briefing note: 2021 Updated Habitat Survey Work  
& 2022 Biodiversity Net Gain Assessment

Including:

ECO1 – Site Location

ECO2 – Baseline Habitats

ECO3 – Created Habitats

ECO4 – Enhanced Habitats

ECO5 – Ecology, Strategy & Enhancement Plan

ECO6 – Proposed Faunal Enhancement Locations

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## 9349: LAND BETWEEN APPLIEDORE ROAD AND WOODCHURCH ROAD, TENTERDEN, KENT

### BRIEFING NOTE: 2021 Updated Habitat Survey Work & 2022 Biodiversity Net Gain Assessment

#### 1. INTRODUCTION

##### Background & Proposals

- 1.1. Ecology Solutions was commissioned by Wates Development in March 2021 to undertake a suite of updated ecological surveys for the site known as 'Land between Appledore Road and Woodchurch Road, Tenterden, Kent' (see Plan ECO1), hereafter referred to as 'the site'.
- 1.2. Previously the site had been subject to a range of ecological surveys undertaken between 2016 and 2021, the results of which have been used to support a hybrid planning application which was submitted during spring 2021 (Planning ref: 21/00790/AS). A description of the planning application has been provided below:

*"a) Outline application for the development of up to 145 residential dwellings (50% affordable) including the creation of access points from Appledore Road (one all modes and one emergency, pedestrian and cycle only) and Woodchurch Road (pedestrian and cycle only), and creation of a network of roads, footways, and cycleways through the site. Provision of open space including children's play areas, community orchard, sustainable urban drainage systems, landscape buffers and green links all on 12.35 ha of the site. (Matters for approval: Access) "*

*b) Full planning permission for the change of land use from agricultural land to land to be used as a country park (8.66 ha), and land to be used as formal sports pitches (3.33 ha), together with pavilion to serve the proposal and the surrounding area. Including accesses, ancillary parking, pathways, sustainable urban drainage systems and associated landscaping"*

- 1.3. Owing to the age of some of the previously submitted survey data, it was considered appropriate to update elements of the survey work post-application at the earliest possible opportunity, in addition to updating the previous Biodiversity Net Gain (BNG) assessment, should this be considered as required.
- 1.4. The purpose of this specific Briefing Note is to provide an update on the habitat specific surveys that have occurred across the site during 2021 and how these either align or compare with the results of the previous detailed habitat surveys carried out between 2016 and 2020. Whilst a full and detailed account of the habitat recorded has been outlined within the previously submitted Ecological Assessment (EA), including species lists, this note will serve to outline any variations in baseline recorded on site as a result of the most recent survey work.
- 1.5. As this note intends to only present and analyse the results of the updated survey work, for a full analysis of the proposals in light of the relevant legislation, planning policy etc please refer to the full EA (produced by Ecology Solutions) which was submitted as part of the original April 2021 planning application.

#### **Site Characteristics**

- 1.6. The site is located to the east of the town of Tenterden, Kent. The town of Tenterden forms the southern and western boundaries of the site with broadleaved woodland to the north and grazed pasture to the east.
- 1.7. The site itself measures approximately 24.34ha in size and is primarily comprised of grassland, scrub, ponds, as well as hedgerows and treelines distributed throughout. One temporary building is located within the south-east of the site.

## 2. RECORDED HABITATS BASELINE, 2021

### Methodology

- 2.1. Updated habitat specific surveys were undertaken within the site by Ecology Solutions between June 2021 – August 2021. These surveys were undertaken in addition to a suite of previous detailed habitat surveys undertaken across the site by EPR (2016 – 2020) and Ecology Solutions (2020 – early-2021). The results of all previous habitat surveys undertaken across the site are detailed in full within the April 2021 EA.
- 2.2. The most recent June 2021 habitat surveys were based upon an extended Phase 1 survey technique. The habitats and dominant plant species were recorded, together with conspicuous faunal activity and evidence of the presence, or potential presence, of protected species. The purpose of the updated June 2021 surveys was to ascertain if the habitats within the site had undergone any noticeable change, since that reported within the EA. Any observed alterations are highlighted within the relevant sections below as well as being reproduced graphically at Plan ECO2.
- 2.3. All of the species that occur in each habitat would not necessarily be detected during survey work carried out at any given time of the year, since different species are apparent at different seasons. However, given the habitats present, and given the historical data also obtained from the site, it is considered that an accurate and robust assessment has been made.

### Results

- 2.4. The following main habitats / vegetation types were recorded during the most recent habitat surveys undertaken across the site
  - Grassland
  - Scrub
  - Recently felled woodland
  - Ruderal vegetation
  - Ponds
  - Seasonally wet ditches
  - Hedgerows and treelines
  - Built-form
- 2.5. A full species list for each habitat recorded within the site between 2016 – early-2021 is included in full within the submitted April 2021 EA and its appendices; however, a summary of habitats and/or changes recorded within the site during the most recent 2021 habitat surveys are provided below in addition to a list of any newly recorded species or changes in distribution (etc.).
- 2.6. For consistency, these habitat headings have been kept the same as that outlined within the initial April 2021 EA.

## 2.7. Grassland

### *Semi-improved Neutral Grassland*

- 2.7.1. During the most recent habitat survey, the site was for the majority determined to be grassland of which most was classed as Semi-improved Neutral Grassland. These areas range from well drained areas to wetter pockets, mostly situated within lower lying areas.
- 2.7.2. Of note, the previously recorded intense grazing pressure historically associated with the site has ceased (understood to be temporarily, only) during the most recent 2021 growing season. As such, whilst the broad habitat classification remained consistent with that reported during the April 2021 EA, the sward had been allowed to grow longer and under less intense grazing pressure than that recorded previously. Distinct areas located within the east and south of the site is particularly contain a high proportion of ant hills.
- 2.7.3. Notwithstanding the above, all areas of Semi-improved Neutral Grassland habitats were recorded as including a range of grass species. Whilst for the most part dominated by few species, primarily Common Bent *Agrostis capillaris*, Red Fescue *Festuca rubra*, Sweet Vernal Grass *Anthoxanthum odoratum* and Yorkshire Fog *Holcus lanatus*, a more varied grass species assemblage was recorded in distinct patches across the site. Within these areas, species such as Meadow Fox-tail *Alopecurus pratensis*, Crested Dog's-tail *Cynosurus cristatus*, Perennial Rye-grass *Lolium perenne* and Sheep Fescue *Festuca ovina* were all recorded.
- 2.7.4. Forb diversity was however considered to be very limited for most of the site and either dominated by a few select species, or largely absent in any noticeable numbers, leaving large areas of the grassland dominated by grass species almost exclusively.
- 2.7.5. However, most likely as a result of the temporary suspension of heavy grazing during mid-2021, distinct parts of the grassland previously classed as being forb-species poor were recorded as containing a more modest forb assemblage during the most recent surveys undertaken. This was most notable within three of the most south-westerly fields where denser pockets of locally frequent Birds-foot Trefoil *Lotus corniculatus*, Bulbous Buttercup *Ranunculus bulbosus*, Common Mouse-ear *Cerastium fontanum*, Common Sorrel *Rumex acetosa* and Red Clover *Trifolium pratense* were all recorded. However, they remain limited in total percentage cover.
- 2.7.6. Additionally, largely expected to be as a result of seasonal time differences and grassland length between different survey periods, a number of additional grassland species were recorded across interior areas of the Semi-improved Neutral Grassland habitats within the wider site which had not been recorded as part of the previous survey work undertaken. These included Sticky Mouse-ear *Cerastium glomeratum*, Germander Speedwell *Veronica chamaedrys* and Field Forget-me-not *Myosotis arvensis*.

- 2.7.7. Other species which had been previously recorded but in lower densities included Bulbous Buttercup, Field wood-rush *Luzula campestris*, Cuckoo Flower *Carmine pratensis* and Common Dog-violet *Viola reichenbachiana*.
- 2.7.8. Whilst mostly associated with the hedgerow and treeline habitats, rare occurrences of Bluebell *Hyacinthoides non-scripta* and Lesser Celandine *Ficaria verna* were also recorded, in addition to a single stand of Pignut *Conopodium majus* being recorded within a field located to the south-east.
- 2.7.9. Therefore, the total amount of grassland species recorded within the site has increased when considered in combination with the results of the previous year's survey effort (listed in full within the April 2021 EA). Conversely however, it is also noted that many of the species recorded previously were not recorded at the time of most recent detailed 2021 survey work.
- 2.7.10. Furthermore, in almost all cases the prevalence and general distribution of forb species was recorded to be remarkably low across the entirety of the site due to the obvious dominance of grass species.
- 2.7.11. The presence of Bulbous Buttercup, Ladies Smock and particularly Pignut together with a good range of grass species, would indicate long established pasture but the very limited distribution of forbs (flowering plants) with single stand occurrence of Pignut would indicate some material change. Possibly brought about by intensive overgrazing for several years or more likely through the use of a selective herbicide many years ago, in order to increase grass forage for livestock.
- 2.7.12. As a result the vast majority of the grassland on site is of limited value being in poor condition, although some of the western most fields are more diverse.

#### *Improved Grassland*

- 2.7.13. During the most recent updated surveys, the two grassland fields located within the south of the site were the only two being subject to continued and heavy management. The eastern most field was subject to heavy sheep grazing, whilst the western most field was subject to recent mowing.
- 2.7.14. Generally, each of these fields were recorded to remain consistent to that as described during the April 2021 EA albeit it is noted that within the eastern most field, increased occurrences of patchier forb growth were recorded although only in either rare or very low occurrences. With the species recorded being limited to more ruderal species including Cut-leaved Crane's-bill *Geranium dissectum*, Cow parsley *Anthriscus sylvestris*, Creeping buttercup *Ranunculus repens*, Dandelion *Taraxacum officinale*, Cleavers *Gallium sp.* Strangely a few plants of Adder's-tongue-fern *Ophioglossum vulgatum* were recorded in the north eastern

boundary of this field. A plant associated with long established grassland sensitive to overgrazing and herbicide application, further re-enforcing the comments in para 2.7.11.

#### *Rush Pasture*

- 2.7.15. Discrete areas of wetter grassland, characterised by the dominance of Rush *Juncus sp.* species are located within historically wetter areas of the site, particularly within areas to the west and adjacent to the seasonally wet ditch networks. With the exception of the Rush Pasture located either within hollows or adjacent to wet ditches, the remainder of the Rush Pasture habitats were recorded to be dry during the June 2021 habitat surveys.

#### *Reclassification of Semi-improved Acid Grassland*

- 2.7.16. Previously, it was recorded that two distinct, albeit very small, patches of Semi-improved Acid Grassland were within the east of the site. However, in light of the updated 2021 survey effort and due to the general lack of any clearly distinguishable communities typical of acid grassland in addition to the contiguity of these areas with the surrounding grassland, these areas of the site have now been reclassified and included as part of the 'Semi-improved Neutral Grassland' habitat (as described above).

### 2.8. Scrub

- 2.8.1. Small patches of both dense and scattered scrub are located along boundary habitats where grazing has not been as historically significant. Scrub habitat is mainly composed of Bramble *Rubus fruticosus agg* with some Hawthorn *Crataegus monogyna* and Blackthorn *Prunus spinosa* also present. More mature growth is present around ponds where Willow *Salix sp.* is more frequent which casts dense shade over the water surface. A small area of Gorse *Ulex spp.* is located in the north-eastern section of the site. The ground flora is dominated by species typical of the habitat including Common Nettle *Urtica dioica*. The distribution and composition of the scrub habitat was found to have remained largely unchanged to that recorded within the April 2021 EA.

### 2.9. Recently Felled Woodland

- 2.9.1. A single patch of recently felled woodland is located within the site boundary. This habitat is located in the southwest of the site and remains unchanged to that reported during the April 2021 EA.
- 2.9.2. During previous survey work undertaken between 2016 and 2020, this area was recorded as containing densely growing young trees and tall shrubs, with Ash *Fraxinus excelsior*, Goat willow *Salix caprea*, Field maple *Acer campestre* and Hawthorn found to be present.
- 2.9.3. During December 2020, it is noted that remedial works were undertaken that involved partial felling and removal of trees / scrub

species, undertaken directly at the request of Ashford Borough Council (ABC). As such, whilst a very small number of standing trees remain, the current condition remains overall very poor.

- 2.9.4. A band of scrub / trees and post and wire fence is located to the north, this separating the habitat from the rest of the site.

## 2.10. Ruderal Vegetation

- 2.10.1. Small areas of Nettle and Thistle dominated vegetation are present throughout the site. The majority of these areas are small and localised and either associated with areas of regularly disturbed ground, such as the Improved Grassland field within the south of the site, or adjacent to well walked pathways next to hedgerows. This habitat remains largely unchanged to that reported within the April 2021 EA.

## 2.11. Ponds

- 2.11.1. Several ponds were recorded on-site or immediately adjacent, each of which are associated with areas of dense boundary vegetation and treelines however vary in terms of size and depth.
- 2.11.2. An updated description of each following the most recent 2021 surveys is given below:
- 2.11.3. **Pond P1.** Heavily overshadowed and void of significant aquatic growth for the majority aside from areas free of scrub growth where greater light penetration occurs. Species recorded include Floating Pennywort *Hydrocotyle ranunculoides*, a native of America being highly invasive, Common Water Plantain *Alisma plantago-aquatica* in addition to a high cover of Duckweed *Lemna sp.* The pond edges include Rush species *Juncus spp* and Bur-reed species *Sparganium spp.* The pond is shaded by a dense band of scrub, dominated by Goat Willow, Hawthorn and Oak.
- 2.11.4. **Pond P2:** Largely overshadowed, P2 was recorded as containing Floating Pennywort, Common Water Plantain and a small patch of New Zealand Pigmyweed *Crassula helmsii*, a highly invasive non-native which reduces biodiversity and is difficult to control. Marginal habitats, where vegetated, include Hard Rush and Bur-reed species.
- 2.11.5. **Pond P3:** Connected to P2 by the ditch network, P3 was also recorded as being largely over-shaded however contained a moderate aquatic plant assemblage including Floating Pennywort, Floating Sweet-grass *Glyceria fluitans*, Hard Rush and Typha *Typha sp.*
- 2.11.6. **Pond P4:** Ringed by a dense band of vegetation and tree cover, P4 was recorded as containing no notable aquatic or marginal vegetation.

- 2.11.7. **Pond P5:** P5 is located on the north-west boundary of the site. Whilst subject to drying on a regular basis, P5 was recorded as holding water during the most recent 2021 habitat survey however was void of any significant aquatic growth.
- 2.11.8. **Pond P6:** Recorded as being entirely dry during 2021 with encroaching scrub, P6 is no longer considered a permanent pond feature however is expected to hold some ground water during increased precipitation events.
- 2.11.9. **Pond P8:** An area of standing ground water located within the recently felled woodland within the south of the site. This feature was recorded to dry on a regular basis throughout 2021 and contains no significant aquatic growth.
- 2.11.10. Following ground-based survey work, a suspected pond (former Pond P7) was re-categorised as an area of Rush Pasture (described above).

## 2.12. Seasonally Wet Ditches

- 2.12.1. During the most recent 2021 surveys, both wet and dry ditches were recorded throughout the site, predominately within the west of the site in lower-lying areas. Those with increased water and where not entirely dominated by Rush growth were recorded to support several species typical of this environment including Wavy Bittercress *Caramine flexuosa*, Water Forget-me-not *Myosotis scorpioides*, Cleavers *Galium sp.*, Broad-leaved Willowherb *Epilobium montanum*, Floating Sweet-grass, Common Sorrel, Rosebay Willowherb *Chamaenerion angustifolium*, Pendulous Sedge *Carex pendula* and Fool's-water-cress *Helosciadium nodiflorum*.

## 2.13. Hedgerows and treelines

- 2.13.1. Throughout the most recent updated 2021 surveys, the hedgerows and treeline habitats recorded throughout the site were consistent with those descriptions outlined within the submitted EA and supporting appendices, albeit for slight increases in bramble and scrub growth located predominately around the central most treelines.
- 2.13.2. By way of summary, this included for a range of hedgerow types throughout the site ranging from closed hedgerows to open and sometimes gappy treelines, each of which either wholly or partially forming the boundaries between grassland fields. Several dry ditches and banks were associated with those hedgerows located within the interior of the site.
- 2.13.3. Species associated with these habitats recorded across the site include Hornbeam *Carpinus betulus*, Ash, Field maple *Acer campestre*, Holly *Ilex aquifolium*, English Oak *Quercus robur*, Sessile oak *Quercus petraea*, Spindle *Euonymus europaeus*, Hazel *Corylus avellana*, Hawthorn, Blackthorn, Sycamore *Acer pseudoplatanus*, Elder *Sambucus nigra*, Horse Chestnut *Aesulus*

*hippocastanum*, Dogrose *Rosa canina*, Bramble and Wild service-tree *Sorbus torminali*.

- 2.13.4. Many of the hedgerows are gappy through lack of management but several are of good quality.
- 2.13.5. The hedgerows and treelines support several Ancient and/or Veteran trees as well as trees of high ecological value. Further information of which is included within the supporting 2021 Arboricultural Impacts Assessment produced by SJA trees.

#### 2.14. **Built-form**

- 2.14.1. A single building (B1) and area of hardstanding is located within the south-east of the application site. It features a flat roof and a prefabricated design. Whilst well sealed for the majority, several small holes were located in the overhanging soffit boards however these were covered in debris/cobwebs in almost all instances. No access was possible to the interior of the building during the most recent 2021 surveys however from previous survey work undertaken, the interior of the building is recorded to be well lit and historically used by the local cadet group.
- 2.14.2. Two temporary metal container units are also located within the south of the site.

#### 2.15. **Other habitats**

- 2.15.1. In addition to those habitats described above, very small and generally isolated areas of hardstanding, bare-ground and marginally revegetated disturbed ground are located within the south-east of the application site. These areas remained unchanged to those recorded within the previously submitted 2021 EA.

#### **Evaluation of Recorded Changes**

- 2.16. As a result of the most recent 2021 updated habitat surveys, it is considered that overall, the site remains comparable to that within the April 2021 submitted EA.
- 2.17. However, where alterations in assessment have been made, this is generally limited to the grassland habitats where minor variations in habitat type / condition and distribution have been noted. This is most relevant to the recategorization of the areas of Semi-improved Acid Grassland, as well as the recorded diversification of distinct areas of previously recorded species-poor grassland in those fields to the west.
- 2.18. Whilst any changes have been noted within the updated BNG assessment included below, it is considered that on the whole the original conclusions drawn within the submitted EA remain consistent with results of the updated 2021 habitat survey work.

### 3. BIODIVERSITY NET GAIN ASSESSMENT METHODOLOGY

- 3.1. A Biodiversity Net Gain Assessment (BNG) is a methodology used to assess whether any plan or project is capable of delivering measurable contributions to local biodiversity as a result of the proposals.
- 3.2. This is achieved by undertaking a review of the measured biodiversity value of the site prior to construction works (i.e. the baseline), and comparing it to what can be delivered, post-development. The intention being to secure a measurable net gain to biodiversity when compared over the baseline situation.
- 3.3. This net gain can either be achieved directly through site-based means (i.e. included within the planning boundary), or delivered as an off-site measure through bespoke off-site habitat creation or in certain cases, the purchasing of biodiversity credits through a credit broker.

#### **Methodology**

- 3.4. In order to undertake a BNG assessment, the most recent version of the Defra Biodiversity Metric V3 (hereafter, referred to as the 'Metric') has been applied to the site.
- 3.5. The methodology for undertaking the BNG is based on the guidance provided within the Technical Supplement and User Guide published by Defra, in addition to the application of professional judgement.
- 3.6. The Metric works by assigning credits to the habitats located within the Development Site (both baseline and post-development). These credits are then used as a proxy to determine the ecological value of the site.
- 3.7. The respective credit score of each habitat is gauged by calculating key parameters that influence that habitats reported value. These are as follow:
  - Habitat type / distinctiveness;
  - Habitat area;
  - Habitat condition; and,
  - Strategic significance.
- 3.8. For either created or enhanced habitats, the additional main parameters are applied;
  - Habitat target type / distinctiveness;
  - Habitat target condition;
  - Time till target condition; and,
  - Difficulty of creation / enhancement.
- 3.9. The value for hedgerow / treeline habitats and ditch / watercourse habitats are calculated separately, however follow a similar working methodology as those described for area based habitats above
- 3.10. The recorded baseline and development proposals for the site have been assessed against the above identified parameters and most recent

Condition Assessment Criteria (CAC) provided by Defra. The most recent baseline is outlined within Section 2 above, and the post-development proposals for the site are summarised below as well as being highlighted in more detail within the relevant landscape plans and detailed documents produced as part of the initial April 2021 planning application.

- 3.11. In order to account for the use of UK Habitat Classification system (UKHab) within the Metric, a 'best fit' approach has been taken in order to ensure the most representative Phase-1 habitat type is being utilised for both the baseline and post-development habitats within the Metric. This has been determined using the technical supplements provided within the Metric in addition to guidance published by the UK Habitat Classification Working Group. In any event, it is noted that due to this variation in approach there are differences (for the most part, in name only) between the habitat names given in Section 2 and the submitted EA, and those outlined within the Metric, supporting graphics and Section 3, below.

### **Project proposals summary**

- 3.12. As set out in detail within the originally submitted EA, mechanisms of delivering significant ecological gains within the site have been considered at all stages of design in order to realise the overall ecological potential of the site and habitats both created and enhanced; a key ethos being to incorporate the habitats of the highest relative ecological value within the site into the application design. Notwithstanding this, in order to facilitate development as well as habitat creation, the proposals will result in the loss of areas of grassland habitat, very small sections of tree / hedgerows and dense and scattered scrub, ruderal vegetation, a small pocket of felled woodland as well as other areas considered to be of negligible ecological value such as built-form / hardstanding and disturbed ground.
- 3.13. In order to mitigate for these losses and to provide a significant betterment over the current situation, an extensive habitat enhancement / creation regime of large areas of green space will be brought forward primarily through the incorporation of the Country Park and areas of internal and boundary green infrastructure. Outlined in more detailed within the submitted EA, by way of summary proposed measures will include enhanced grassland, strengthening of treelines and hedgerows, bolstering of the existing 'wet' habitats on site through the creation of new ponds and wetland style habitats.
- 3.14. Whilst primarily designed to reflect the opportunities available within the site, the overall ecological strategy has also been mindful of consultation held between the applicant and representative members of each ABC and Kent County Council (KCC). This has guided the scheme and resulted in a number of key design choices including a reduction of approximately 100 residential units compared to a previously rejected scheme (planning ref: 19/1788/AS), increasing of green space areas and a redesign of the Country Park / green infrastructure to ensure they remain primarily for the purposes of biodiversity (i.e. through the removal of play areas from the County Park and incorporation of more sensitive planting, for example), compared to the previous application. The

landscape proposals and ecological enhancements are highlighted in the plans attached to this note.

- 3.15. More recently, a review of how best to apply the Metric has also been undertaken, primarily in light of the results of the most recent 2021 updated habitat surveys and through further consultation. In summary, this has resulted in recategorization of certain baseline habitats to a higher condition (primarily, areas of grassland), remeasuring of scrub habitats, a review of strategic significance of the site, and, a more precautionary approach being applied to post-development grassland to be located in a very close proximity to built-form.
- 3.16. Furthermore, it is recognised that consultees have previously requested that the baseline of the felled woodland be judged (for the purposes of the Metric) on its type and condition, pre-felling. However, as 'Woodland and forest – felled' scores markedly higher than if it were judged on its previous baseline, the felled category has therefore been retained.

### **Limitations**

- 3.17. Biodiversity Metrics provide a way of measuring the biodiversity value of a site pre-development, and comparing it to what it will be, post-development. This is based on several parameters and the application of the most recent version of the guidance provided. Metric analysis itself does run the risk of becoming limited by the quantifiable workings involved, and the quality of the professional judgement given.
- 3.18. This is most obviously highlighted by the fact that Metrics do not currently take into consideration measures directly relating to protected or notable species. It is only interested in the proposals from a purely mathematical perspective which is limited solely to habitats. For instance, the provision of a bespoke mitigation strategy that would, for example, see the inclusion of a variety of amphibian habitats to aid population success, will not necessarily score commensurate with the real value as it will simply assess the habitats in isolation and not that of the bigger picture.
- 3.19. A further example of this would be that there is no mechanism currently in place that would reward schemes for installing several faunal specific features, such as bat and bird boxes or hibernacula.
- 3.20. Additionally, Biodiversity Metrics often favour certain habitat types such as those that are typically 'easier' to create and in shorter time frames. This can often lead to a situation where project design is stunted due to the fact ambitious projects often run the risk of being penalised due to the perceived difficulty of the habitats being proposed.
- 3.21. Whilst Biodiversity Metrics can be considered a helpful and guiding tool when assessing the BNG of a site, for a number of reasons including those outlined above, they shouldn't be the sole approach adopted when considering the validity of the site proposals in the context of local and national biodiversity planning policy.

#### 4. BIODIVERSITY NET GAIN ASSESSMENT RESULTS

- 4.1. In line with the above methodology, a BNG assessment using the most recent version of the Defra Metric (v3) has been undertaken. Detailed habitat management and planting programmes are outlined within the submitted LEMP/EA, however by way of summary an overview of the respective measures associated with those habitats to be either created or enhanced, are included within the tables below and shown graphically on Plan ECO2-4.
- 4.2. Each table is split into both pre-development (baseline) and post-development (created and enhanced) descriptions relevant to each main measured habitat type; area-based habitats, linear based, and, watercourse habitats. The relevant cell reference of the corresponding Metric is also provided in the below tables and accompanying graphics for the purpose of cross reference.

##### Area Based Habitats

Metric Cell Ref	Baseline Habitat (previous Phase-1 categories)	Baseline Habitat Condition	Post-development impacts (Ha)		Summary Baseline Condition Notes
			Enhanced	Lost	
1, 2, 3, 4	Other neutral grassland (Converted from Semi-improved Neutral Grassland)	Fairly poor	10.99	4.9	<p>Majority of 'Other Neutral Grassland' habitats across the site remain largely uniform in nature and subject to previous extensive heavy grazing (albeit this had temporarily ceased during mid-2021). Swards dominated by grass species, categorised by the dominance of few faster growing species for the majority, however discrete pockets of more diverse growth do occur in smaller quantities. Forb distribution is however low across all habitat and either dominated by a few select species, or largely absent, leaving large areas of the grassland dominated by grass species almost exclusively. Within the sward itself, bare ground is negligible. Therefore, this habitat is considered to fail Condition Assessment Criteria (CAC) 1 and 3 outright and will fail CAC 2 during normal grazing events. Furthermore, the species density is extremely low compared to the requirements cited within the UK Hab guidance.</p> <p>Therefore, this habitat fails to meet the requirements of 'Moderate' condition, however due to the relatively diverse grass assemblage and citing some of the recorded herb species, albeit spread over a large area, the category 'Fairly Poor' is considered a best fit.</p> <p>Grassland block located within east of site set at baseline strategic significance of 'location ecologically desirable but not in local strategy' due to its future inclusion as part of the strategic Country Park and its context with wider landscape.</p>

Metric Cell Ref	Baseline Habitat (previous Phase-1 categories)	Baseline Habitat Condition	Post-development impacts (Ha)		Summary Baseline Condition Notes
			Enhanced	Lost	
6	Other neutral grassland (Converted from Semi-improved Neutral Grassland)	Moderate	1.74	2.08	<p>Areas of 'Other Neutral Grassland' located in the south-west of the site recorded to contain a more modest forb assemblage compared to same grassland type (described above) recorded elsewhere. Appearance and composition of these areas considered to match more closely the characterises of 'Other Neutral Grassland' however it is noted that overall density of species is still generally low across swards. Bare ground is found in negligible quantities.</p> <p>Therefore, CAC 3 is failed, and CAC 2 is expected is to be dependent on the grazing intensity. 'Moderate' condition considered best fit on a precautionary basis.</p>
11	Other neutral grassland (Converted from Rush Pasture)	Poor	0.21	0.22	<p>Discrete areas of wetter/marshy grassland characterised by the dominance of Rush <i>Juncus sp.</i> species and located within historically wetter areas of the site. Species distribution is poor and due to the composition of the habitat and general uniformity, it is considered to fail the majority of the required CAC for this habitat.</p>
9	Modified Grassland (Converted from Improved Grassland)	Poor	0.79	2.32	<p>Two continuously managed fields located in south of site. Subject to either continuous and high density grazing or mowing. Swards presented lush growth dominated by few grass species for majority however some more notable localised forb growth associated with boundary habitats. Habitat passes 3 of 7 CAC.</p>
16	Mixed Scrub (Converted from Dense and Scattered Scrub)	poor	0.46	0.06	<p>Includes for dense and scattered scrub pockets located adjacent to boundary habitats. High occurrence of Bramble <i>Rubus fruticosus agg</i> with dominate Hawthorn <i>Crataegus monogyna</i> and Blackthorn <i>Prunus spinosa</i> also present. Willow <i>Salix sp.</i> more common around wetter/pond habitats. The ground flora is dominated by species typical of the habitat including Common Nettle <i>Urtica dioica</i>. Species density low.</p> <p>CAC 1 passed outright, CAC 2 and CAC 4 only applicable on infrequent basis, therefore 'poor' considered best fit.</p>
18	Woodland and forest - felled (Converted from Recently Felled Woodland)	High (pre-set condition, cannot be changed)	0	0.11	<p>'Woodland and forest – felled' contains both a higher distinctiveness and base condition assessment (it cannot be changed) compared to other woodland habitats. Therefore, this baseline habitat type has been used despite KWT requesting otherwise.</p>

Metric Cell Ref	Baseline Habitat (previous Phase-1 categories)	Baseline Habitat Condition	Post-development impacts (Ha)		Summary Baseline Condition Notes
			Enhanced	Lost	
20	Ruderal/Ephemeral (Converted from Ruderal Vegetation)	Poor	0	0.06	Associated with the Modified Grassland fields for the majority and dominated by Nettle <i>Urtica dioica</i> and other undesirable species. This habitat is in poor condition.
22	Ponds - Priority Habitat (Converted from Ponds)	Poor	0.25	0	Although not all ponds fall under definition of 'Priority habitat' they are all included on a precautionary basis. All ponds are largely over-shaded and on the majority contain either a small amount of native aquatic growth, or it is largely localised within more open areas. Turbidity is high across all ponds and occurrence of Duckweed and non-invasive species is common. Ponds fail the majority of CAC and are therefore classed as 'poor'.  Strategic significance of 'location ecologically desirable but not in local strategy' due to its future inclusion as part of the strategic 'blue infrastructure' and its context with wider landscape.
24	Ruderal/Ephemeral (Converted from Other Habitats)	Poor	0	0.08	Bare ground and other areas of sparsely vegetated disturbed ground. Poor condition
26	Developed Land; sealed surface (Converted from built-form)	N/A - Other	0	0.05	Built-form and hardstanding. No condition applicable

Table 1. Baseline area habitat descriptions

Metric Cell Ref	Habitat Type	Area (Ha)	Target Condition	Target Condition Notes
C1	Developed land; sealed surface	3.81	<i>N/A - Other</i>	Areas of built-form, including hardstanding and roads. No condition applicable
C2	Vegetated garden	2.32	<i>Poor</i>	Areas of residential garden. Assigned 'poor' condition on precautionary basis
C3	Modified grassland	2.25	<i>Poor</i>	Sports pitches and surrounding grassland in southern most field.
C4	Mixed scrub	0.35	<i>Good</i>	<p>The creation of scrub habitat within the site will include for the encouragement of south-facing, scalloped edge-habitat, forming a range of micro-habitats. This will be particularly notable for areas of the scrub / grassland mosaic habitat to be created within the north-eastern most corner of the Country Park and boundary areas of Green Infrastructure. Long-term management will include coppicing, encouragement of natural sapling generation, scrub edge management, small-scale thinning / retention of deadwood as well as control of non-native or overly dominant species.</p> <p>Therefore, the relevant CAC will be met for 'Good' condition.</p>
C5	Other Neutral Grassland	0.63	<i>Fairly Good</i>	<p>Areas of created species-rich grassland will be seeded with a 'Weald Meadow Seed Mix'. This chosen seed mix is a diverse meadow seed mix, sustainably harvested from ancient meadows throughout the Weald. Created areas will be subject to appropriate management regime to include timed cuts (limited to 3 times yearly) and implementation of long-term management.</p> <p>They will be good examples of their habitat types in a 'Fairly good' condition.</p>
C6	Ponds (Priority habitat)	0.30	<i>Good</i>	<p>8 ceated ponds within the site, including 4 no. dedicated biodiversity ponds located within Country Park and 4 no. naturalistic SuDS basins located in Green Infrastructure. All ponds will be designed and managed for the purposes of biodiversity and will support a variety of micro-habitats and planted areas. All ponds will be planted with a bespoke aquatic species mix and management will be unintrusive and to enhance biodiversity. All ponds will be included within key ecology areas and will be used by the on-site Great Crested Newt <i>Triturus cristatus</i> population and other wildlife.</p> <p>Strategic significance set to reflect improvement of 'blue links' within site and across wider landscape.</p>
C7	Bioswale	0.21	<i>Good</i>	Swales capable of holding water on a semi-permanent basis but also occasionally drying will be connected across the site. All swale features will be planted/seeded with a range of native species suited to their local environments (including both aquatics and grassland) and will be subject to a long-term management and ecologically sensitive management regime.
C8	Urban Tree	0.06	<i>Moderate</i>	Street tree planting. Trees to be managed for landscape and ecology purposes.

Table 2. Post-development (created) area habitat descriptions

Metric Cell Ref	Baseline Habitat Type	Enhanced to	Area (Ha)	Condition change	Target Condition Notes
1	Other Neutral Grassland	Other Neutral Grassland	7.91	<i>Fairly poor - Good</i>	<p>Significant areas of enhanced grassland will form an integral part of the Country Park proposals within the east of the site. Grassland will be formed of large, uninterrupted swards inclusive of both dry and wet meadow areas. Enhancement will include for initiation of bespoke over-seeding exercise, which will seek to utilise a 'Weald Meadow Seed Mix'. Areas of wet grassland will be seeded with Emorsgate's EM8 mixture. Seed mixture will be sown in areas envisaged to be seasonally wet and areas currently dominated by Rush. Areas that are proposed for enhancement will be prepared via light scarifying, or another suitable regime, prior to sowing to produce a short sward and areas of bare ground within which seed mixes can be sown and bedded for germination. Once established, directional mown pathways will be cut around the boundary areas of Country Park grassland. These 'soft' pathways will be used to maintain foot traffic to dedicated areas and discourage residents from walking over meadow grassland on a frequent basis. In all instances of grassland enhancement and creation, success will be ensured through the implementation of long-term ecologically led management such as the instigation of an appropriate cutting regime and long-term monitoring.</p> <p>The enhanced grassland will ultimately be a good example of its type and will feature a species-rich sward, a target condition of 'Good' is considered achievable across 12-years subject to the implementation of the described measures.</p> <p>Strategic significance set to reflect size and location of Country Park grassland in context of surrounding landscape and the context it will have in improving habitat connectivity.</p>
2	Other Neutral Grassland	Traditional Orchard	0.61	<i>Lower Distinctiveness Habitat - Good</i>	<p>Dedicated Orchard within north of the site. To feature traditional Kentish heritage orchard species (including apple, pear, plum and cherry) as well as the inclusion of Cobnut plants. Management to be guided by ecological principles including the retention of standing deadwood, provision of log-piles, maintenance of micro-habitats as well as steps taken once sufficient maturity has been established (anticipated year 15 onwards), such as coppicing, pruning as well as selective seeding of Mistletoe <i>Viscum album</i>. Management of orchard grassland will be undertaken in a similar manor as for that of the wider species-rich grassland meadow habitat, including suitably sourced seed mixes of local prominence (i.e. Weald Native Origin Seed) sown following an initial scarification exercise. Orchard grassland will then be managed in an ecologically sensitive manor as described for the wider grassland habitats above and to a target condition of 'Good'.</p>
3	Other neutral grassland	Other Neutral Grassland	2.46	<i>Fairly Poor - Fairly good</i>	<p>Enhanced areas of 'Fairly poor' condition Green Infrastructure grassland. Management will be the same as prescribed for Country Park grassland (described above) and good condition will be targeted, however on a precautionary basis a target condition of 'Fairly good' has been applied.</p>

Metric Cell Ref	Baseline Habitat Type	Enhanced to	Area (Ha)	Condition change	Target Condition Notes
6	Other Neutral Grassland	Other Neutral Grassland	1.73	<i>Moderate - Fairly Good</i>	Enhanced areas of 'Moderate' condition Green Infrastructure grassland. Management will be the same as prescribed for Country Park grassland (described above) and good condition will be targeted, however on a precautionary basis a target condition of 'Fairly good' has been applied.
9	Modified Grassland	Other Neutral Grassland	0.79	<i>Fairly Poor - Fairly Good</i>	Enhanced areas of Green Infrastructure grassland. Management will be the same as prescribed for Country Park grassland (described above) and good condition will be targeted, however on a precautionary basis a target condition of 'Fairly good' has been applied. Includes areas of wet grassland.
11	Other Neutral Grassland	Other Neutral Grassland	0.21	<i>Fairly Poor - Good</i>	Enhancement of Rush/wetter areas of grassland, to be seeded with wet grassland species mix after initial ground preparation and scarification. Longer-term management will then be undertaken in an ecologically sensitive manor to ensure it retains a variety of micro-habitats and is a good example of its type.
16	Mixed Scrub	Mixed Scrub	0.46	<i>Poor - Good</i>	Existing scrub will be subject to enhancement to improve diversity and structure. This will include for bolster planting using species of high ecological value, including fruit and berry-bearing species. Longer term management will include for measures including coppicing, encouragement of natural sapling generation, scrub edge management, small-scale thinning / retention of deadwood as well as control of non-native or overly dominant species.
22	Ponds (Priority Habitat)	Ponds (Priority Habitat)	0.25	<i>Poor - Good</i>	Retained ponds will be subject to ecological enhancements. This will include for partial thinning of dense bankside scrub vegetation to allow for light penetration, planting of aquatic vegetation and in some cases more thorough measures such as initial dredging. Control of non-native invasive species such as New Zealand Pigmyweed. Long-term management will then be sensitive and undertaken for sound ecological reasons in combination with those measures to be incorporated across the newly created ponds.  Strategic significance set to reflect improvement of 'blue links' within site and across wider landscape.

Table 3. Post-development (enhanced) area habitat descriptions

### Linear Based Habitats

Metric Cell Reference	Baseline Habitat Type	Baseline Habitat Condition	Post-development impacts (Km)		Summary Baseline Condition Notes
			Enhanced	Lost	
1	Native Species-rich Hedgerow with Trees	<i>Moderate</i>	2.41	0.09	Hedgerows/treelines on site. Combined under single habitat type and condition on precautionary basis albeit it is noted that several species-poor and gappy features are present, especially within the centre of the site.

Table 4. Baseline linear habitat descriptions

Metric Cell Reference	Habitat Type	Length (Km)	Target Condition	Target Condition Notes
1	Native species-rich Hedgerow	0.156	<i>Good</i>	New hedgerow planting will be included primarily adjacent to areas of new development. Hedgerows will be planted with a native, species-rich mix in double-staggered rows. Once established, new areas of species-rich hedgerow planting will be cut no more than once annually, and on a rotational basis where possible to enhance structure and value to faunal species. The new hedgerow planting will meet the majority of the CAC and therefore, a target condition of 'Good' will be sought.
2	Native species-rich Hedgerow with trees	0.346	<i>Good</i>	New hedgerow planting with trees will be included primarily within gaps of existing treelines and within boundary areas. All planting will include for heavy stock trees, left to mature above that of the more periodically managed hedgerow. The new hedgerow and tree planting will meet the majority of the CAC and therefore, a target condition of 'Good' will be sought.

Table 5. Post-development (created) linear habitat descriptions

Metric Cell Reference	Baseline Habitat Type	Enhanced to	Length (Km)	Condition change	Target Condition Notes
1	Native Species-rich Hedgerow with trees	Native Species-rich Hedgerow with trees	2.41	<i>Moderate - good</i>	Retained hedgerows and treelines to be protected via RPZ/fencing and will be subject to enhancements including bolster planting, coppicing, laying and instigation of long-term management to improve structure, diversity and value to biodiversity. The enhanced hedgerow and treelines will meet the majority of the CAC and therefore, a target condition of 'Good' will be sought.

Table 6. Post-development (enhanced) linear habitat descriptions

**Watercourse Based Habitats**

Cell Reference	Baseline classification	Baseline Habitat Condition	Post-development impacts (Km)		Summary Baseline Condition Notes
			Enhanced	Lost	
1	Ditches	<i>Poor</i>	0.9	0.08	Ditches are located within site, predominately in west, subject to varying levels of water retention however most are expected to dry on a seasonal basis. Due to historic management of site and dominance of rush, ditches are in 'Poor' condition

Table 7. Baseline watercourse (ditch) habitat descriptions

Baseline Reference	Baseline Habitat Type	Enhanced to	Length (Km)	Condition change	Target Condition Notes
1	Ditches	Ditches	0.9	<i>Poor - Moderate</i>	Ditch habitats will be incorporated into side wide biodiversity strategy and will create key blue links throughout swales and pond network. Ditches will be subject to protection from runoff and will be planted with new species and managed sensitively in the long-term. Therefore, it is considered that Ditches will meet the requirements of 'Moderate' condition, as a minimum.

Table 8. Post-development (enhanced) watercourse (ditch) habitat descriptions

## Results Summary

4.3. The Biodiversity Metric returns the following headlines results for the site:

		Defra BNG Metric Categories		
		Area	Linear	Watercourse
<b>Baseline results</b>	Units	144.48	30.06	3.84
<b>Post-development results</b>	Units	166.12	45.77	5.56
	Unit Change	+21.64	+15.71	+1.72
	% Change	<b>+14.98</b>	<b>+52.26%</b>	<b>+44.72%</b>

Table 9. BNG Results

4.4. The detailed results of the Biodiversity Metric assessments are included at Annex 1 of this document and shown graphically on Plans ECO2-4.

## 5. SUMMARY AND CONCLUSIONS

- 5.1. Ecology Solutions was commissioned by Wates Development in March 2021 to undertake a suite of updated habitat surveys for the site known as 'Land between Appledore Road and Woodchurch Road, Tenterden, Kent.
- 5.2. Previously the site had been subject to a range of habitat surveys undertaken between 2016 and 2021, the results of which had been used to support a hybrid planning application which was submitted during spring 2021.
- 5.3. Owing to the age of some of the previously submitted habitat survey data, it was considered appropriate to update this work during mid-2021 in order to 'fine-tune' or amend any of the previously identified mitigation or design proposals as considered appropriate.
- 5.4. Furthermore, an updated BNG assessment was undertaken using the Defra Metric V3. This updated assessment was based upon detailed knowledge of the baseline habitats within the site, in addition to identifying the post-development habitat measure to be delivered, including: enhancement/creation of large areas of grassland; creation of high-quality wetland-style habitats; scrub, tree and hedgerow planting; in addition to other measures.

### Conclusions

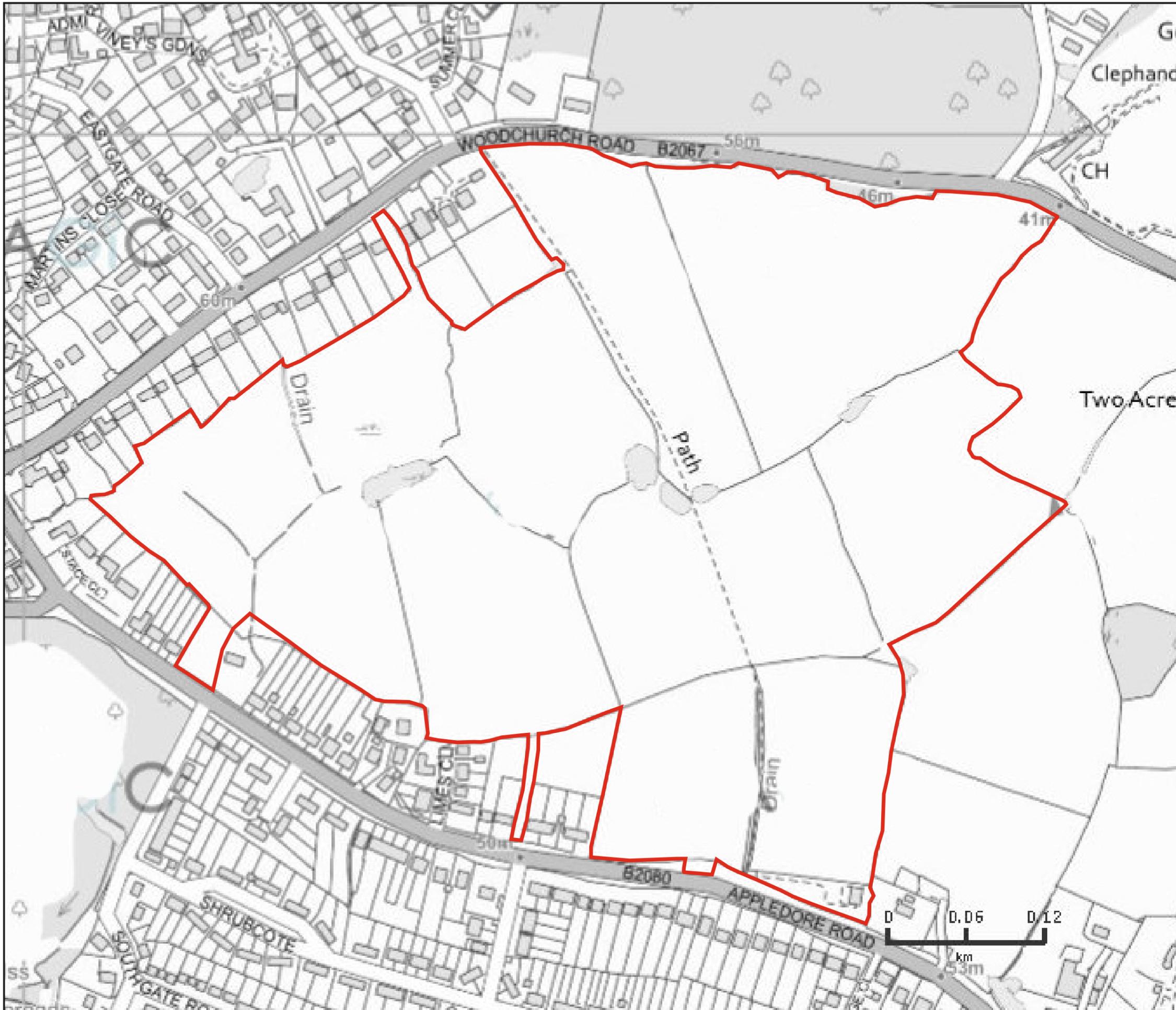
- 5.5. As set out in the relevant sections above, when considering the results of the updated 2021 habitat survey work, it is concluded that the detailed analysis and mitigation measures as set out within the previously submitted detailed Ecological Assessment (Ecology Solutions, 2021) remain fully relevant and robust. Whilst there have been minor amendments to previously reported habitat distribution and conditions, it is considered these can generally be attributed to a time-lag between previous survey efforts as well as the application of professional judgement.
- 5.6. Furthermore, the results of the updated BNG analysis work have confirmed that the site can deliver significant net-gains to biodiversity and is therefore in-alignment with the relevant local and national planning policy.
- 5.7. As such, whilst this note should be used to cite the most up-to-date habitat baseline of the site in addition to outlining the most recent BNG score, it is considered that principally the assessments and conclusions drawn within the originally submitted 2021 Ecological Assessment still remain both relevant and appropriate

Ecology Solutions

January 2022

**PLANS**

**PLAN ECO1**  
Site Location



**KEY:**  
 APPLICATION SITE BOUNDARY



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 Worcestershire | WR12 7LJ  
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 info@ecologysolutions.co.uk  
 ecologysolutions.co.uk

9349. LAND BETWEEN APPLIEDORE ROAD AND WOODCHURCH ROAD, TENTERDEN, KENT.

PLAN ECO1:  
 SITE LOCATION

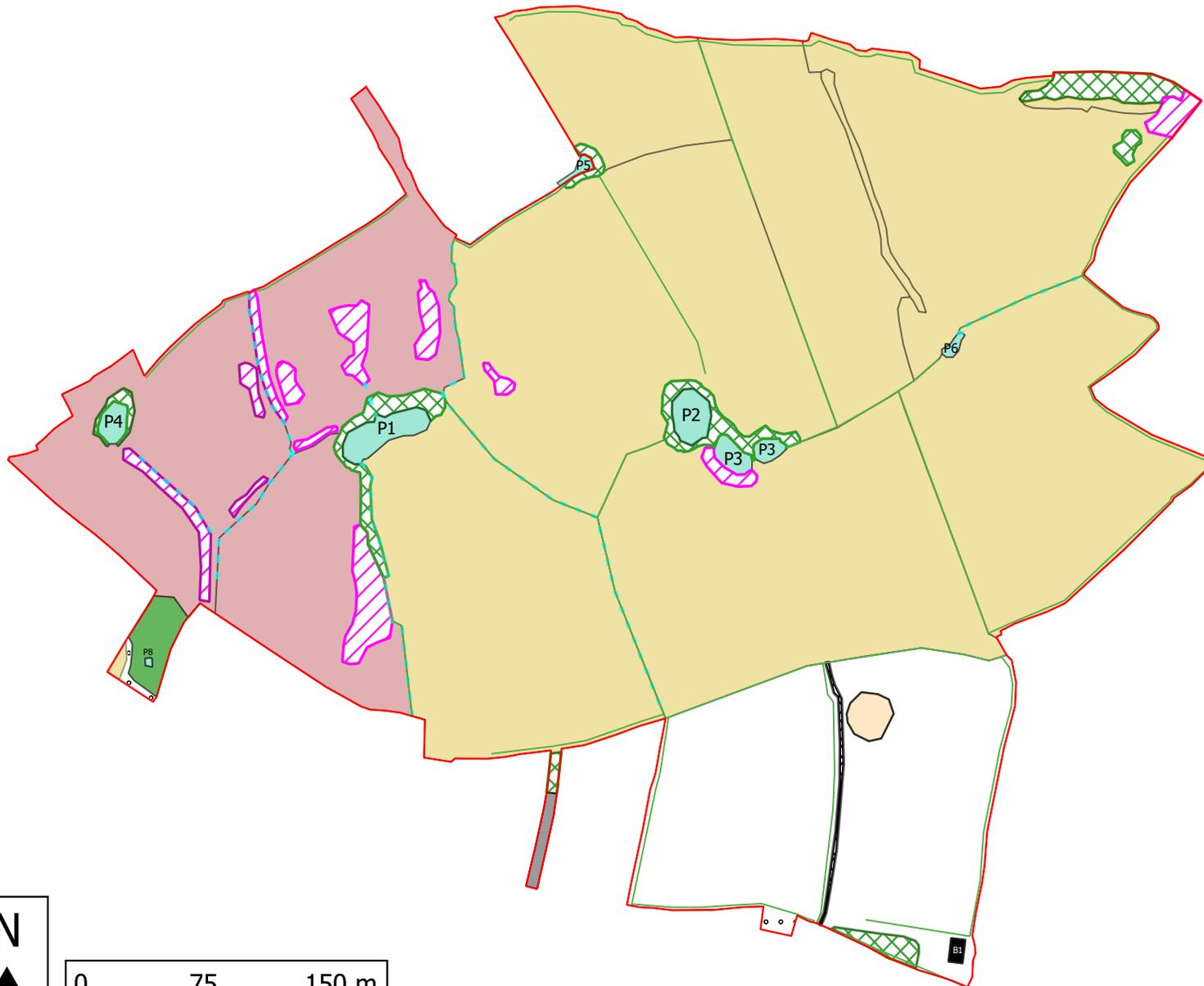
Rev. A  
 AUG 2021

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**PLAN ECO2**  
Baseline Habitats

REFER TO 'SITE HABITAT BASELINE' TAB IN ACCOMPANYING METRIC FOR METRIC NOTES INTERPRETATION

HABITATS HAVE BEEN CONVERTED FROM PHASE-1 TO UK HAB USING A 'BEST FIT' METHODOLOGY. SEE ACCOMPANYING REPORT FOR CLARIFICATION



**KEY (METRIC REF):**

SEE BNG REPORT FOR NUMBERS IN BRACKETS

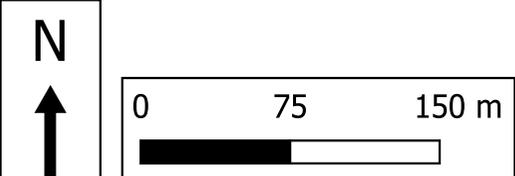
- SITE BOUNDARY
- OTHER NEUTRAL GRASSLAND; FAIRLY POOR (1-4)
- OTHER NEUTRAL GRASSLAND; MODERATE (6)
- MODIFIED GRASSLAND (9)
- OTHER NEUTRAL GRASSLAND; RUSH DOM (11)
- MIXED SCRUB (16)
- POND (22)
- RUDERAL/EPHEMERAL; RUDERAL VEGETATION (20)
- FELLED WOODLAND (18)
- RUDERAL/EPHEMERAL; DISTURBED GROUND (24)
- RUDERAL/EPHEMERAL; BAREGROUND (24)
- DEVELOPED LAND; BUILT-FORM (26)
- DEVELOPED LAND; HARDSTANDING (26)
- DITCH
- NATIVE SPECIES RICH HEDGEROW WITH TREES

 <p><b>ECOLOGY SOLUTIONS</b> <small>Part of the ES Group</small></p>	<p>Farncombe House Farncombe Estate   Broadway Worcestershire   WR12 7LJ</p> <p>+44(0)1451 870767 info@ecologysolutions.co.uk ecologysolutions.co.uk</p>
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9349: LAND BETWEEN APPLEDOOR ROAD AND WOODCHURCH ROAD, TENTERDEN, KENT.

PLAN ECO2: BASELINE HABITATS	Rev: 5 Dec 2021
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**PLAN ECO3**  
Created Habitats

REFER TO 'SITE HABITAT CREATION' TAB IN ACCOMPANYING METRIC FOR METRIC NOTES INTERPRETATION. FOR INDICATIVE IN-PLOT TREE PLANTING, REFER TO LANDSCAPING PLANS



**KEY (METRIC REF):**

SEE BNG REPORT FOR NUMBERS IN BRACKETS

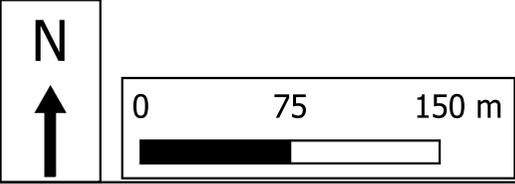
- SITE BOUNDARY
- CREATED DEVELOPED LAND; SEALED SURFACE (C1)
- CREATED MODIFIED GRASSLAND; GARDENS (C2)
- CREATED MODIFIED GRASSLAND; SPORTS PITCHES (C3)
- CREATED MIXED SCRUB (C4)
- CREATED OTHER NEUTRAL GRASSLAND (C5)
- CREATED PONDS (C6)
- CREATED BIOSWALE (C7)
- - - NATIVE SPECIES-RICH HEDGEROW
- - - NATIVE SPECIES-RICH HEDGEROW WITH TREES

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9349: LAND BETWEEN APPLEDOOR ROAD AND WOODCHURCH ROAD, TENTERDEN, KENT.

PLAN ECO3: CREATED HABITATS	Rev: 5 DEC 2021
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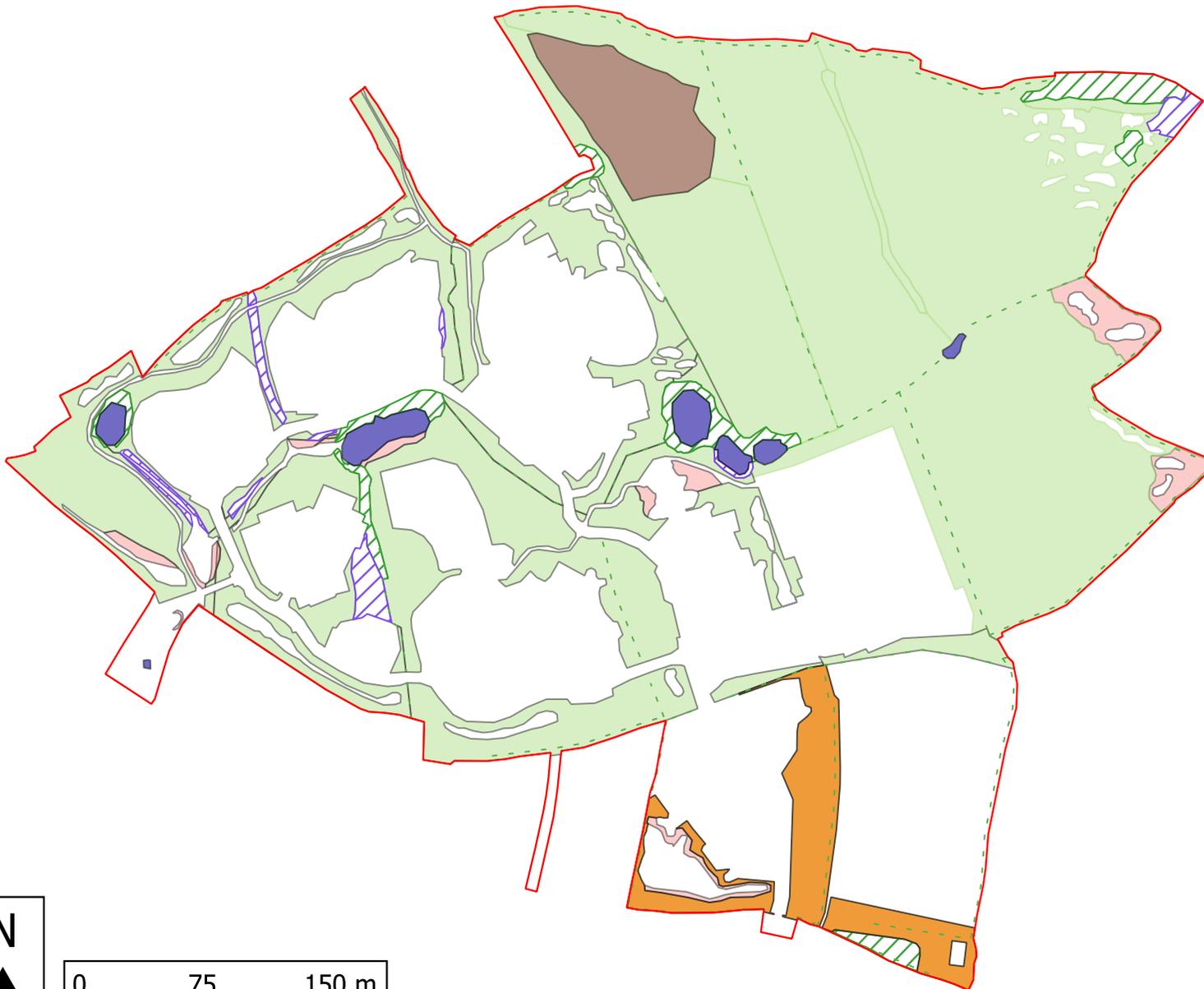
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**PLAN ECO4**

Enhanced Habitats

REFER TO 'SITE HABITAT ENHANCEMENT' TAB IN  
ACCOMPANYING METRIC FOR METRIC NOTES  
INTERPRETATION



**KEY (METRIC REF):**

SEE BNG REPORT FOR NUMBERS IN BRACKETS

- SITE BOUNDARY
- OTHER NEUTRAL GRASSLAND - OTHER NEUTRAL GRASSLAND (1, 3, 6)
- MODIFIED GRASSLAND - OTHER NEUTRAL GRASSLAND (9)
- OTHER NEUTRAL GRASSLAND - TRADITIONAL ORCHARD (2)
- OTHER NEUTRAL GRASSLAND; RUSH - OTHER NEUTRAL GRASSLAND (11)
- POND - POND (22)
- MIXED SCRUB - MIXED SCRUB (16)
- OTHER NEUTRAL GRASSLAND - OTHER NEUTRAL GRASSLAND; WET (1, 3, 6, 9)
- NATIVE SPECIES RICH HEDGEROW - NATIVE SPECIES RICH HEDGEROW (INC. DITCHES)



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9349. LAND BETWEEN APPLEDOOR  
ROAD AND WOODCHURCH ROAD,  
TENTERDEN, KENT.

PLAN ECO4: ENHANCED HABITATS

Rev: 5  
DEC  
2021



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**PLAN ECO5**

Ecology Strategy & Enhancement Plan

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**GREEN INFRASTRUCTURE**

GREEN INFRASTRUCTURE GRASSLAND WILL COMPRISE A MIX OF BOTH RETAINED/ENHANCED AND NEWLY CREATED SPECIES-RICH WET AND DRY GRASSLAND. FURTHERMORE, A DEDICATED NETWORK OF POND AND OTHER WETLAND HABITATS WILL INTERLINK THROUGHOUT GREEN INFRASTRUCTURE AREAS, CREATING EFFECTIVE ECOLOGICAL NETWORKS THROUGHOUT THE MAIN CORE OF THE SITE AND LINKING THESE WITH THE AREAS OF THE COUNTRY PARK WITHIN THE EAST.

**TRADITIONAL ORCHARD**

ORCHARD HABITAT TO CONTAIN TRADITIONAL KENTISH VARIETIES IN ADDITION TO ENHANCED, SPECIES-RICH GRASSLAND. ORCHARD WILL BE MANAGED AS BOTH A PRIMARY BIODIVERSITY AND COMMUNITY RESOURCE.

**COUNTRY PARK - GRASSLAND**

COUNTRY PARK AREA WILL PREDOMINATELY BE COMPRISED OF SPECIES-RICH GRASSLAND, ENHANCED VIA A INITIAL BESPOKE SEEDING REGIME, UTILISING LOCALLY SOURCED WEALD MEADOW SEED MIX. SUBSEQUENT MANAGEMENT WILL INCLUDE FOR ECOLOGICAL PRINCIPLES SUCH AS TIMED CUTTING AND LONG-TERM MONITORING.

**DEVELOPMENT SPACE ENHANCEMENTS**

TO PROVIDE IMMEDIATE BENEFITS TO FAUNAL SPECIES, 15% OF ALL NEW BUILT-FORM WILL INCLUDE FOR INTEGRATED BAT, BIRD AND INVERTEBRATE BOXES. DESIGNS WILL BE CHOSEN SO AS TO ATTRACT AS DIVERSE A RANGE OF SPECIES AS POSSIBLE, INCLUDING THOSE RECORDED WITHIN THE SITE DURING SURVEY WORK UNDERTAKEN.

**COUNTRY PARK - SCRUB MOSAIC**

NEWLY PLANTED SCRUB / GRASSLAND MOSAIC TO BE INCLUDED WITHIN NORTH-EAST OF COUNTRY PARK. THIS HABITAT WILL FEATURE A VARIETY OF CONDITIONS AND MICRO-HABITATS AND WILL THEREFORE BE OF PARTICULAR BENEFIT TO INVERTEBRATE SPECIES.

**OTHER FAUNAL ENHANCEMENTS**

ADDITIONALLY, WITHIN THE WIDER SITE A TOTAL OF 33 FREE-HANGING BAT ROOSTING BOXES AND 33 FREE-HANGING BIRD NESTING BOXES WILL BE INSTALLED ON SUITABLY RETAINED TREES. LOG AND BRASH PILES WILL ALSO BE PROVIDED WITHIN THE BOUNDARY HABITATS AND ADJACENT TO PONDS TO PROVIDE HIBERNACULA FOR REPTILES AND AMPHIBIAN, IN PARTICULAR.

**COUNTRY PARK - BIODIVERSITY PONDS**

FOUR DEDICATED BIODIVERSITY PONDS WILL BE LOCATED WITHIN EAST OF COUNTRY PARK. PONDS WILL BE STRICTLY DESIGNED AND MANAGED FOR THE PURPOSES OF BIODIVERSITY, SUPPORTING A VARIETY OF MICRO-HABITATS AND CONDITIONS.

**BLUE INFRASTRUCTURE - ATTENUATION PONDS**

FOUR NEW ATTENUATION PONDS WILL BE CREATED WITHIN THE WEST OF THE SITE. IN ADDITION TO ASSISTING WITH THE DRAINAGE STRATEGY OF THE SITE, THESE PONDS WILL BE DESIGNED AND MANAGED FOR THE DUAL PURPOSES OF BIODIVERSITY AND WILL FORM AN INTEGRAL PART OF THE BLUE INFRASTRUCTURE OF THE SITE, LINKING WITH PRE-EXISTING WATER FEATURES POST-DEVELOPMENT, ALL PONDS ON SITE WILL GREATLY ENHANCE DISPERSAL OPPORTUNITIES FOR AMPHIBIAN SPECIES IN PARTICULAR.

**SCRUB AND LINEAR HABITAT**

ALL EXISTING HEDGEROWS AND TREELINES TO BE SUBJECT TO EXTENSIVE ENHANCEMENT REGIME, INCLUDING MEASURES SUCH AS BOLSTER PLANTING AND COPPING. NEW STRETCHES OF SPECIES-RICH HEDGEROW AND SCRUB PLANTING WILL ALSO BE PROVIDED TO IMPROVE CONNECTIVITY ACROSS SITE.

SPECIES SELECTION WILL BE NATIVE, INCLUDING FRUIT AND NUT PRODUCING VARIETIES. THIS WILL PROVIDE A RANGE OF FORAGING OPPORTUNITIES TO SMALL MAMMAL, INVERTEBRATE AND BIRD SPECIES IN PARTICULAR, IN ADDITION TO INCREASING PREY AVAILABILITY FOR FORAGING BAT SPECIES.

**BLUE INFRASTRUCTURE - EXISTING PONDS**

RETAINED PONDS WILL BE SUBJECT TO AN ENHANCEMENT REGIME, INCLUDING BOLSTER PLANTING, THINNING OF ADJACENT VEGETATION (TO INCREASE LIGHT PENETRATION) AND WHERE REQUIRED, SENSITIVELY TIMED DREDGING. LONG-TERM MANAGEMENT WILL BE ECOLOGICALLY LED AND UNDERTAKEN IN COMBINATION WITH THOSE MEASURES TO BE INCORPORATED ACROSS NEW PONDS HABITATS.

**BLUE INFRASTRUCTURE - BIOSWALE**

NEWLY CREATED AREAS OF SWALE AND ENHANCED DITCHES WILL BE PLANTED/SEEDED WITH A RANGE OF NATIVE SPECIES, SUITED TO THEIR LOCAL ENVIRONMENTS. ALL SWALE FEATURES WILL ALSO BE SUBJECT TO LONG-TERM MANAGEMENT.

BACKGROUND IMAGE PROVIDED BY SLR CONSULTING LTD

	 <p><b>ECOLOGY SOLUTIONS</b> PART OF THE ES GROUP</p>	Farncombe House Farncombe Estate   Broadway Worcestershire   WR12 7LJ	9349: LAND BETWEEN APPLEDOOR ROAD AND WOODCHURCH ROAD, TENTERDEN, KENT.
		+44(0)1451 870767 info@ecologysolutions.co.uk ecologysolutions.co.uk	PLAN ECO5: ECOLOGY STRATEGY & ENHANCEMENT PLAN

**PLAN ECO6**

Proposed Faunal Enhancement Locations

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- KEY:**
-  SITE BOUNDARY
  - BATS**
  -  FREE HANGING BAT ROOSTING FEATURES
  -  INTEGRATED BAT ROOSTING FEATURES
  - BIRDS**
  -  FREE HANGING BIRD NESTING FEATURES
  -  INTEGRATED BIRD NESTING FEATURES
  - INVERTEBRATES**
  -  INTEGRATED INVERTEBRATE FEATURES
  - HERPETOFAUNA**
  -  HIBERNACULA



ALL PROPOSED LOCATIONS WITHIN AREAS OF RESIDENTIAL DEVELOPMENT REMAIN INDICATIVE AND SUBJECT TO DETAILED DESIGN STAGE. FINAL LOCATIONS OF FEATURES WITHIN COUNTRY PARK / SPORTS PITCHES TO BE SUBJECT TO REVIEW OF APPOINTED ECOLOGIST

BACKGROUND PLAN PRODUCED BY SLR CONSULTING LTD



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9349: LAND BETWEEN APPLIEDORE ROAD AND WOODCHURCH ROAD, TENTERDEN, KENT

PLAN ECO6: PROPOSED FAUNAL ENHANCEMENT LOCATIONS

Rev: B  
JAN 2022

**ANNEXES**

**Annex 1**  
BNG Results (2022)

Land Between Appledore Road and Woodchurch Road  
Headline Results

Return to  
results menu

On-site baseline	<i>Habitat units</i>	144.48
	<i>Hedgerow units</i>	30.06
	<i>River units</i>	3.84
On-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	166.12
	<i>Hedgerow units</i>	45.77
	<i>River units</i>	5.56
On-site net % change (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	14.98%
	<i>Hedgerow units</i>	52.26%
	<i>River units</i>	44.72%
Off-site baseline	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	21.64
	<i>Hedgerow units</i>	15.71
	<i>River units</i>	1.72
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	14.98%
	<i>Hedgerow units</i>	52.26%
	<i>River units</i>	44.72%
Trading rules Satisfied?	No - Check Trading Summary	







Land Between Appleton Road and Woodchurch Road, Twp  
A-3 Site Habitat Enhancement

Condense / Show Columns      Condense / Show Rows  
Main Menu      Instructions

Post development/ post intervention habitats																	
Baseline ref	Baseline habitats		Change in distinctiveness and condition						Strategic significance			Temporal risk multiplier		Difficulty risk multipliers		Comments	
	Proposed Broad Habitat	Proposed habitat	Distinctiveness change	Condition change	Area (hectares)	Distinctiveness	Condition	Strategic significance	Standard or adjusted time to target condition	Final time to target condition/years	Final difficulty of enhancement	Habitat units delivered	Assessor comments	Reviewer comments			
1	Grassland - Other neutral grassland	Grassland	Other neutral grassland	Medium - Medium	Fairly Poor - Good	7.9095	Medium	Good	Location ecologically desirable but not in local strategy	Standard time to target condition applied	12	Low	86.25	Enhanced Country Park grassland (large unmanaged areas - meadow grassland) and areas of meadow grassland around pond not at all.			
2	Grassland - Other neutral grassland	Woodland and forest	Traditional orchards	Medium - High	Lower Distinctiveness Habitat - Good	0.6138	High	Good	Area compensation not in local strategy/ no local strategy	Standard time to target condition applied	20	Medium	6.38	Area of grassland compensation to include enhanced CP Foundation Green Infrastructure			
3	Grassland - Other neutral grassland	Grassland	Other neutral grassland	Medium - Medium	Fairly Poor - Fairly Good	2.4617	Medium	Fairly Good	Area compensation not in local strategy/ no local strategy	Standard time to target condition applied	10	Low	21.67	Grassland habitat grassland - meadow grassland. Subject to same management as Country Park. Includes wet grassland.			
6	Grassland - Other neutral grassland	Grassland	Other neutral grassland	Medium - Medium	Moderate - Fairly Good	1.7365	Medium	Fairly Good	Area compensation not in local strategy/ no local strategy	Standard time to target condition applied	8	Low	15.50	Enhanced flood condition Green Infrastructure Grassland habitat grassland - meadow grassland. Subject to same management as Country Park. Includes wet grassland.			
9	Grassland - Modified grassland	Grassland	Other neutral grassland	Low - Medium	Lower Distinctiveness Habitat - Fairly Good	0.7985	Medium	Fairly Good	Area compensation not in local strategy/ no local strategy	Standard time to target condition applied	12	Low	5.69	Enhanced modified Green Infrastructure Grassland habitat grassland - meadow grassland. Subject to same management as Country Park. Includes wet grassland.			
11	Grassland - Other neutral grassland	Grassland	Other neutral grassland	Medium - Medium	Poor - Good	0.2117	Medium	Good	Area compensation not in local strategy/ no local strategy	Standard time to target condition applied	15	Low	1.94	Enhanced of related areas of high-domin grassland. Priority is wetter areas.			
16	Heathland and scrub - Mixed scrub	Heathland and scrub	Mixed scrub	Medium - Medium	Poor - Good	0.461	Medium	Good	Area compensation not in local strategy/ no local strategy	Standard time to target condition applied	10	Low	4.43	Blocks of scrub in the enhanced and subject to long-term management.			
22	Lakes - Ponds (Priority Habitat)	Lakes	Ponds (Priority Habitat)	High - High	Poor - Good	0.2831	High	Good	Location ecologically desirable but not in local strategy	Standard time to target condition applied	8	Medium	3.35	Enhancement of existing waterbodies. To include fencing of waterbodies, clearing and other sensitive measures (to include backlogs where required).			
						14.44							148.10				

B-1 Site Hedge Baseline

Condense / Show Columns    Condense / Show Rows

Main Menu    Instructions

UK Habitats - existing habitats				Habitat distinctiveness	Habitat condition	Strategic significance	Suggested action to address habitat losses	Ecological baseline Total hedgerow units	Retention category biodiversity value						Comments	
Baseline ref	Hedge number	Hedgerow type	Length EM	Distinctiveness	Condition	Strategic significance			Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost	Assessor comments	Reviewer comments
1		Native Species Rich Hedgerow with trees	2.505	High	Moderate	Area/compensation not in local strategy/ no local strategy	Loss for blue or dam	30.06		2.412	0.00	28.94	0.00	1.12	Hedgerow in field on site. Combined. For majority they are sparse or over mature but denser growth does occur in parts. Several veteran/ancient trees. Majority to be retained aside from small losses to facilitate access.	
2																
3																
4																
5																
6																
			2.51					30.06	0.00	2.41	0.00	28.94	0.00	1.12		

B-2 Site Hedge Creation

Condense / Show Columns      Condense / Show Rows  
 Main Menu      Instructions

Baseline ref	New hedge number	Proposed habitats		Habitat distinctiveness	Habitat condition	Strategic significance		Temporal multiplier		Difficulty risk multiplier	Hedge units delivered	Comments		
		Habitat type	Length km	Distinctiveness	Condition	Strategic significance	Standard or adjusted time to target condition	Final time to target condition/years	Final difficulty of creation	Assessor comments		Reviewer comments		
1		Native Species Rich Hedgerow	0.156	Medium	Good	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	12	Low	1.22	Created species-rich hedgerows along boundary area and between current sparse treelines			
2		Native Species Rich Hedgerow with trees	0.346	High	Good	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	20	Low	3.05	Created species-rich hedgerows with trees planted along boundary area and between current sparse treelines			
3														
4														
5														
6														
7														
			<b>0.88</b>									<b>4.27</b>		



C-1 Site River Baseline

Condense / Show Columns    Condense / Show Rows  
 Main Menu    Instructions

Existing river type			Habitat distinctiveness	Habitat condition	Strategic significance	Watercourse encroachment	Riparian encroachment	Suggested action	Ecological baseline	Retention category biodiversity value						Comments	
Baseline ref	River type	Length KM	Distinctiveness	Condition	Strategic significance	Extent of encroachment	Extent of encroachment		Total river units	Length retained	Length enhanced	Units retained	Units enhanced	Length Lost	Units Lost	Assessor Comments	Reviewer comments
1	Ditches	0.9832	Medium	Poor	Within Local Plans	N/A - Culvert	Moderate	Restore	3.94								
2																	
3																	
4																	
5																	
6																	
		0.98							3.94	0.00	0.90	0.00	3.88	0.08	0.33		

Ditch network to be retained/enhanced in vast majority apart from installation of culverts

C-3 Site River Enhancement																
Condense / Show Columns		Condense / Show Rows														
Main Menu		Instructions														
Baseline ref	Baseline habitat	Proposed River Type (Pre-populated can be overridden)	Change in distinctiveness and condition		Length km	Post development/ post intervention habitat			Temporal multiplier		Difficulty multiplier	Watercourse encroachment	Riparian encroachment	Comments		
			Distinctiveness movement	Condition movement		Initial distinctiveness	Initial condition	Strategic significance	Standard or adjusted time to target condition	Final time to target condition/years				Final difficulty of enhancement	Extent of encroachment	Extent of encroachment
1	Ditch	Ditch	Medium - Medium	Poor - Moderate	0.9	Medium	Moderate	Diversity within Local Plans	Standard time to target condition achieved	4	Medium	N/A - Chert	Moderate	5.56	enhanced ditch	
														5.56		
														5.56		
														5.56		

## **APPENDIX 2**

### 2021 Updated Faunal Species Work – Bats and Hazel Dormice

Including:

ECO1 – Tree/Building Inspection Results

ECO2 – 2021 Bat Survey

ECO3 – 2021 Hazel Dormouse Survey Results

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## 9349: LAND BETWEEN APPLIEDORE ROAD AND WOODCHURCH ROAD, TENTERDEN, KENT

### 2021 Updated Faunal Species Work – Bats and Hazel Dormice

#### 1. INTRODUCTION

##### Background & Proposals

- 1.1. Ecology Solutions was commissioned by Wates Development in March 2021 to undertake a suite of updated ecological surveys for the site known as 'Land between Appledore Road and Woodchurch Road, Tenterden, Kent', hereafter referred to as 'the site'.
- 1.2. Previously the site had been subject to a range of ecological surveys undertaken between 2016 and 2021, the results of which have been used to support a hybrid planning application which was submitted during spring 2021 (Planning ref: 21/00790/AS). A description of the planning application has been provided below:

*“a) Outline application for the development of up to 145 residential dwellings (50% affordable) including the creation of access points from Appledore Road (one all modes and one emergency, pedestrian and cycle only) and Woodchurch Road (pedestrian and cycle only), and creation of a network of roads, footways, and cycleways through the site. Provision of open space including children's play areas, community orchard, sustainable urban drainage systems, landscape buffers and green links all on 12.35 ha of the site. (Matters for approval: Access) “*

*b) Full planning permission for the change of land use from agricultural land to land to be used as a country park (8.66 ha), and land to be used as formal sports pitches (3.33 ha), together with pavilion to serve the proposal and the surrounding area. Including accesses, ancillary parking, pathways, sustainable urban drainage systems and associated landscaping”*

- 1.3. Owing to the age of some of the previously submitted survey data, it was considered appropriate to update elements of the survey work post-application (at the earliest possible opportunity) in order to 'fine-tune' or amend any of the previously identified mitigation or design proposals as considered appropriate.
- 1.4. The purpose of this specific Briefing Note is to provide an update on the results of the surveys which have been completed across the site during 2021 for bats (activity and roosting) and Hazel Dormice *Muscardinus avellanarius* and to highlight any minor tweaks to the development proposals that may or may not be required in light of this new information.
- 1.5. As this note intends to only present and analyse the results of the above mentioned survey work, for a full analysis of the proposals in light of the relevant legislation, planning policy etcetera, clear attention should still be paid to the full Ecological Assessment (produced by Ecology Solutions) which was submitted as part of the original 2021 planning application.
- 1.6. This note accompanies a previously produced August 2021 Briefing Note which separately outlines the results of the updated survey work for Badgers *Meles meles*, reptiles, Greats Crested Newt *Triturus cristatus*, Invertebrates and Breeding Birds that was undertaken within the site across 2021 and submitted to KCC in August 2021.

#### **Site Characteristics**

- 1.7. The site is located to the east of the town of Tenterden, Kent. The town of Tenterden forms the southern and western boundaries of the site with broadleaved woodland to the north and grazed pasture to the east.
- 1.8. The site itself measures approximately 24.34ha in size and is primarily comprised of grassland, former sports pitches, areas of wet grassland and ponds, as well as hedgerows and treelines distributed throughout. One temporary building is located within the south-east of the site.

## 2. BAT AND HAZEL DORMICE SURVEY WORK 2021

- 2.1. Specific surveys were undertaken across the site for Bats (activity surveys and tree/building roost surveys) and Hazel Dormice.
- 2.2. The methodology and results of these surveys are outlined below.

### **Bats**

#### Methodology

- 2.3. The site was re-assessed for its suitability to support bat species during Spring 2021. As part of this survey, assessment of all trees and buildings on site was undertaken in addition to an evaluation of the quality of habitats present within site for foraging and commuting bats.
- 2.4. All field surveys were undertaken within the site with regard to best practice guidelines issued by the Joint Nature Conservation Committee (2004<sup>1</sup>) and the Bat Conservation Trust (2016<sup>2</sup>).

#### *Preliminary bat roost assessment / emergence & re-entry surveys*

- 2.5. A detailed external and internal inspection survey was undertaken to assess the potential of any buildings located on site to be used by roosting bats. The probability of a building / structure being used by bats as a summer roost site increases if it:
  - is largely undisturbed;
  - dates from pre 20th century;
  - has a large roof void with unobstructed flying spaces;
  - has access points for bats (though not too draughty);
  - has wooden cladding or hanging tiles; and
  - is in a rural setting and close to woodland or water.
- 2.6. Conversely, the probability decreases if a building / structure is of a modern or pre-fabricated design / construction, is in an urban setting, has small or cluttered roof voids, has few gaps at the eaves, or is a heavily disturbed premises.
- 2.7. The main requirements for a winter / hibernation roost site is that it maintains a stable (cool) temperature and humidity. Sites commonly utilised by bats as winter roosts include trees with cavities/holes, underground sites, and parts of buildings. Whilst different species may show a preference for one of these types of roost site, none are solely dependent on a single type.
- 2.8. All trees within the site were assessed for their potential to support roosting bats. For a tree to be classed as having some potential for roosting bats it must usually have one or more of the following characteristics:

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<sup>1</sup> Mitchell-Jones, A.J. & McLeish, A.P. (Eds.) (2004). *Bat Workers' Manual*. 3<sup>rd</sup> edition. Joint Nature Conservation Committee, Peterborough.

<sup>2</sup> Bat Conservation Trust (2016). *Bat Surveys – Good Practice Guidelines (3<sup>rd</sup> Edition)*. Bat Conservation Trust, London.

- obvious holes, e.g. rot holes and old woodpecker holes;
  - dark staining on the tree below a hole;
  - tiny scratch marks around a hole from bats' claws;
  - cavities, splits and/or loose bark from broken or fallen branches, lightning strikes etc.;
  - very dense covering of mature Ivy *Hedera helix* over trunk.
- 2.9. As a result of the above, several trees identified to contain a potential to support roosting bats which are set to be impacted as a result of the development proposals were subject to tree climbing surveys to further assess their roosting potential for bats. These surveys were carried out by experienced ecological professionals who utilised specialist climbing equipment, torches and endoscopes to further assess any cavities.
- 2.10. In addition, evening emergence and dawn re-entry surveys of the building located in the south-east of the site (B1) were conducted in June and July 2021. Furthermore, two trees (TA [Located as part of G40] and T326, were also subject to emergence and re-entry surveys.
- 2.11. Across all emergence and re-entry surveys, surveyors were positioned such that complete surveillance of the surveyed buildings and trees could be achieved. Echo Meter Touch 2 (EMT2) Pro bat detectors were used to record the data, which was subsequently analysed using kaleidoscope bat sound analysis software.
- 2.12. The emergence surveys began a quarter of an hour prior to sunset and continued until up to 1.5 to 2 hours after sunset. Re-entry surveys commenced approximately 2 hours before sunrise and continued until 15 minutes after sunset. All surveys were carried out in suitable weather conditions. The dates and weather conditions of the emergence / re-entry surveys are outlined in Table 1 below.

Date	Subject	Survey	Weather Conditions
15.06.21	Building B1	Emergence	15°C, 90% cloud cover, dry, light breeze
16.06.21	Building B1	Re-entry	13°C, 80% cloud cover, dry, light breeze
01.07.21	Building B1	Re-entry	12°C, 100% cloud cover, dry, light breeze
30.06.21	Tree TA	Emergence	14°C, 95% cloud cover, dry, light breeze
16.07.21	Tree TA	Re-entry	14°C, 80% cloud cover, dry, slight breeze
03.08.21	Tree TA	Emergence	15°C, 5% cloud cover, dry, light breeze
15.07.21	Tree 326	Emergence	17°C, 100% cloud cover, dry, slight breeze
04.08.21	Tree 326	Re-entry	10°C, 5% cloud cover, dry, still

**Table 1:** Weather conditions during 2021 emergence / re-entry surveys

### *Activity and Automated (static) Surveys*

- 2.13. Due to the habitats recorded on site, monthly bat activity surveys were undertaken between May – September 2021. Surveys involved surveyors walking dedicated transects across the site, recording bat data (using EMT2 detectors) and noting visual observations. Evening bat transect surveys commenced approximately 15 minutes before sunset and continued for a minimum of 2 hours after sunset. Dawn activity surveys commenced approximately 2 hours before sunrise and continued until just after sunrise.
- 2.14. During each survey, static SongMeter4 FS (SM4) and SongMeter MINI bat detectors were also deployed within strategic locations across the site. The detectors were left to record for a minimum of five nights. The locations of these detectors are show at Plan ECO2.
- 2.15. This data was subsequently analysed using Kaleidoscope Pro bat sound analysis software. This survey method aimed to identify the level of foraging, the species present within the site and any areas of potentially high importance for foraging / commuting bats. The dates and weather conditions of the activity surveys are outlined in Table 2 below.

<b>Date</b>	<b>Survey</b>	<b>Weather Conditions</b>
20.05.21	Dusk activity	15°C, 15% cloud cover, dry, light breeze
21.06.21	Dusk activity	13°C, 100% cloud cover, dry, moderate breeze
14.07.21	Dusk activity	23°C, 10% cloud cover, dry, light breeze
26.08.21	Dawn activity	16°C, 100% cloud cover, drizzle, light breeze
07.09.21	Dusk activity	23°C, 0% cloud cover, dry, still

**Table 2:** Weather conditions during 2021 activity surveys

## Results

### *Bat roost assessments*

- 2.16. **Trees.** Updated surveys identified a total of 69 trees with potential to support roosting bats. The results of these updated surveys are included at Plan ECO1.
- 2.17. Of these features, the vast majority are set to be retained and are integrated within the landscaping proposals and are therefore envisaged to be fully safeguarded from construction impacts.
- 2.18. Notwithstanding the above, 11 trees with low potential to support roosting bats and two trees with moderate potential to support roosting bats are expected to be impacted as a result of the development proposals. Each of these trees has been subject to further survey work (ground based assessment, tree climbing surveys and / or emergence / re-entry

surveys). An account of each of these trees is provided in Table 3 below, in addition to the level of survey work carried out and conclusions drawn.

- 2.19. An additional tree with moderate bat potential (TA) was originally anticipated to be impacted so was also included in the survey work. However, this tree will now be retained in full. Nonetheless, the results of the survey work for TA are also included below for completeness.

Tree / Tree Reference (as cited within relevant)	Bat Roosting Potential & Description	Surveys Conducted	Results / Mitigation required
T41, T42, T45 Hornbeam	<b>Low potential</b> – Mature trees with dense ivy	Ground based assessment	Soft fell exercise
T91 Ash	<b>Low potential</b> - Rot hole	Ground based assessment	Soft fell exercise
T115, T116, T117, T118 Ash & Hawthorn	<b>Low potential</b> – Dense ivy	Ground based assessment	Soft fell exercise
T203 Ash	<b>Low potential</b> - Rot hole	Ground based assessment	Soft fell exercise
T230 Ash	<b>Low potential</b> – Dense ivy	Ground based assessment	Soft fell exercise
T254 Ash	<b>Low potential</b> (re-classified negligible) – Rot hole	Ground based assessment / Tree climbing surveys	No evidence of roosting bats recorded, potential feature entirely exposed upon further investigation and reclassified <b>negligible potential</b> / no mitigation required
T326 Ash	<b>Moderate potential</b> – Woodpecker holes	Ground based assessment / emergence & re-entry surveys	Emergence (15.07.21) & Re-entry (04.08.21) surveys returned negative results (see below) / no mitigation required
TE (part of G39) Ash	<b>Moderate potential</b> – Woodpecker hole	Ground based assessment / Tree climbing surveys	No evidence of roosting bats recorded upon detailed inspection of feature / no mitigation required however recommend updated checks are undertaken prior to removal.
TA (part of G40) – Oak <b>[to be retained]</b>	<b>Moderate potential</b> – Deadwood in crown, rot holes	Ground based assessment / emergence & re-entry surveys	Emergence survey (30.06.21) recorded small Common Pipistrelle day roost. Further re-entry (16.07.21) and emergence (03.08.21) surveys returned negative results. / tree to be retained and safeguarded.

**Table 3:** Results of 2021 tree surveys

- 2.20. As outlined above, during the emergence survey undertaken on 30.06.21, two Common Pipistrelle *Pipistrellus pipistrellus* were observed to emerge from features on the northern aspect of Tree TA. No other bats were recorded either emerging or re-entering this tree across any of the following survey work undertaken. Therefore, TA is considered to support a small Common Pipistrelle day roost. TA will be retained and safeguarded as part of the development proposals.

- 2.21. No evidence of bats using either Trees T326 or TE was recorded following further detailed survey effort.
- 2.22. **Buildings.** B1 was subject to further assessment work to determine its suitability, and whether it supported roosting bats. The conditions and dates for the surveys are outlined in Table 1 above, the results are outlined in Table 4 below.

Building ref	Description and Bat Roosting Potential	Surveys Conducted	Results / Mitigation required
Building B1	Semi-permanent portacabin structure (Air cadet centre). Single storey with flat roof. Small holes in soffit boards but majority blocked with cobwebs. Otherwise entirely well sealed – <b>Low bat potential</b>	Emergence / re-entry (15 – 16.06.21) & re-entry (01.07.21)	No evidence of roosting bats recorded / no mitigation required.

**Table 4:** Results of 2021 building surveys

- 2.23. As outlined above, no evidence of roosting bats was recorded across B1 during the survey work undertaken.

#### *Activity surveys*

- 2.24. The application site offers potential foraging and commuting opportunities in the form of treeline and hedgerows along field boundaries. As such, monthly surveys were undertaken between May and September 2021. These involved bat activity surveys and static monitoring surveys, in line with the relevant methodologies and timings outlined in the relevant sections and Table 2 above.
- 2.25. The results of these surveys are outlined below. All static detector locations and references are shown at Plan ECO2.
- 2.26. **May survey.** During the transect surveys, bat activity was mainly concentrated around the central hedgerow, within a proximity to P3 and P2, in addition to being recorded along the hedgerows located within the south of the site. Species distribution was however extremely, low being limited entirely to small numbers of each Common Pipistrelle (99 total registrations), and Soprano Pipistrelle (6 total registrations).
- 2.27. Following the activity surveys, four static detectors (A-D) were deployed for a period of seven consecutive nights. The results of each are outlined below with registrations given as a nightly average across the whole survey period.
- 2.28. Static Detector A, located within the northwest corner of the site within a boundary hedgerow, recorded Common Pipistrelle for the majority (average of 65.7 registrations). Other species recorded in lower numbers included Soprano Pipistrelle *Pipistrellus pygmaeus* (average of 4.4

registrations), Serotine *Eptesicus serotinus* (average of 3.1 registrations), Myotis sp. (average of 3 registrations), Brown Long-eared bat *Plecotus auritus* (average of 0.3 registrations) and Leisler's bat *Nyctalus leisleri* (average of 0.2 registration).

- 2.29. Static Detector B, located within an internal hedgerow running north-south in the west of the site, recorded a very low amount of bat activity. this included Common Pipistrelle (average of 6.6 registrations), Soprano Pipistrelle (average of 1.4 registrations), Myotis sp. (average of 0.4 registrations), Leisler's bat (average of 0.3 registrations) and Noctule *Nyctalus noctula* (average of 0.2 registrations).
- 2.30. Static Detector C was located along the northern boundary of the site, adjacent to the Woodchurch Road. This detector recorded mainly Common Pipistrelle (average of 39.4 registrations). Other recorded species included Leisler's bat (average of 16.6 registrations), Soprano Pipistrelle (average of 11.4 registrations), Serotine (average of 1 registrations), Myotis sp. (average of 0.6 registrations), Noctule (average of 0.4 registration), and Brown Long-eared bat (average of 0.2 registrations).
- 2.31. Static Detector D was located within an internal hedgerow running north-south in the east of the site. The majority of registrations were attributed to Common Pipistrelle (average of 16.7 registrations), with other registrations from Soprano Pipistrelle (average of 5.1 registrations), Myotis sp. (average of 4.1 registrations), Serotine (average of 2.4 registrations), Brown Long-eared bat (average of 0.6 registrations) and Leisler's bat (0.2 registrations).
- 2.32. **June survey.** During the transect surveys, bat activity was mainly concentrated adjacent to P1, in addition to being recorded along the central hedgerow running east-west across the site. Species recorded included Common Pipistrelle (113 registrations), Soprano Pipistrelle (35 registrations), Myotis sp. (7 registrations), Brown Long-eared bat (2 registrations) and, Nathusius Pipistrelle *Pipistrellus nathusii* (1 registration).
- 2.33. Following the activity surveys, four static detectors (E-H) were again deployed for a period of seven consecutive nights. The results of each are outlined below with registrations given as a nightly average.
- 2.34. Static Detector E, located in close proximity to pond P2, recorded a majority of Common Pipistrelle (average of 102.7 registrations). Other species recorded included Soprano Pipistrelle (average of 5.6 registrations), Myotis sp. (average of 0.6 registrations), Leisler's bat (average of 0.6 registrations), Brown Long-eared bat (average of 0.4 registrations) and Noctule (average of 0.2 registrations).
- 2.35. Static Detector F, located in the south of the site, similarly recorded a majority Common Pipistrelle (average of 152.9 registrations). Other species recorded included Soprano Pipistrelle (average of 9.4 registrations), Myotis sp. (average of 8.6 registrations), Nathusius Pipistrelle (average of 4.7 registrations), Brown Long-eared bat (average of 3.7 registrations), Leisler's bat (average of 0.4 registrations), and Serotine (average of 0.2 registrations).

- 2.36. Static Detector G, located in the eastern end of the central internal hedgerow which runs east-west across the site, again recorded a majority Common Pipistrelle (average of 90.9 registrations). Other species recorded included Soprano Pipistrelle (average of 9.7 registrations), Brown Long-eared bat (average of 4.1 registrations), Myotis sp. (average of 3.7 registrations), Leisler's bat (average of 0.3 registrations), Nathusius Pipistrelle (average of 0.2 registration), and Serotine (average of 0.2 registration).
- 2.37. Static Detector H, located in the eastern boundary hedgerow of the southernmost field of the site, recorded a majority of Common Pipistrelle (average of 276.1 registrations), higher than elsewhere across the site for that survey period. Other species recorded include Soprano Pipistrelle (average of 62.6 registrations), Brown Long-eared bat (average of 1.1 registrations), Serotine (average of 0.7 registrations), and Myotis sp. (average of 0.6 registrations).
- 2.38. **July survey.** During the transect surveys, recorded activity was very low and mainly limited to areas adjacent to P3, as well as along the central hedgerow running east-west across the site. Species recorded included Common Pipistrelle (33 registrations), Soprano Pipistrelle (1 registration), Myotis sp. (1 registration), Leisler's bat (1 registration) and, Nathusius Pipistrelle (1 registration).
- 2.39. Following the activity surveys, four static detectors (I-L) were deployed for a period of five consecutive nights. The results of each are outlined below with registrations given as a nightly average.
- 2.40. Static Detector I, located within scattered scrub alongside a ditch in the west of the application site, recorded a majority of Common Pipistrelle (average of 6.6 registrations). Other species recorded included Soprano Pipistrelle (average of 4.4 registrations), Brown Long-eared bat (average of 3.2 registrations), Myotis sp. (average of 3.2 registrations), Leisler's bat (average of 0.8 registrations), Noctule (average of 0.2 registrations) and Serotine (average of 0.2 registrations).
- 2.41. Static Detector J, located within an internal hedgerow which runs north-south in the northwest of the site, recorded Common Pipistrelle in the highest nightly average (average of 33.2 registrations). Other species recorded included Soprano Pipistrelle (average of 12.6 registrations), Brown Long-eared bat (average of 6.2 registrations), Myotis sp. (average of 4.2 registrations), Leisler's bat (average of 2.4 registrations), Noctule (average of 0.2 registrations) and Nathusius Pipistrelle (average of 0.2 registrations).
- 2.42. Static Detector K, located within an internal hedgerow running north-south in the southernmost field of the site, also recorded Common Pipistrelle in the majority (average of 47.4 registrations). Other species recorded included Soprano Pipistrelle (average of 17.6 registrations), Myotis sp. (average of 2.8 registrations), Brown Long-eared bat (average of 2.2 registrations), Nathusius Pipistrelle (average of 1 registration), Leisler's bat (average of 0.6 registrations) and Noctule (average of 0.2 registrations).

- 2.43. Static Detector L, located within a treeline on the eastern most boundary of the site recorded Common Pipistrelle (average of 95.4 registrations), Soprano Pipistrelle (average of 18.4 registrations), Brown Long-eared bat (average of 4.4 registrations), Myotis sp. (average of 2.4 registrations), Nathusius Pipistrelle (average of 0.8 registrations), Leisler's bat (average of 0.6 registrations), Noctule (average of 0.6 registrations) and Serotine (average of 0.2 registrations).
- 2.44. **August survey.** During the August transect survey, activity was concentrated around the central pond network (primarily, P1) and along the boundaries of the southernmost fields on the site. Recorded activity included Common Pipistrelle (160 total registrations), Soprano Pipistrelle (63 registrations), and Myotis sp. (4 total registrations).
- 2.45. Following the activity surveys, four static detectors (M-P) were deployed for a period of five consecutive nights. The results of each are outlined below with registrations given as a nightly average.
- 2.46. Static Detector M, located in the north-west of the site, recorded a majority of Common Pipistrelle (average of 180 registrations). Other species recorded included Soprano Pipistrelle (average of 34.6 registrations), Brown Long-eared bat (average of 9.6 registrations), Myotis sp. (average of 3.6 registrations), Nathusius Pipistrelle (average of 0.6 registrations), Leisler's bat (average of 0.4 registrations) and Serotine (average of 0.2 registrations).
- 2.47. Static Detector N, located within a mature hedgerow in the west of the site, recorded very low activity. This included Brown Long-eared bat (average of 10.8 registrations), Common Pipistrelle (average of 10.2 registrations), Soprano Pipistrelle (average of 6.4 registrations), Myotis sp. (average of 1.4 registrations), Nathusius Pipistrelle (average of 1 registration), Noctule (average of 0.2 registrations) and Serotine (average of 0.2 registrations).
- 2.48. Static Detector O, located along the northern boundary of the site, recorded Common Pipistrelle (average of 57.6 registrations) Myotis sp. (average of 21.8 registrations), Soprano Pipistrelle (average of 12.2 registrations), Leisler's bat (average of 2.2 registrations), Serotine (average of 1.6 registrations), Noctule (average of 0.6 registrations), Brown Long-eared bat (average of 0.2 registrations) and Nathusius Pipistrelle (average of 0.2 registrations).
- 2.49. Static Detector P, located within an internal hedgerow running north-south in the east of the site, recorded a majority of Common Pipistrelle (average of 127.6 registrations). Other species recorded included Soprano Pipistrelle (average of 10.6 registrations), Brown Long-eared bat (average of 7.6 registrations), Myotis sp. (average of 3.6 registrations), Leisler's bat (average of 0.4 registrations), Nathusius Pipistrelle (average of 0.2 registrations) and Serotine (average of 0.2 registrations).
- 2.50. **September survey.** As with all the previous months activity surveys, activity was generally low however it was more consistently spread across the majority of the site, albeit still mainly associated with linear

hedgerows and treelines. Species recorded included Common Pipistrelle (79 total registrations), Soprano Pipistrelle (8 total registrations), Myotis sp. (3 total registrations), Leisler's bat (3 total registrations), Noctule (1 registration), and Brown Long-eared bat (1 registration).

- 2.51. Following the activity surveys, four static detectors (Q-T) were deployed for a period of six consecutive nights. However, due to unexpected issues, Detector T suffered an electrical fault and therefore did not record any data. Notwithstanding this, due to the spread of data collected across the site, this is not considered to withdraw from the reliability of the results or conclusions drawn.
- 2.52. The results of each detector Q-S are therefore outlined below with registrations given as a nightly average.
- 2.53. Static Detector Q, located within a treeline to the west of P2, recorded a majority Common Pipistrelle (average of 56.3 registrations). Other species recorded included Soprano Pipistrelle (average of 13.8 registrations), Myotis sp. (average of 5.7 registrations), Brown Long-eared bat (average of 3.8 registrations), Nathusius Pipistrelle (average of 0.2 registrations) and Leisler's bat (average of 0.2 registrations).
- 2.54. Static Detector R, located in the south of the site, recorded the highest average recording of Common Pipistrelle across all static survey effort undertaken (averaging 450.8 registrations per night). The majority of these recordings occurred across the night of the 10.09.21. Other species recorded in much lower average numbers, included Soprano Pipistrelle (average of 17.2 registrations), Myotis sp. (average of 9.5 registrations), Brown Long-eared bat (average of 4.7 registrations) and Serotine (average of 0.3 registrations).
- 2.55. Static Detector S, located in the east of the site, recorded Common Pipistrelle (average of 97.7 registrations), Soprano Pipistrelle (average of 43.7 registrations), Brown Long-eared bat (average of 30.2 registrations), Myotis sp. (average of 3 registrations), Serotine (average of 3 registrations), Leisler's bat (average of 1.2 registrations), Noctule (average of 1.2 registrations) and Nathusius Pipistrelle (average of 0.5 registrations).
- 2.56. **Summary.** The results of all the activity surveys together reveal that the areas of the site that have the highest level of bat activity are the central hedgerow which runs east-west, in particular the sections of hedgerow in close proximity to ponds P1 and P3, and the hedgerows in the southernmost field of the site.
- 2.57. The species assemblage recorded during the activity surveys indicated that the site is in use by a low number of common and widespread species. The most commonly recorded species during the bat activity transect surveys was Common Pipistrelle with a peak count of 160 on the August survey conducted on the 26/08/2021. The second most commonly recorded bat species was Soprano Pipistrelle with a peak count of 63, also on the August survey conducted on the 26/08/2021. Other bat species recorded in markedly lower abundances include;

Myotis species, Nathusius Pipistrelle, Leisler's Bat, Noctule Bat, and, Brown Long-eared Bat.

- 2.58. The results of the static monitoring surveys mirror those results of the transects surveys, indicating that the site is predominately utilised by common and widespread species, of which, most of the activity was associated with the detectors located in the centre and south of the site. The most abundant species recorded within the site by far was Common Pipistrelle, with a peak count of 450 registrations averaged over a six night period during the last September survey. However, for a site which contains a large amount of semi-natural habitats in addition to supporting fairly extensive treelines, hedgerows and water features, the amount of recorded activity on the whole is considered to be low, for a site of its type.

### Analysis

- 2.59. **Legislation.** All bats are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as Amended) and included on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations"), as Amended. These include provisions making it an offence:
- Deliberately to kill, injure or take (capture) bats;
  - Deliberately to disturb bats in such a way as to:
    - i. be likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or to hibernate or migrate; or
    - ii. affect significantly the local distribution or abundance of the species to which they belong
  - To damage or destroy any breeding or resting place used by bats;
  - Intentionally or recklessly to obstruct access to any place used by bats for shelter or protection.
- 2.60. While the legislation is deemed to apply even when bats are not in residence, NE guidance suggests certain activities such as re-roofing can be completed outside sensitive periods when bats are not in residence provided these do not damage or destroy the roost.
- 2.61. The words 'deliberately' and 'intentionally' include actions where a court can infer the defendant knew the action taken would almost inevitably result in an offence, even if that was not the primary purpose of the act.
- 2.62. The offence of damaging or destroying a breeding site or resting place (which can be interpreted as making it worse for the bat) is an absolute offence. Such actions do not have to be deliberate for an offence to be committed.

- 2.63. European Protected Species licences are available from NE in certain circumstances, and permit activities that would otherwise be considered an offence.
- 2.64. Licences can usually only be granted if the development is in receipt of full planning permission and it is considered that:
- The activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety;
  - There is no satisfactory alternative; and
  - The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.
- 2.65. From the survey results only a small Common Pipistrelle roost was recorded in a tree that is to be retained, no licence applications are envisaged.
- 2.66. **Site usage, impacts and mitigation.** As a result of updated survey work undertaken throughout 2021, a total of 69 trees were initially identified to contain a potential to support roosting bats.
- 2.67. Of these trees, the current proposals will seek to remove a total of 11 trees with low potential to support roosting bats. Whilst two further trees with moderate potential to support roosting bats will also be removed, upon the undertaking of further survey works (tree climbing and / or emergence/re-entry surveys), no evidence of roosting bats was recorded in either of these trees and therefore no specific mitigation relating to bats would be required for their loss.
- 2.68. For the loss of the trees with low roosting bat potential, these will all be subject to a soft-fell methodology in line with best practice, outside of the typical hibernation period where possible (November-March). This methodology will involve the stepwise and careful removal of trees identified to contain a potential to support roosting bats. Any features identified to contain roosting opportunities will be slowly lowered to the ground and left overnight. This will be undertaken by a suitably experienced tree surgeon under the direction of an appointed ecologist. In the unlikely event that a bat is encountered, all works should cease, and advice sought from the appointed ecologist.
- 2.69. Whilst it is noted that a small Common Pipistrelle day roost was recorded within a tree located in the north-west of the site (TA), this is now no longer expected to be impacted as a result of development proposals and will be retained.
- 2.70. Should any additional trees with potential to support roosting bats require unavoidable/unexpected arboriculture works (e.g. for reasons of health and safety or in order to facilitate unavoidable adaptations to development), these will be discussed and agreed with an ecologist in the first instance. Should these works be deemed likely to impact the suitability of the tree as a roost, further survey work and / or appropriate

mitigation will be required. Works to any trees which are confirmed to support roosting bats may need to be supported by a Natural England bat licence.

- 2.71. The building (B1) located within the south-east of the site was not recorded as supporting roosting bats, following detailed survey work. Therefore, no mitigation relating to bats would be required for its loss.
- 2.72. As outlined in extensive detail above, bat activity recorded across the site was remarkably low for a site containing a high abundance of semi-natural habitats. However, where activity was recorded in more noticeable numbers, this mainly related to common and widespread species recorded along the linear features located predominantly in the south and centre of the site.
- 2.73. When considering the above, it is judged that the returned results and required mitigation remain largely consistent with that as reported within the original April 2021 Ecological Assessment. Nonetheless, in addition to those specific outlined above (in regard to roosting bats), other site specific mitigation and enhancements to be brought forward as part of the development proposals are summarised below.
- Adoption of a sensitive lighting scheme during the construction and operational phases, this will include measures such as limiting work to daylight hours (where possible), minimising light spill onto retained linear features, use of sensitive lighting units (with the adoption of baffles, hoods, cowls etc in strategic areas), and the retention of 'dark sky' environments over the County Park.
  - Enhancement and creation of species-rich habitats, including large areas of grassland, linear wooded features and waterbodies so as to provide key foraging and commuting opportunities to bats, post-development.
  - Provision of 33 free-hanging bat boxes (of varied design) to be installed on mature trees across the site.
  - Approximately 15% of new areas of built-form to include integrated bat roosting features, such as bat access tiles, slates and bricks / boxes.
- 2.74. The above enhancement and mitigation measures would provide a wide range of additional and enhanced opportunities to bats, securing the Favourable Conservation Status of on-site populations post development and contributing towards the conservation of species recorded in local and national Biodiversity Action Plans.

## **Hazel Dormice**

### Methodology

- 2.75. Updated Hazel Dormice nest tube surveys were undertaken within the site between June – November 2021. These surveys involved the

placement of nest tubes and boxes within all suitable habitats, such as the hedgerows, treelines and dense scrub pockets, as detailed within Natural England's Conservation Handbook<sup>3</sup> and standing advice.

- 2.76. The Hazel Dormice nest tubes and boxes utilised were in accordance with the guidance provided by the Mammal Society and Natural England<sup>4</sup>. Typically, tubes are placed within hedgerows approximately every 20 metres where suitable locations can be identified. The nest tubes were attached with ties underneath suitably sturdy horizontal branches and positioned on average at approximately 1.5 metres above ground level. Boxes were placed within denser and typically within more mature trees. 100 nest tubes and five nest boxes were placed across the site.
- 2.77. The surveys have been scored for effort according to the method developed from the South-West Dormouse Project (Chanin and Woods 2003). The system used provides an overall score that reflects the chances of Dormice being discovered if present, and thus provides an indicator of 'thoroughness' of a survey. This score is calculated based on the number of tubes used and the number of months the tubes were in place.
- 2.78. The months of the year are weighted according to the likelihood of recording Dormice as set out in Table 5 below.

Month	Weighting
April	1
May	4
June	2
July	2
August	5
September	7
October	2
November	2

**Table 5:** Monthly score weighting (Chanin & Woods 2003)

- 2.79. The index of effort is calculated based on the use of 50 nest tubes as a standard minimum, with less tubes used proportionately reducing the overall score and more tubes proportionately increasing the score (i.e. 25 tubes halve the score and 100 tubes double the score).

<sup>3</sup> Natural England . 2006. The Dormouse Conservation Handbook. Second Edition. Peterborough.

<sup>4</sup>Chanin P. & Woods M. 2003. Research Report 524, '*Surveying Dormice Using Nest Tubes – Results & Experiences from the South West Dormouse Project*'. English Nature, Peterborough.

- 2.80. A score of 20 (or above,) is deemed a thorough survey, and a score of 15 to 19 may be regarded as adequate where circumstances do not permit more time or more tubes (particularly if other survey methods have also proved negative).
- 2.81. The number of tubes used was 100 (and five boxes), and they were all checked between June and November 2021. This results in a score of 40  $[(2+2+5+7+2+2) \times 2 = 40]$  for the surveys completed, which is well above the required score for a thorough survey.
- 2.82. To further compliment the Hazel Dormice nest tube / box surveys, a total of 50 footprint tunnels were also deployed across the site during May 2021. This methodology involved the use of ink traps / pad and recording sheets to potentially record Hazel Dormice footprints. Six checks were undertaken between May and June 2021, whereby the recording sheets were checked for footprints and then replaced, when necessary. During each check, fresh ink was also applied (see Plan ECO3).

### Results

- 2.83. Throughout all of the 2021 specific nest tube / box survey work and footprint surveys, no evidence of Hazel Dormice were recorded. This remains consistent with the results of the previous 2017 / 2018 nest tubes surveys undertaken across the site (EPR Consulting Ltd) which also returned negative results.
- 2.84. Notwithstanding the above result however, it is noted that during a re-entry survey of an on-site tree (T326 – see above), what is believed to be a Hazel Dormouse was recorded entering a woodpecker hole in the tree at approximately 05:22am. This is shown at Plan ECO3.
- 2.85. Whilst no evidence of either nesting or feeding (or indeed any Hazel Dormice themselves) were recorded within the feature upon further inspection (sensitive endoscope survey), and despite the fairly isolated nature of T326, not really being well connected to any substantial treelines or hedgerows, a precautionary approach has been adopted and the site is considered to therefore contain a very small population of Hazel Dormice.

### Analysis

- 2.86. **Legislation.** The Hazel or Common Dormice have the same protection and licensing requirements as for bats, with a significant group being a mother and dependent young. Common Dormice are a scarce UK species that is protected under European and UK law by virtue of its inclusion on:
- Appendix 3 of the Bonn Convention;
  - Annex IVa of the EC Habitats Directive;

- Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended); and
  - Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).
- 2.87. The legislation prohibits the intentional killing, injuring, taking, the possession of, and the trade in Dormice. In addition, places used for shelter and protection are safeguarded against intentional damage, destruction and obstruction and must not be intentionally disturbed whilst Dormice are in occupation, unless by a Natural England Licence holder for the species.
- 2.88. **Site usage, impacts and mitigation.** As outlined above, despite the results of specific survey work, on a precautionary basis the site has been determined as containing a very small population of Hazel Dormice.
- 2.89. The vast majority of Hazel Dormice suitable habitat is to be retained and enhanced as part of the development proposals. This is inclusive of large stretches of mature hedgerows and treelines which stretch throughout the site. Where some loss of linear habitat is required for the purposes of development (road and infrastructure), this will be entirely limited to the loss of very small stretches of hedgerows / treelines located within the west and south of the site.
- 2.90. Where habitats will not be lost for development, large scale retention and enhancement measures will be delivered in the form of both the areas of green infrastructure and Country Park, this will include for the improvement of Hazel Dormice suitable habitat
- 2.91. Whilst specific mitigation outlined within the April 2021 Ecological Assessment remains largely applicable (initially recommended on a precautionary basis regardless), it is now considered that prior to works occurring, a formal Natural England licence would need to be obtained and a suitable mitigation strategy implemented.
- 2.92. A mitigation strategy for loss of habitat will involve the use of the persuasion technique as detailed within Natural England's Dormouse Conservation Handbook. This involves the systematic clearance of strips of suitable Dormice habitat, under the supervision of an ecologist, which then persuades any Hazel Dormice present to leave to other areas of suitable habitat within the wider area, which will remain unaffected by the proposals.
- 2.93. Based on the small amount of suitable habitat that is to be affected it is considered that the persuasion technique as detailed above would be more than adequate mitigation for the removal of these areas of hedgerow. Additionally, the inclusion of new native landscape buffer planting, which will include species of benefit to Hazel Dormice as part of the proposals will offer new and enhanced habitat for Dormice if present and more than offset the loss to sub-optimal habitat and create areas of optimal permanent habitat for this species.

- 2.94. With the adoption of additional measures (both enhancements and mitigation) that will be outlined in more detailed at the relevant licencing stage, it is considered that the proposals maintain significant scope to maintain and moreover enhance the Favourable Conservation Status of Hazel Dormice within the site, post-development.

### 3. SUMMARY AND CONCLUSIONS

- 3.1. Ecology Solutions was commissioned by Wates Development in March 2021 to undertake a suite of updated bat and Hazel Dormice surveys for the site known as 'Land between Appledore Road and Woodchurch Road, Tenterden, Kent.
- 3.2. Previously the site had been fully surveyed for each species between 2017 and 2018, the results of which has been used to support a hybrid planning application which was submitted during April 2021.
- 3.3. However, due to the delays to the application it was considered appropriate to update this survey work in order to 'fine-tune' or amend any of the previously identified mitigation or design proposals as considered suitable.
- 3.4. The results of the bat surveys revealed that the site is (still) being used for the majority by a comparatively small number of common and widespread species of bat, with Common Pipistrelle being the highest recorded species, by far. The majority of activity was recorded within the south and centre of the site.
- 3.5. Regarding roosting bats, a total of 69 trees with varying levels of bat roosting potential were identified within the site. Those trees set to be impacted by the development proposals were subject to further survey work. These surveys identified a total of 11 trees with low bat roosting potential that will be impacted. Whilst two further trees initially identified to contain a moderate potential were also identified (also to be impacted), upon the results of further survey work, neither were identified to support any evidence of roosting bats. Whilst a small Common Pipistrelle day roost was recorded within a tree located in the north of the site, this will be retained as part of the development proposals.
- 3.6. The results of the extensive Hazel Dormice survey work undertaken across the site (nest tube / box and footprint surveys) returned negative results for Hazel Dormice presence. Nonetheless, due to an observation made of a suspected Hazel Dormouse entering a hole during a bat re-entry survey, on a precautionary basis, a very low population of Hazel Dormice is considered to be on site.
- 3.7. For both bats and Hazel Dormice, a full suite of direct mitigation measures and methodology for acquiring the appropriate licencing has been outlined. Furthermore, through the enhancements to be provided, it is considered that the proposals contain ample opportunity to ensure that the Favourable Conservation Status of each species group is maintained and enhanced.
- 3.8. It is therefore considered that upon the adoption of the measures set out above, the proposals remain will remain entirely inline with the relevant planning policies and legislation relating to wildlife and nature conservation.

Ecology Solutions  
January 2022

**PLANS**

**PLAN ECO1**

Tree/Building Inspection Results

Key:

— SITE BOUNDARY

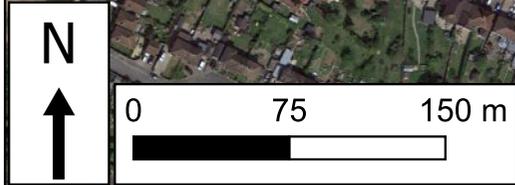
BAT POTENTIAL

● HIGH (TREE)

● MODERATE (TREE)

● LOW (TREE)

□ LOW (BUILDING)



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9349: TENTERDEN, KENT

PLAN ECO1. TREE/BUILDING  
 INSPECTION RESULTS

Rev: 2  
 Dec 2021

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**PLAN ECO2**  
2021 Bat Survey

Key:

- SITE BOUNDARY
- MAY DETECTORS
- JUNE DETECTORS
- JULY DETECTORS
- AUGUST DETECTORS
- SEPTEMBER DETECTORS
- - - TRANSECT 1
- - - TRANSECT 2



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9349: LAND BETWEEN APPLEDOOR ROAD AND WOODCHURCH ROAD, TENTERDEN, KENT.

PLAN ECO2: 2021 BAT SURVEY

Rev: 3  
 Dec 21

**PLAN ECO3**

2021 Hazel Dormouse Survey Results

100 nest tubes, five nest boxes, 50 footprint tubes installed at suitable densities across surveyed features. All survey equipment was inspected in line with methodology set out in accompanying report.

- Key:**
- SITE BOUNDARY
  - - - SURVEYED FEATURES
  - ⬠ NEXT BOX LOCATIONS
  - ✱ POTENTIAL HAZEL DORMOUSE SIGHTING



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9349: LAND BETWEEN APPLEDOOR ROAD AND WOODCHURCH ROAD, TENTERDEN, KENT.

PLAN ECO3: 2021 HAZEL DORMOUSE SURVEY RESULTS	Rev:2 Jan 22
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### **APPENDIX 3**

2021 Updated Faunal Species Work – Badgers,  
Reptiles, Great Crested Newts, Breeding Birds &  
Invertebrates

Including:

Plan ECO1 – Site Location

Plan ECO2 – Surveyed Waterbodies

Plan ECO3 – Reptile Tin Locations & Survey Results

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## 9349: LAND BETWEEN APPLIEDORE ROAD AND WOODCHURCH ROAD, TENTERDEN, KENT

### 2021 Updated Faunal Species Work – Badgers, Reptiles, Great Crested Newt, Breeding Birds & Invertebrates

#### 1. INTRODUCTION

##### Background & Proposals

- 1.1. Ecology Solutions was commissioned by Wates Development in March 2021 to undertake a suite of updated ecological surveys for the site known as 'Land between Appledore Road and Woodchurch Road, Tenterden, Kent' (see Plan ECO1), hereafter referred to as 'the site'.
- 1.2. Previously the site had been subject to a range of ecological surveys undertaken between 2016 and 2021, the results of which have been used to support a hybrid planning application which was submitted during spring 2021 (Planning ref: 21/00790/AS). A description of the planning application has been provided below:

*“a) Outline application for the development of up to 145 residential dwellings (50% affordable) including the creation of access points from Appledore Road (one all modes and one emergency, pedestrian and cycle only) and Woodchurch Road (pedestrian and cycle only), and creation of a network of roads, footways, and cycleways through the site. Provision of open space including children's play areas, community orchard, sustainable urban drainage systems, landscape buffers and green links all on 12.35 ha of the site. (Matters for approval: Access) “*

*b) Full planning permission for the change of land use from agricultural land to land to be used as a country park (8.66 ha), and land to be used as formal sports pitches (3.33 ha), together with pavilion to serve the proposal and the surrounding area. Including accesses, ancillary parking, pathways, sustainable urban drainage systems and associated landscaping”*

- 1.3. Owing to the age of some of the previously submitted survey data, it was considered appropriate to update elements of the survey work post-application (at the earliest possible opportunity) in order to 'fine-tune' or amend any of the previously identified mitigation or design proposals as considered appropriate.
- 1.4. This Briefing Note is to provide an update on the surveys that have been completed and analysed in full to date and to highlight any minor tweaks to the development proposals that may or may not be required in light of this new information.
- 1.5. As this note intends to only present and analyse the results of the updated survey work (completed in full to date), for a full analysis of the proposals in light of the relevant legislation, planning policy etcetera, clear attention should still be paid to the full Ecological Assessment (produced by Ecology Solutions) which was submitted as part of the original 2021 planning application.

#### **Site Characteristics**

- 1.6. The site is located to the east of the town of Tenterden, Kent. The town of Tenterden forms the southern and western boundaries of the site with broadleaved woodland to the north and grazed pasture to the east.
- 1.7. The site itself measures approximately 24.34ha in size and is primarily comprised of grassland, former sports pitches, areas of wet grassland and ponds, as well as hedgerows and treelines distributed throughout. One temporary building is located within the south-east of the site.

## 2. UPDATED FAUNAL SURVEY WORK COMPLETED IN FULL TO DATE

- 2.1. Specific updated faunal surveys were undertaken across the site for Badgers *Meles meles*, reptiles, Great Crested Newt *Triturus cristatus*, breeding birds and invertebrates.
- 2.2. The results of those completed surveys are identified below. Any further surveys once complete and analysed in full will be submitted by way of further addendum report(s) at the earliest possible opportunity.
- 2.3. For clarity, these further addendum reports will include updated results of surveys conducted for bats (activity surveys and tree/building roost surveys), Hazel Dormouse *Muscardinus avellanarius* in addition to a range of updated habitat specific surveys.

### **Badgers.**

#### Methodology

- 2.4. Updated surveys for Badgers were undertaken by Ecology Solutions most recently during June 2021.
- 2.5. The most recent survey comprised two main elements. Firstly, searching thoroughly for evidence of Badger setts. For any setts encountered standard survey practice would record the location of each sett entrance, even if the entrance appeared disused. The following specific information was recorded where appropriate:
  - i) The number and location of well used or very active entrances; these are clear of any debris or vegetation and are obviously in regular use and may, or may not, have been excavated recently.
  - ii) The number and location of inactive entrances; these are not in regular use and have debris such as leaves and twigs in the entrance, or have plants growing in or around the edge of the entrance.
  - iii) The number of disused entrances; these have not been in use for some time, are partly or completely blocked and cannot be used without considerable clearance. If the entrance has been disused for some time all that may be visible is a depression in the ground where the hole used to be, together with the remains of the spoil heap.
- 2.6. Secondly, any evidence of Badger activity such as well-worn paths, run-throughs, snagged hair, footprints, latrines, and foraging signs was recorded so as to build up a picture of the use of the site by this species.

#### Results

- 2.7. During the previous 2020 and 2021 walkover surveys undertaken by Ecology Solutions, a single potential outlier Badger sett was recorded in the north east of the site. Due to the absence of any fresh spoil mounds

or other evidence nearby (i.e. tracks, foraging signs, latrines etc) it was not considered that the sett was recently 'active' at the time of previous survey effort.

- 2.8. During the most recent June 2021 surveys, no further evidence of Badger was recorded on site. Furthermore, the previous potential sett identified appeared to be highly inactive/disused and overall appeared to be less suitable to Badger compared to that recorded during the previous survey effort.
- 2.9. Furthermore, no evidence of other Badger foraging or activity was recorded elsewhere within the site during the most recent 2021 survey. Notwithstanding the above, the habitats on site are considered to provide suitable foraging and dispersal opportunities for this species and may likely to be utilised by Badgers on occasion.

### Analysis

- 2.10. **Legislation.** The Protection of Badgers Act 1992 consolidates the previous Badgers Acts of 1973 and 1991. The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain, with particularly high populations in the south.
- 2.11. As well as protecting the animal itself, the 1992 Act also makes the intentional or reckless destruction, damage, or obstruction of a Badger sett an offence. A sett is defined as "any structure or place which displays signs indicating current use by a Badger".
- 2.12. In addition, the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence by constituting 'cruel ill treatment' of a Badger.
- 2.13. Previous guidelines were issued by NE on the types of activity it considers should be licensed within certain distances of sett entrances. They stated that works that may require a licence include using heavy machinery within 30 metres of any entrance to an active sett, using lighter machinery within 20 metres, and light work such as hand digging within 10 metres. However, guidance issued by NE in September 2007 specifically stated that:
- "It is not illegal, and therefore a licence is not required, to carry out disturbing activities in the vicinity of a sett if no Badger is disturbed and the sett is not damaged or obstructed."*
- 2.14. More recent guidance produced by NE in 2009 states that Badgers are relatively tolerant of moderate levels of disturbance and that low levels of disturbance at or near to Badger setts do not necessarily disturb the Badgers occupying those setts. However, NE's guidance continues by stating that any activity that will or is likely to cause one of the interferences defined in Section 3 (such as damaging a sett tunnel or chamber or obstructing access to a sett entrance) will continue to be licensed.

- 2.15. This guidance no longer makes reference to any 30/20/10 metre radius as a threshold for whether a licence would be required. Nonetheless, it is stated that tunnels may extend for 20 metres so care needs to be taken when implementing excavating operations within the vicinity of a sett and to take appropriate precautions with vibrations and noise, etc. Fires/chemicals within 20 metres of a sett should specifically be avoided.
- 2.16. This interim guidance allows greater professional judgement as to whether an offence is likely to be committed by a particular development activity, and therefore whether a licence is required or not. For example, if a sett clearly orientates southwards into an embankment, it may be somewhat redundant to have a 30-metre exclusion zone to the north.
- 2.17. **Site usage and mitigation.** On a precautionary basis, a suite of Badger safeguarding measures will be implemented as part of the development proposals. The full details of which are set out in full within the 2021 Ecological Assessment. By way of summary this will include:
- An updated Badger walkover survey prior to construction;
  - The single potential Badger sett identified will be retained and will not be adversely impacted by the development;
  - All works will maintain outside of a 20m buffer of any active setts unless otherwise agreed with the appointed ecologist;
  - All workers to receive toolbox talks;
  - Excavations will be made Badger safe;
  - Enhanced foraging resources as a result of the proposals.
- 2.18. As such, following mitigation and enhancements, opportunities for Badgers within the site will be maintained post development.

## Reptiles

### Methodology

- 2.19. In order to update knowledge of use of the site by reptile species, surveys were undertaken of all suitable habitats for this group between April and July 2021.
- 2.20. Surveys comprised of refugia surveys. 'Tins' (0.5 x 0.5 metre squares of heavy roofing felt which are often used as refuges by reptiles) were distributed throughout all suitable reptile habitat within the site (see Plan ECO3).
- 2.21. The tins provide shelter and heat up quicker than the surroundings in the morning and can remain warmer than the surroundings in the late afternoon. Being ectothermic (cold blooded), reptiles use them to bask and raise their body temperature which allows them to forage earlier and later in the day. These tins were left in place for two weeks to 'bed in' and subsequently surveyed for reptiles on nine separate occasions during suitable weather conditions.
- 2.22. In total, 375 'tins' were originally placed in strategic positions throughout the suitably identified habitat within the application site. However, due to tampering and re-distribution of these tins throughout the surveys

undertaken, outside of Ecology Solutions control, the final number recorded was 297. Notwithstanding this slight reduction in numbers, the final survey effort was still significantly higher than the minimum recommendation of 10 'tins' per hectare of suitable reptile habitat<sup>1</sup>.

2.23. Dates and survey conditions for each survey are provided below:

Survey no.	Date	Weather Conditions
1	05/05/21	11c, 60% cloud cover, dry
2	18/05/21	15c, 80% cloud cover, dry
3	20/05/21	11c, 1% cloud cover, dry
4	27/05/21	9c, 0% cloud cover, dry
5	03/06/21	16c, 30% cloud cover, dry
6	11/06/21	16c, 1% cloud cover, dry
7	15/06/21	19c, 30% cloud cover, dry
8	21/06/21	14c, 90% cloud cover, wet
9	01/07/21	14c, 80% cloud cover, dry

Table 1. 2021 reptile survey dates and weather conditions

### Results

2.24. The results of the updated 2021 reptile survey effort are presented below and show graphically at Plan ECO3.

Survey	Reptiles Recorded
1	3 x Adult, Male CL; 2 x Juvenile, CL; 1 x Unknown, CL 3 x Adult, Male SW; 1 x Juvenile, SW; 1 x Unknown, SW
2	3 x Adult, Male CL; 5 x Adult, Female CL; 20 x Juvenile, CL; 3 x Unknown, CL 7 x Adult, Male SW; 7 x Adult, Female SW; 7 x Juvenile, SW 1 x Juvenile, GS
3	25 x Adult, Male CL; 2 x Adult, Female CL; 7 x Juvenile, CL; 2 x Unknown, CL 11 x Adult, Male SW; 8 x Adult, Female SW; 2 x Juvenile, SW
4	12 x Adult, Male CL; 18 x Adult, Female CL; 3 x Juvenile, CL; 2 x Unknown, CL

<sup>1</sup> Froglife (1999) Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife, Halesworth.

	6 x Adult, Male SW; 16 x Adult, Female SW; 5 x Juvenile, SW 1 x Adult, Male GS
5	3 x Adult, Female CL; 1 x Juvenile, CL; 3 x Unknown, CL 4 x Adult, Male SW; 10 x Adult, Female SW; 16 x Juvenile, SW 1 x Adult, Male GS; 2 x Juvenile, GS
6	2 x Adult, Female CL; 4 x Juvenile, CL; 6 x Unknown, CL 10 x Adult, Male SW; 32 x Adult, Female SW; 22 x Juvenile, SW; 5 x Unknown, SW
7	2 x Adult, Female CL; 2 x Adult, Male CL; 1 x Unknown, CL 23 x Adult, Male SW; 28 x Adult, Female SW; 10 x Juvenile, SW 1 x Unknown, GS
8	1 x Adult, Male CL 2 x Adult, Male SW; 1 x Adult, Female SW
9	3 x Adult, Female CL; 1 x Adult, Male CL 8 x Adult, Male SW; 9x Adult, Female SW; 1 x Juvenile SW

Table 2. Results of 2021 reptile survey work (CL = Common Lizard, SW = Slow-worm, GS = Grass Snake).

- 2.25. The updated 2021 surveys undertaken recorded a total of 252 records of Slow-worm, 124 records of Common Lizard and six records of Grass Snake within the site.
- 2.26. The peak counts during the surveys were of 69 Slow-worm (**42 adult**), 36 Common Lizard (**27 adult**) and three Grass Snake (**one adult**).
- 2.27. Slow-worm and Common Lizard populations were mostly recorded in increased densities along the north-west and south-west boundaries of the site, albeit more isolated populations were also recorded in the north-east and centre of the site, within rougher areas of grassland typically subject to less historic grazing pressure (albeit it is noted that grazing has temporarily ceased within the site during 2021, allowing for longer grass growth across the majority of the site). The Grass Snake records were returned from the south of the site, the west and a single record from the northeast of the application site.

- 2.28. In line with guidance provided by the Herpetofauna Groups of Britain and Ireland<sup>2</sup> which assess population sizes based against recorded numbers per area of suitable reptile hectare and when considering that the majority of reptiles were recorded within distinct areas, when adopting a precautionary position it can be concluded that the site supports medium populations of Common Lizard and Slow-worm, and small populations of Grass Snake.
- 2.29. This is an increase on the number of reptiles recorded during previous 2018 survey work, where peak counts were recorded to be 42 slow-worm (**13 adult**), 14 Common Lizard (**6 adult**) and one Grass Snake (**no confirmed adults**).
- 2.30. It is noted however that an increased level of survey effort was undertaken across the site during 2021, and such, refugia was placed at a density of between **127%** (297 tins) to **156%** (375 tins) of recommended survey effort. In addition to this, there was also **104** additional tins (as a minimum) utilised during 2021 when compared to 2018. As such and given the habitats on site, it is not considered entirely surprising that a higher number of reptiles were recorded during the updated 2021 survey effort.

#### Analysis

- 2.31. **Legislation.** All six British reptile species receive a degree of legislative protection that varies depending on their conservation importance.
- 2.32. Rare, endangered or declining species receive 'full protection' under the Wildlife and Countryside Act 1981 as well as protection under The Conservation of Habitats and Species Regulations 2017 (as amended), which transposed into UK law the European Community Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora, more commonly known as the 'Habitats Directive'. Species that are fully protected include Smooth Snake *Coronella austriaca* and Sand Lizard *Lacerta agilis*. These receive the following protection from:
- killing, injuring, taking;
  - possession or control (of live or dead animals, their parts or derivatives);
  - damage to, destruction of, obstruction of access to any structure or place used for shelter or protection;
  - disturbance of any animal occupying such a structure or place; and
  - selling, offering for sale, possession or transport for purposes of sale (live or dead animal, part or derivative).
- 2.33. By contract, due to their abundance in Britain, Common Lizard Slow-worm, Grass Snake and Adder are only 'partially protected' under the

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<sup>2</sup> Herpetofauna Groups of Britain and Ireland. 1998. *Evaluating Local Mitigation / Translocation Programmes: Maintaining Best Practice and Lawful Standards*. HGBI Advisory

Wildlife and Countryside Act 1981 (as amended) and as such only receive protection from:

- deliberate killing and injuring;
- being sold or other forms of trading.

2.34. **Site usage and mitigation.** The recorded numbers of Slow-worm and Common Lizard have increased since previous survey efforts. In any event, it is considered that the measures set out within the 2021 Ecological Assessment remain appropriate to ensure reptile species are safeguarded throughout the construction proposals.

2.35. The full details of mitigation measures for reptiles is set out within the 2021 Ecological Assessment, however by way of summary this will include:

- Sensitive habitat enhancements to occur within east of the site (Countryside Open Space);
- Full translocation of reptiles away from construction areas to the east of the site (Countryside Open Space);
- Herpetofauna fencing to separate east of the site (Countryside Open Space) from the wider construction site;
- 30-days trapping and translocation will be deployed with trapping ceasing after this period and when no reptiles have been recorded for 5 consecutive days;
- Habitat manipulation exercises will be undertaken to complement the capture exercise;
- Long-term ecologically led habitat management within the Countryside Open Space and other areas of green infrastructure to provide high-quality suitable reptile habitats post-construction;
- Creation of hibernacula onsite.

2.36. In summary, it is considered that through the implementation of a suitable reptile translocation exercise and when adopting appropriate management of reptile suitable habitats on site, it will be ensured that reptiles are not only safeguarded within the site during construction, but that opportunities for this faunal group are enhanced within the site in the long-term.

### **Great Crested Newts (GCN)**

#### Methodology

2.37. During updated 2021 survey effort, six permanent and/or semi-permanent waterbodies were recorded within the site (**P1-P5, P8**). In addition to this and whilst not considered a true 'waterbody', an area of irregularly flooded rush pasture (**P7**) was also recorded holding water sporadically through early 2021.

2.38. Whilst previously recorded as being a waterbody during previous works undertaken at the site, **P6** was recorded as being entirely dry and subject to scrub encroachment during all 2021 survey work undertaken. Furthermore, whilst **P8** was recorded as holding very small amounts of

water during the initial 2021 scoping surveys, it was recorded as drying out during subsequent follow up surveys. As such, neither **P6** nor **P8** were considered to be suitable to supporting populations of GCN and were omitted from further survey effort.

- 2.39. In any event, all waterbodies were subject to updated Habitat Suitability Index (HSI) surveys during 2021. The results of which are included within the 2021 Ecological Assessment.
- 2.40. Those waterbodies which were determined suitable to GCN were then subject to a full suite of updated aquatic surveys undertaken between April – May 2021 in accordance with Natural England guidelines.
- 2.41. A summary of the dates of surveys and weather conditions during the 2021 surveys are included in Table 3 below.

<b>Survey no.</b>	<b>Date</b>	<b>Weather Summary (overnight min. temperatures shown in brackets).</b>
1	20/04/2021	9c, 0% cloud, dry
2	24/04/2021	10c, 0% cloud, dry
3	28/04/2021	9c, 90% cloud, light rain
4	30/04/2021	9c, 70% cloud, drizzle
5	05/05/2021	6c, 100% cloud, light rain
6	07/05/2021	11c, 15% cloud, dry
7	18/05/2021	12c, 60% cloud, dry

Table 3. 2021 GCN aquatic survey conditions

- 2.42. Aside from survey numbers four and five, all other surveys utilising up to three survey methods per visit (torch survey, bottle-trapping and egg searches). Due to over-night temperatures during survey four and five dropping to approximately 1c - 2c, it was decided that for the purposes of animal welfare, survey effort would be limited to torching and egg searching only with bottle trapping omitted. Notwithstanding this, due to the inclusion of three survey methods on all other survey visits, it is not considered that the limitations experienced during survey four or five are of any detriment to the robustness of the survey effort as a whole.
- 2.43. A further six ponds were identified to be within 250m of the site boundary that were not deemed to be separated from the site by significant barriers to dispersal, however access to survey was only granted for two off-site ponds (**P9** and **P10**). These were subject to eDNA surveys in April 2021 which returned negative results for the presence of GCN. The results of which are included at Annex 1.
- 2.44. All ponds subject to any level of survey effort are shown graphically at Plan ECO2.

## Results

- 2.45. The results of the aquatic surveys undertaken across the site are shown below.

Date	Survey	Pond & GCN recorded per survey						Peak count per survey
		1	2	3	4	5	7	
20/04/2021	1	1	0	16	0	0	0	17
24/04/2021	2	0	0	0	0	0	DRY	0
28/04/2021	3	0	0	6	1	0	DRY	7
30/04/2021	4	1	0	14	1	0	DRY	16
05/05/2021	5	0	0	3	0	0	DRY	3
07/05/2021	6	0	1	4	0	0	DRY	5
18/05/2021	7	2	1	8	0	0	0	11

Table 4. Results of 2021 GCN aquatic surveys

- 2.46. During these surveys, GCN populations were recorded in ponds **P1**, **P2**, **P3** and **P4**. Smooth newt *Lissotriton vulgaris*, Palmate Newt *Lissotriton helveticus* and Common Frog *Rana temporaria* were also recorded. In total, the peak count of GCN across any one survey period was 17.
- 2.47. Historically, heavy grazing pressure across the majority of the site previously and generally ensured large areas of terrestrial habitat remain sub-optimal to GCN. However, due to the removal of grazing during 2021 (aside from the two separated and continuously grazed fields within the south of the site) larger areas of grassland and fringing 'wet' grassland located predominately around the pond network now provide more suitable foraging and resting opportunities to GCN during their terrestrial phases, as compared to previous years. It is understood however that a new tenant is being sourced by the landowner with the intention to reimplement the regular grazing management in the very near future.

### Analysis

- 2.48. **Legislation.** All British amphibian species receive a degree of protection under the Wildlife and Countryside Act 1981 (as amended). The level of protection varies from protection from sale or trade only, as is the case with species such as Smooth Newt *Lissotriton vulgaris* and Common Toad *Bufo bufo*, to the more rigorous protection afforded to the Great Crested Newt.
- 2.49. Great Crested Newts (GCN) are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and included on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended). These include provisions making it an offence to:
- deliberately kill, injure or take (capture) Great Crested Newts;
  - deliberately disturb Great Crested Newts in such a way as to be likely –
    - to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or to hibernate; or;

- to affect significantly their local distribution or abundance;
  - deliberately take or destroy the eggs of Great Crested Newts;
  - damage or destroy any breeding or resting place used by Great Crested Newts;
  - intentionally or recklessly obstruct access to any place used by Great Crested Newts for shelter or protection (even if the newts are not present at the time).
- 2.50. The words deliberately and intentionally include actions where a court can infer that the defendant knew that the action taken would almost inevitably result in an offence, even if that were not the primary purpose of the act. European Protected Species licences are available from Natural England in certain circumstances, and permit activities that would otherwise be considered an offence.
- 2.51. Great Crested Newt can theoretically disperse up to 500m through suitable terrestrial habitat from their breeding pond, however it is widely accepted that they most commonly utilise suitable terrestrial habitat within a much closer distance, and activity is usually concentrated within 100m of breeding ponds with key habitat being located within 50m.
- 2.52. Furthermore, Research produced by Natural England concludes that “Captures on fences (and by other methods) at distances between 100m and 200-250m from breeding ponds tended to be so low as to raise serious doubts about the efficacy of this as an approach”.
- 2.53. **Site usage and mitigation.** During survey work undertaken, GCN populations were recorded within ponds **P1, P2, P3** and **P4** and areas of suitable terrestrial habitat are located across the site, albeit in greater quantity and quality in a close proximity to the central pond network. The results of the updated 2021 survey effort are not considered to be significantly different from those recorded within the site previously.
- 2.54. As such, the mitigation measures proposed previously are considered to remain robust in ensuring the Favourable Conservation Status (FCS) of GCN within the site are safeguarded in full. Whilst full details are provided within the 2021 Ecological Assessment, this will predominately be delivered through the instigation of a licenced translocation of GCN, as approved by Natural England, this will include but will not be limited to;
- Installation of drift fencing and pitfall traps;
  - Bespoke translocation exercise;
  - Creation of four dedicated biodiversity ponds;
  - Protective fencing around sensitive habitats;
  - Large new areas of created and enhanced habitats;
  - Green infrastructure corridors throughout the development;
  - Drop kerbs will be installed;
  - Sensitive management of habitats in the long-term during the operational period.

- 2.55. Via the incorporation of the above mitigation measures, in addition to the large-scale strategic habitat enhancement and creation to be brought forward, it is considered that opportunities for GCN (and other amphibian species) will be increased over the current baseline level, as a result of the development proposals.

### **Breeding Birds**

#### Methodology

- 2.56. The hedgerow and scrub areas of the site offer potential opportunities for a range of breeding bird species.
- 2.57. In order to understand the level of bird activity, a suite of updated breeding bird surveys (three total) were undertaken over April, May and June 2021. These surveys involved a surveyor walking transects of the site and recording any birds spotted or heard within the site as well as behaviours exhibited. The dates, times and weather conditions of the surveys are shown in the below table.

<b>Survey no.</b>	<b>Date</b>	<b>Weather Conditions</b>
1	25/04/2021	8c, 90% cloud cover
2	30/05/2021	9c, 100% cloud cover
3	20/06/2021	11c, 100% cloud cover

Table 5.2021 Breeding bird survey dates and weather conditions

- 2.58. The full breeding bird survey report is attached at Annex 2 however is summarised within this note for reference.

#### Results

- 2.59. 38 species were recorded during the course of the breeding bird surveys. Any species that were recorded as confirmed probable and possible were considered as breeding species. 22 species were considered to be breeding within the site.
- 2.60. Of the species observed using the site, four are Red-status Birds of Conservation Concern (BoCC) species, these include Song Thrush *Turdus philomelos*, House Sparrow *Passer domesticus*, Herring Gull *Larus argentatus* and Starling *Sturnus vulgaris*. Seven of the species recorded within the site were Amber-listed BoCC, these include Dunnock *Prunella modularis*, Swift *Apus apus*, Stock Dove *Columba oenas*, Tawny Owl *Strix aluco*, Mallard *Anas platyrhynchos* Kestrel *Falco tinnunculus* and Bullfinch *Pyrrhula pyrrhula*.
- 2.61. The vast majority of the bird species recorded within the site were noted to be using the hedgerows and trees.

#### Analysis

- 2.62. **Legislation.** Section 1 of the Wildlife & Countryside Act 1982 (as amended) is concerned with the protection of wild birds. With certain exceptions all wild birds and their eggs are protected from intentional killing, injuring and taking; and their nests, whilst being built or in use, cannot be taken, damaged or destroyed.
- 2.63. Schedule 1 of the Wildlife & Countryside Act 1981 (as amended) is a list of the nationally rarer and uncommon breeding birds for which all offences carry special (i.e. greater) penalties. These species also enjoy additional protection whilst breeding, as it is also an offence to disturb adults or their dependant young when at the nest.
- 2.64. **Site usage and mitigation.** The proposals outlined in full within the 2021 Ecological Assessment are considered relevant in ensuring that nesting birds and safeguarded throughout the construction period and that opportunities for birds in the long-term are enhanced.
- 2.65. By way of summary, these measures include:
- Vegetation clearance will be undertaken outside of the main nesting season or overseen by an ecologist;
  - Provision of new nesting and foraging habitats;
  - Provision of 33 new nesting boxes throughout the site on suitable retained trees;
  - 15% of built-form to comprise nesting features (i.e. Swift *apus apus* and Swallow bricks).
- 2.66. As such, it is considered that the proposals would allow for improved opportunities for nesting birds post-development.

## **Invertebrates**

### Methodology

- 2.67. To determine the suitability of the site for invertebrate species, a suite of updated invertebrate surveys were undertaken in 2019, 2020 and 2021. Survey methodology included sweep-netting, beating, hand grubbing and netting of ponds.

### Results

- 2.68. During the initial Phase-1 surveys conducted previously across the site, the habitats on site were deemed likely to support a range of common invertebrate species. Areas of particular benefit for invertebrates include grassland, mature hedgerows, treelines, Ancient and Veteran trees and aquatic habitats. Notwithstanding this, due to previous and historic heavy grazing within grassland habitats and the general lack of flowering species diversity, areas of increased invertebrate interest were generally considered to be most associated with linear features and those areas of increased botanical variety. It is however noted that grazing has ceased during 2021 (aside from two fields to the south), resulting in longer grassland growth than recorded historically. Additionally, a number of Ant

hills are present across the site, notably within the north-east and west of the site.

- 2.69. In order to further examine the potential use of the site by invertebrates species in greater detail, invertebrate surveys were undertaken within the site during August 2019 and April and June 2020 by Dr Jonty Denton. To reaffirm that the results and conclusions drawn within the previous 2019/2020 surveys remain robust, a further updated survey was undertaken during May 2021 by Colin Plant Associates. The full reports for each survey set are included at Annex 3 and 4 of this note. However, a summary is provided below for clarity.
- 2.70. In total, the three surveys undertaken across 2019/2020 recorded 366 invertebrate species. One of these species', Small heath *Coenonympha pamphilus*, is a Section 41 Species of Principle Importance for Conservation and as such is afforded conservation status.
- 2.71. Pond 3 held a good population of the Water Beetle *Enochrus coarctatus* and Rove Beetles, including *Paederus riparius*, *Lathrobium terminatum* and *Myllaena dubia*. Wetland spiders including *Antistea elegans* and *Hypomma bituberculatum* were also present.
- 2.72. Pond 1 contained Water Boatman *Notonecta glauca* and *N. viridis* and Water Beetles including *Acilius sulcatus* and *Bembidion dentellum* were also recorded.
- 2.73. Several large Ancient and Veteran Oaks in the dividing hedge between the south grassland fields and along the northern boundary were considered likely to support a diverse saproxylic fauna. A felled Oak on the southern boundary was recorded to hold *Uleiota planatus*, *Silvanus unidentatus* and *Platypus cylindrus*.
- 2.74. The updated 2021 survey confirmed that the previous and extensive survey effort undertaken across the site remained robust and that the data within it continues to represent the current condition of the survey area, which on initial view does not appear to contain invertebrate habitats that are likely to be significantly raised above that of the regional background level. However, it is noted that the authors of the 2021 report have not undertaken detailed analysis to the level conducted throughout the previous 2019/2020 surveys.

### Analysis

- 2.75. **Site usage and mitigation.** The suitable habitats for invertebrates within the site include grassland, mature trees and aquatic habitats. The invertebrates recorded during the survey were for the most part common species which would require no specific mitigation. Furthermore, habitats of increased invertebrate interest (Ancient trees, ponds etc) will be almost entirely retained and enhanced as part of the proposals, in addition to opportunities being retained/provided for those small number of species recorded within the site which were identified to be of a heightened conservational importance.

2.76. As such, it not considered that any changes to the initial mitigation outlined within the 2021 Ecological Assessments are required. For reference, this will include:

- Provision of extensive new areas of species rich habitats, including created and enhanced grassland, pond/aquatic central network and areas or Orchard planting;
- Creation and retention of standing and fallen deadwood;
- Inclusion of grassland/scrub mosaic habitats;
- Invertebrate 'bricks' will be included in 15% of built form

2.77. These measures will ensure opportunities for invertebrates are maintained and enhanced post development.

#### 4. SUMMARY AND CONCLUSIONS

- 4.1. Ecology Solutions was commissioned by Wates Development in March 2021 to undertake a suite of updated ecological surveys for the site known as 'Land between Appledore Road and Woodchurch Road, Tenterden, Kent.
- 4.2. Previously the site had been subject to a range of ecological surveys undertaken between 2016 and 2021, the results of which has been used to support a hybrid planning application which was submitted during spring 2021.
- 4.3. Owing to the age of some of the previously submitted survey data, it was considered appropriate to update the majority of this survey work post-application (at the earliest possible opportunity) in order to 'fine-tune' or amend any of the previously identified mitigation or design proposals as considered appropriate.
- 4.4. To date, updated surveys have been completed in full for Badgers, reptiles, GCN, breeding birds, and, invertebrates.

##### Conclusions

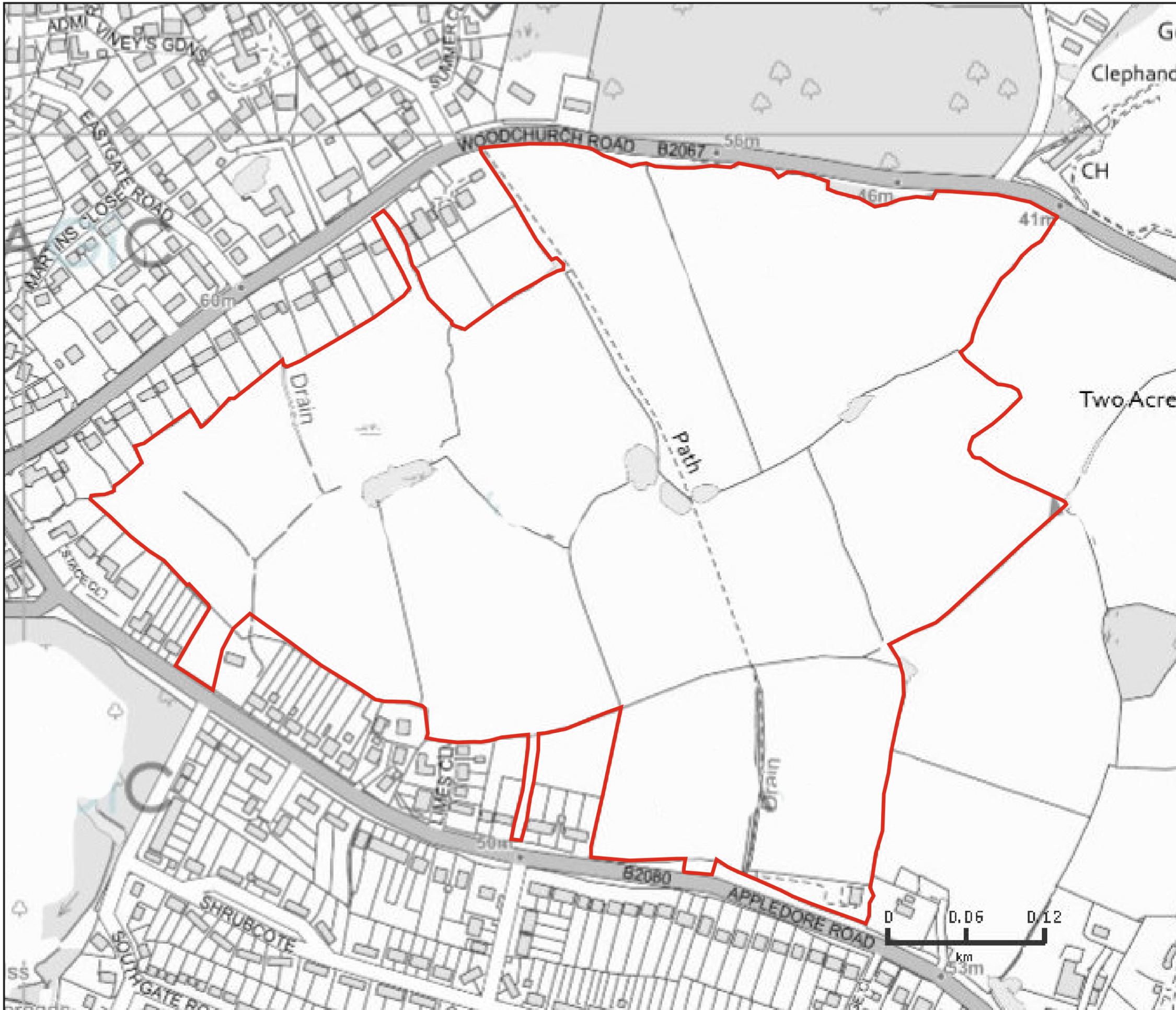
- 4.5. The purpose of this Briefing Note is to inform what surveys have been updated in full (to date) their results and whether this new information materially impacts the development design.
- 4.6. As set out in the relevant sections above, when considering the results of the updated 2021 survey effort (undertaken to date), it is concluded that the detailed analysis and mitigation measures as set out within the previously submitted detailed Ecological Assessment (Ecology Solutions, 2021) remain fully relevant and robust in the context of badgers, reptiles, GCN, breeding birds and invertebrates. As such, no changes to the planning proposals for these species in particular are required.

Ecology Solutions

August 2021

**PLANS**

**PLAN ECO1**  
Site Location



**KEY:**  
 SITE BOUNDARY



Farncombe House  
 Farncombe Estate | Broadway  
 Worcestershire | WR12 7LJ  
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 info@ecologysolutions.co.uk  
 ecologysolutions.co.uk

9349. LAND BETWEEN APPLIEDORE ROAD AND WOODCHURCH ROAD, TENTERDEN, KENT.

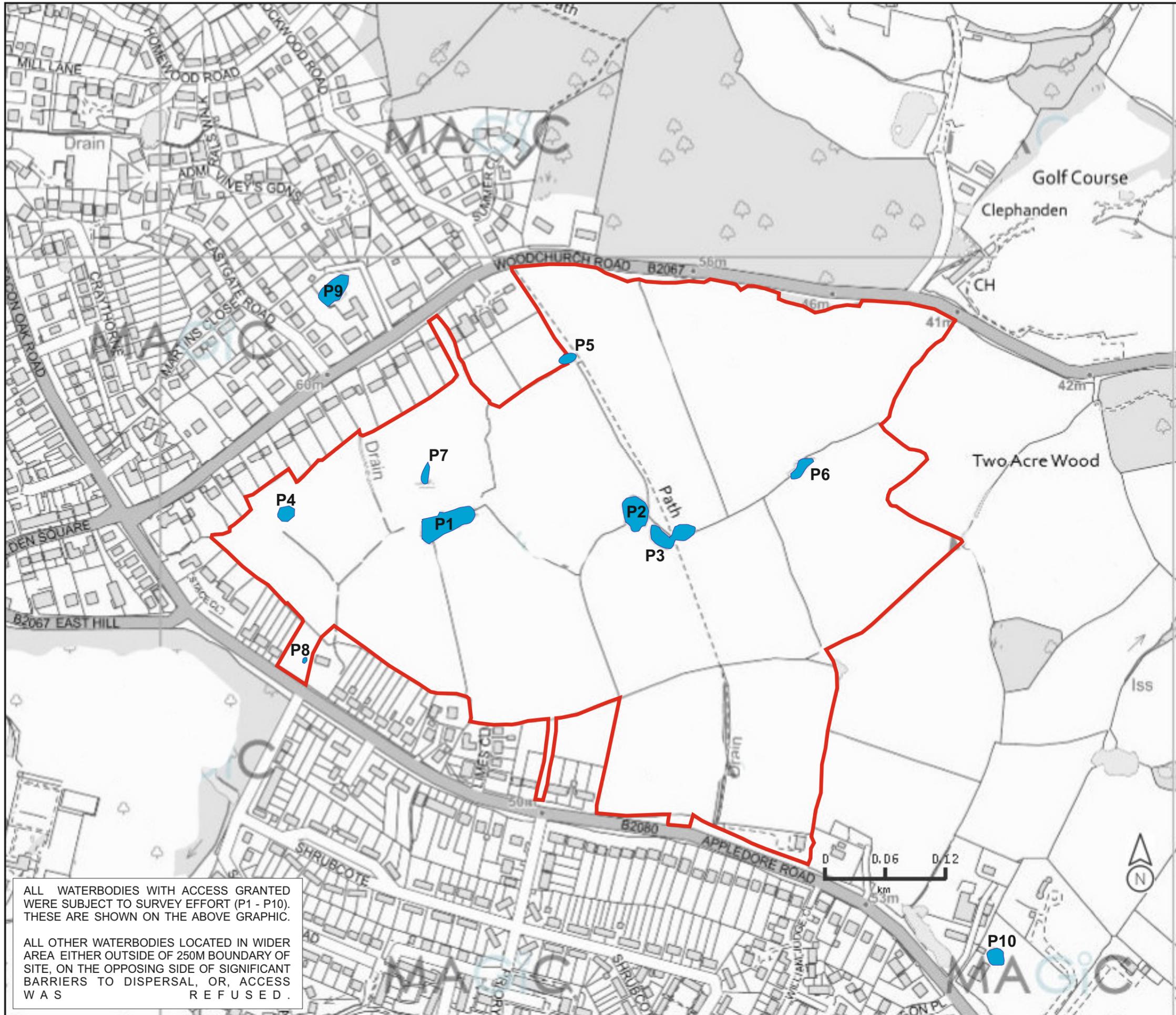
PLAN ECO1:  
 SITE LOCATION

Rev. A  
 AUG 2021

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**PLAN ECO2**  
Surveyed Waterbodies

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KEY:

-  SITE BOUNDARY
-  SURVEYED WATERBODIES/  
PREVIOUS WATERBODIES

ALL WATERBODIES WITH ACCESS GRANTED WERE SUBJECT TO SURVEY EFFORT (P1 - P10). THESE ARE SHOWN ON THE ABOVE GRAPHIC.

ALL OTHER WATERBODIES LOCATED IN WIDER AREA EITHER OUTSIDE OF 250M BOUNDARY OF SITE, ON THE OPPOSING SIDE OF SIGNIFICANT BARRIERS TO DISPERSAL, OR, ACCESS WAS REFUSED.



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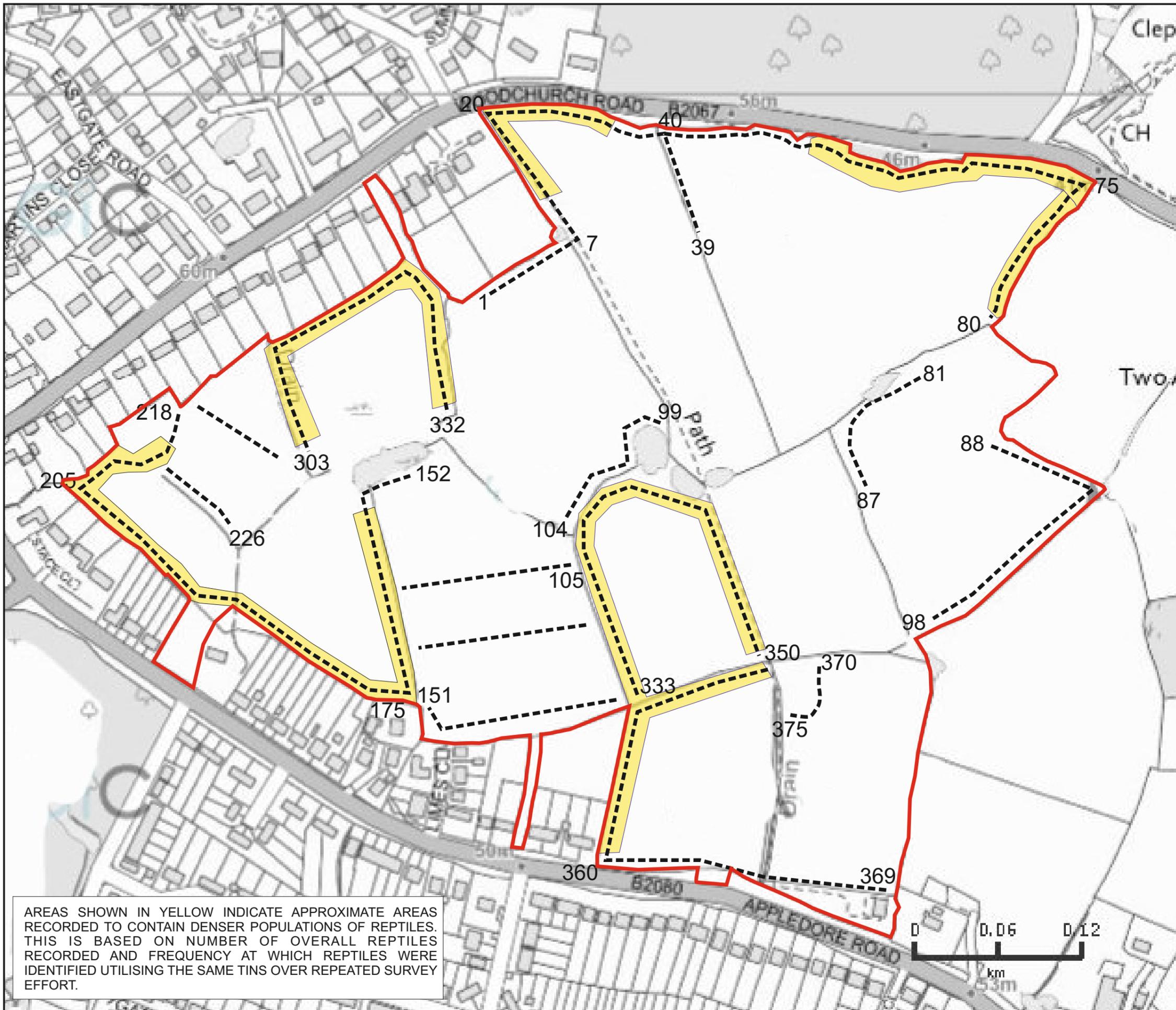
9349. LAND BETWEEN APPLIEDORE ROAD AND WOODCHURCH ROAD, TENTERDEN, KENT.

PLAN ECO2:  
SURVEYED WATERBODIES

Rev. A  
AUG 2021

**PLAN ECO3**  
Reptile Tin Locations &  
Survey Results

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- KEY:**
-  SITE BOUNDARY
  -  REPTILE TIN LOCATIONS (TIN NUMBERS SHOWN)
  -  AREAS OF INCREASED REPTILE DENSITY



AREAS SHOWN IN YELLOW INDICATE APPROXIMATE AREAS RECORDED TO CONTAIN DENSER POPULATIONS OF REPTILES. THIS IS BASED ON NUMBER OF OVERALL REPTILES RECORDED AND FREQUENCY AT WHICH REPTILES WERE IDENTIFIED UTILISING THE SAME TINS OVER REPEATED SURVEY EFFORT.




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PLAN ECO3:  
REPTILE TIN LOCATIONS &  
SURVEY RESULTS

Rev. A  
AUG 2021

**ANNEXES**

**ANNEX 1**

GCN eDNA Survey Results

Folio No: E9553  
Report No: 1  
Purchase Order: 9349/JM  
Client: ECOLOGY SOLUTIONS LTD  
Contact: Jack Holman

## TECHNICAL REPORT

### ANALYSIS OF ENVIRONMENTAL DNA IN POND WATER FOR THE DETECTION OF GREAT CRESTED NEWTS (*TRITURUS CRISTATUS*)

#### SUMMARY

When great crested newts (GCN), *Triturus cristatus*, inhabit a pond, they continuously release small amounts of their DNA into the environment. By collecting and analysing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

#### RESULTS

**Date sample received at Laboratory:** 22/04/2021  
**Date Reported:** 25/04/2021  
**Matters Affecting Results:** None

Lab Sample No.	Site Name	O/S Reference	SIC	DC	IC	Result	Positive Replicates
2112	9349/48 TENTERDEN	TQ 89829 33312	Pass	Pass	Pass	Negative	0
2116	9349/28 TENTERDEN	TQ 89180 33971	Pass	Pass	Pass	Negative	0

If you have any questions regarding results, please contact us: [ForensicEcology@surescreen.com](mailto:ForensicEcology@surescreen.com)

**Reported by:** Chris Troth

**Approved by:** Chris Troth



## **METHODOLOGY**

The samples detailed above have been analysed for the presence of GCN eDNA following the protocol stated in DEFRA WC1067 'Analytical and methodological development for improved surveillance of the Great Crested Newt, Appendix 5.' (Biggs et al. 2014). Each of the 6 sub-sample tubes are first centrifuged and pooled together into a single sample which then undergoes DNA extraction. The extracted sample is then analysed using real time PCR (qPCR), which uses species-specific molecular markers to amplify GCN DNA within a sample. These markers are unique to GCN DNA, meaning that there should be no detection of closely related species.

If GCN DNA is present, the DNA is amplified up to a detectable level, resulting in positive species detection. If GCN DNA is not present then amplification does not occur, and a negative result is recorded.

Analysis of eDNA requires scrupulous attention to detail to prevent risk of contamination. True positive controls, negative controls and spiked synthetic DNA are included in every analysis and these have to be correct before any result is declared and reported. Stages of the DNA analysis are also conducted in different buildings at our premises for added security.

SureScreen Scientifics Ltd is ISO9001 accredited and participate in Natural England's proficiency testing scheme for GCN eDNA testing. We also carry out regular inter-laboratory checks on accuracy of results as part of our quality control procedures.

## **INTERPRETATION OF RESULTS**

**SIC:**            **Sample Integrity Check** [Pass/Fail]

When samples are received in the laboratory, they are inspected for any tube leakage, suitability of sample (not too much mud or weed etc.) and absence of any factors that could potentially lead to inconclusive results.

**DC:**            **Degradation Check** [Pass/Fail]

Analysis of the spiked DNA marker to see if there has been degradation of the kit or sample between the date it was made to the date of analysis. Degradation of the spiked DNA marker may lead indicate a risk of false negative results.

**IC:**            **Inhibition Check** [Pass/Fail]

The presence of inhibitors within a sample are assessed using a DNA marker. If inhibition is detected, samples are purified and re-analysed. Inhibitors cannot always be removed, if the inhibition check fails, the sample should be re-collected.

**Result:**        **Presence of GCN eDNA** [Positive/Negative/Inconclusive]

**Positive:** GCN DNA was identified within the sample, indicative of GCN presence within the sampling location at the time the sample was taken or within the recent past at the sampling location.

**Positive Replicates:** Number of positive qPCR replicates out of a series of 12. If one or more of these are found to be positive the pond is declared positive for GCN presence. It may be assumed that small fractions of positive analyses suggest low level presence, but this cannot currently be used for population studies. In accordance with Natural England protocol, even a score of 1/12 is declared positive. 0/12 indicates negative GCN presence.

**Negative:** GCN eDNA was not detected or is below the threshold detection level and the test result should be considered as evidence of GCN absence, however, does not exclude the potential for GCN presence below the limit of detection.



**ANNEX 2**

2021 Breeding Bird Survey Results

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# Tenterden

## Breeding Bird Survey

Ecology Surveys

July 2021

### Contents

1	Introduction and Methodology.....	1
2	Results.....	2
3	Summary and Conclusions.....	3

## 1 Introduction and Methodology

- 1.1 Ecology Surveys was commissioned by Ecology Solutions Ltd in April 2021 to undertake a breeding bird survey of an area of open land located on the eastern side of the town of Tenterden in Kent.
- 1.2 The site comprises a series of grassland fields of various sizes, separated by lines of trees and shrubs, together with several ponds. It has a distinctly rural feel, despite being bordered to the northwest and southwest by existing housing.
- 1.3 Three early morning surveys were carried out between April and June 2021 in order to assess breeding bird activity within the site. The weather conditions during the surveys are given in table 1.

Date (2021)	Weather summary
25 <sup>th</sup> April	7/8 cloud, wind NE3, 8°C.
30 <sup>th</sup> May	8/8 cloud, wind NE3, 9°C.
20 <sup>th</sup> June	8/8 cloud, still, 11°C.

Table 1: Weather conditions during the breeding bird surveys.

- 1.4 On each survey an experienced ornithologist walked a circuitous route around the site taking in the vast majority of field boundaries, recording the locations, numbers and activity of all bird species present in (and around) the area during this time. This methodology ensures that the vast majority of species that use the site would be recorded over the course of the three visits.
- 1.5 To ascertain the breeding status of birds using the site, the following criteria were applied following the methodology used in the 'Atlas' surveys of 1988-1991 (Gibbons et al, 1993). This accepts the following activities as denoting breeding (including those probably breeding although definite proof was lacking):
- Bird apparently holding territory.
  - Courtship and display.
  - Nest-building (including excavating nest-hole).
  - Distraction display or feigning injury.
  - Adult carrying faecal sac or food.
  - Adult entering or leaving apparently occupied nest site.
  - Nest with eggs or eggshells found, or bird sitting but not disturbed.
  - Nest with young; or downy young of ducks, game-birds, waders and other nidifugous species.
  - Recently fledged young.

## 2 Results

- 2.1 A total of 38 species of birds was recorded during the surveys, of which 22 were breeding or probably breeding and six possibly breeding (i.e. habitat suitable to support the species is present). The remaining ten species were either breeding in adjacent habitats or flying over the site, or were represented by non-breeding individuals.
- 2.2 A summary of observations for each species is included in table 2, whilst the distribution of breeding birds is shown in plan 1.

Species (and BTO species code)	RSPB listed	Est. no. pairs	Notes
Red-legged partridge (RL) <i>Alectoris rufa</i>	Feral	0-1	A pair present in April.
Pheasant (PH) <i>Phasianus colchicus</i>	Feral	2	
Greylag goose (GJ) <i>Anser anser</i>	Feral	0	Two flew over in April.
Mallard (MA) <i>Anas platyrhynchos</i>	Amber	0-1	Recorded on the ponds.
Swift (SI) <i>Apus apus</i>	Amber	0	Three flew over in April.
Stock dove (SD) <i>Columba oenas</i>	Amber	1	
Woodpigeon (WP) <i>Columba palumbus</i>		8	
Collared dove (CD) <i>Streptopelia decaocto</i>		0	Present on adjacent houses.
Herring gull (HG) <i>Larus argentatus</i>	Red	0	Up to four in or over the area.
Tawny owl (TO) <i>Strix aluco</i>	Amber	0-1	
Great spotted woodpecker (GS) <i>Dendrocopos major</i>		0-1	
Green woodpecker (G.) <i>Picus viridis</i>		0-1	
Kestrel (K.) <i>Falco tinnunculus</i>	Amber	0	One present in May.
Magpie (MG) <i>Pica pica</i>		1	
Jackdaw (JD) <i>Corvus monedula</i>		1	
Carrion crow (C.) <i>Corvus corone</i>		1	
Raven (RN) <i>Corvus corax</i>		0	Two flew over in May.
Coal tit (CT) <i>Periparus ater</i>		0	A post-breeding bird in June.
Blue tit (BT) <i>Cyanistes caeruleus</i>		7	
Great tit (GT) <i>Parus major</i>		2	
Long-tailed tit (LT) <i>Aegithalos caudatus</i>		1	
Chiffchaff (CC) <i>Phylloscopus collybita</i>		4	
Blackcap (BC) <i>Sylvia atricapilla</i>		3	
Whitethroat (WH) <i>S. communis</i>		1	
Goldcrest (GC) <i>Regulus regulus</i>		0-1	
Wren (WR) <i>Troglodytes troglodytes</i>		10	
Nuthatch (NH) <i>Sitta europaea</i>		0	Two post-breeding birds in June.
Starling (SG) <i>Sturnus vulgaris</i>	Red	1	In a tree-hole.
Blackbird (B.) <i>Turdus merula</i>		7	
Song thrush (ST) <i>Turdus philomelos</i>	Red	1	
Robin (R.) <i>Erithacus rubecula</i>		9	
House sparrow (HS) <i>Passer domesticus</i>	Red	1	
Dunnock (D.) <i>Prunella modularis</i>	Amber	3	
Pied wagtail (PW) <i>Motacilla alba</i>		0	One present in April.
Chaffinch (CH) <i>Fringilla coelebs</i>		1	
Bullfinch (BF) <i>Pyrrhula pyrrhula</i>	Amber	0	A post-breeding bird in June.
Greenfinch (GR) <i>Chloris chloris</i>		1	
Goldfinch (GO) <i>Carduelis carduelis</i>		1	

Table 2: Bird species recorded during the breeding bird surveys at Tenterden.



Plan 1: Distribution of breeding birds at Tenterden.

Red, Amber and Green List species are shown in their respective colour. Infilled species breeding or probably breeding, unfilled circles those possibly breeding. Species locations do not necessarily show nest sites, but show the location of each species within its presumed territory. For the key to species, see the systematic list.

### 3 Summary and Conclusions

- 3.1 Despite the relative uniformity of habitats present across the site, a reasonable assemblage of birds was recorded during the breeding bird survey, with the vast majority of breeding activity associated with the network of hedges and trees, especially alongside adjacent gardens.
- 3.2 Species breeding or possibly breeding at the site include mallard, stock dove, tawny owl, starling, song thrush, house sparrow and dunnock. All these species are included on the RSPB Red or Amber Lists, being species of high or medium conservation concern having undergone major or moderate declines in their populations. Nevertheless, they all remain common and widespread in both a local and national context, as are all the other species breeding at the site.

**ANNEX 3**

2020 Invertebrate Survey Report

# **INVERTEBRATE SURVEY OF FIELDS OFF APPLEDORE ROAD, TENTERDEN, EAST KENT, 2020.**

*Dr. Jonty Denton FRES FLS MCIEEM CEcol*

*31 Thorn lane, Four Marks, Hants, GU34 5BX email [JontyDenton@aol.com](mailto:JontyDenton@aol.com)*

**JUNE 2020**

## Summary

A survey of terrestrial invertebrates was carried out across fields north of Appledore Road, Tenterden on the 28<sup>th</sup> August 2019, and the 10<sup>th</sup> April and 19<sup>th</sup> June 2020.

**Species total:** A total of 366 invertebrate taxa were identified.

### Notable species and assemblages

Species	Family	Order	Conservation status
<i>Coenonympha pamphilus</i> - Small Heath	Satyridae	Lepidoptera	NT;Section 41 Priority Species
<i>Anthracus consputus</i>	Carabidae	Coleoptera	NS
<i>Rhinocyllus conicus</i>	Curculionidae	Coleoptera	[Nb]
<i>Hydaticus seminiger</i>	Dytiscidae	Coleoptera	NS
<i>Platypus cylindrus</i>	Platypodidae	Coleoptera	[Nb]
<i>Uleiota planatus</i>	Silvanidae	Coleoptera	[Na]

The bark and sapwood specific assemblage type and the wood decay broad habitat assemblage type were in favourable condition.

## 1.0 INTRODUCTION

A baseline invertebrate survey of fields north of Appledore Road, Tenterden was commissioned to further elucidate the relative values of the habitats for invertebrate species.

## 2.0 EXPERTISE

I have worked as a freelance Ecologist specialising in invertebrates since 1995, and have surveyed sites in every tetrad in Surrey, and over 50 sites in Kent. I have published over 400 papers and notes on the distribution and ecology of the British invertebrate fauna, and authored *Beetles of Surrey*, and *Water Bugs & Water beetles of Surrey* in the Surrey Wildlife Trust Atlas series.

## 3.0 METHODOLOGY

Because it is impracticable to survey all the potential invertebrates within any given site, only specific groups of species were examined during fieldwork. These groups are sufficiently well known as to allow meaningful comparisons to be made with other sites, both locally and nationally. They are also important as indicators of the quality of a site and the habitats present (see Brooks 1993).

Groups covered during the survey were:

- Mollusca (slugs and snails)
- Arachnida (spiders, harvestmen & pseudoscorpions)
- Isopoda (woodlice)
- Thysanura (bristletails)
- Ephemeroptera (mayflies)
- Odonata (dragonflies & damselflies)
- Plecoptera (stoneflies)
- Orthoptera (grasshoppers & crickets)
- Dictyoptera (cockroaches)
- Dermaptera (earwigs)
- Hemiptera-Heteroptera (true-bugs)
- Hemiptera-Homoptera (hoppers)
- Neuroptera (lace-wings)
- Mecoptera (scorpion-flies)
- Lepidoptera (butterflies & moths)
- Trichoptera (caddis flies)
- Diptera (true flies)
- Aculeate Hymenoptera (ants, bees & wasps)
- Coleoptera (beetles)

The site was visited on the following dates: 28th August 2019, 10<sup>th</sup> April and 19<sup>th</sup> June 2020.

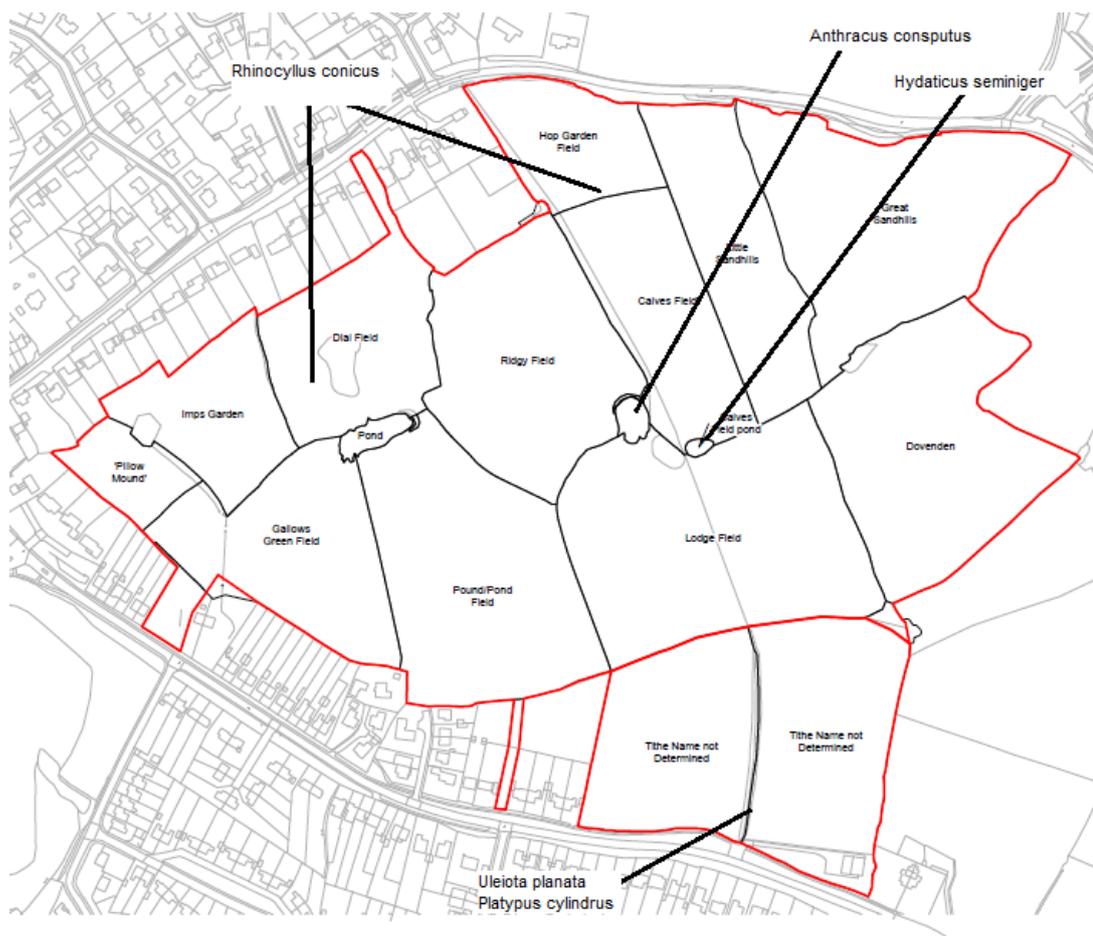
Standard field techniques were employed to sample the invertebrate fauna across the site. These included sweeping vegetation with a wide mouthed sweep net, beating trees and bushes over a beating tray, and grubbing amongst tussocks and key host plant rosettes etc. A 0.5mm pond net was employed to sample the open water.

## 4.0 RESULTS

A total of 366 species of invertebrate were recorded (a full species list is given in **Appendix 1**), of these 6 had a conservation status (see **Table 1**). The status definitions are summarised in **Appendix 2**. The species with older Notable statuses (Nb, Na) are all expanding rapidly and likely to be demoted at next review. The distribution of the scarce species (with the exception of Small Heath which was widespread across the whole site) is shown in **Figure 1**.

**Table 1. Species recorded during field surveys that have a conservation status.**

Species	Family	Order	Conservation status
<i>Coenonympha pamphilus</i> - Small Heath	Satyridae	Lepidoptera	NT; Section 41 Priority Species
<i>Anthracus consputus</i>	Carabidae	Coleoptera	NS
<i>Rhinocyllus conicus</i>	Curculionidae	Coleoptera	[Nb]
<i>Hydaticus seminiger</i>	Dytiscidae	Coleoptera	NS
<i>Platypus cylindrus</i>	Platypodidae	Coleoptera	[Nb]
<i>Uleiota planatus</i>	Silvanidae	Coleoptera	[Na]



**Figure 1. Distribution of notable sightings**

## 5.0 HABITAT ASSESSMENT - USING ISIS TO MEASURE SITE QUALITY

ISIS is a computer spreadsheet application for recognising invertebrate assemblage types in species lists collected at scales ranging from management compartment to landscape character area. The assemblage types are labelled in terms that relate to their favoured habitats in order to make them accessible to non-specialists. However, they are actually defined by lists of characteristic species that are generally found together in nature. Two levels are recognised in the classification. Broad assemblage types (BATs) are a comprehensive series of assemblage types that are characterised by more widespread species. They can be expressed in lists from a wide range of sites. Specific assemblage types (SATs) are characterised by ecologically restricted species and are generally only expressed in lists from sites with conservation value. Since 2008 there has also been a third category of assemblage types that cut across this classification. They are mainly defined by lists of species dependent on a particular environmental resource, such as flowers as a source of pollen and nectar. The assemblage type classification is given below. Textual descriptions of each assemblage type and its habitats have been prepared for incorporation into a web-based database. See Table 2.

**Table 2. A break-down of the available ISIS assemblage types with number of species assigned to each assemblage.**

Arboreal assemblage types	
A1 arboreal canopy (846)	
A2 wood decay (1118)	A211 heartwood decay (175)
	A212 bark & sapwood decay (503)
	A213 fungal fruiting bodies (89)
	A215 epiphyte fauna (20)
Field layer assemblage types	
	F001 scrub edge (179)
	F002 rich flower resource (241)
	F003 scrub-heath and moorland (344)
	F006 dung (99)
F1 unshaded early successional mosaic (1188)	F111 bare sand & chalk (440)
	F112 open short sward (200)
F2 grassland & scrub matrix (1910)	F221 montane & upland (101)
F3 shaded field & ground layer (480)	

**Table 3. Specific Assemblage Types (SAT).**

SAT code	SAT name	No. spp.	Condition	Percentage of national species pool
A212	Bark & sapwood decay	21	Favourable	4
A211	Heartwood decay	4		2
F001	Scrub edge	9		4
F002	Rich flower resource	3		1
F006	Dung	2		2

**Table 4. Broad Assemblage Types (BAT).**

BAT code	BAT name	Rarity score	Condition	BAT species richness
F2	Grassland & scrub matrix	114		67
A1	Arboreal canopy	124		37
A2	Wood decay	234	Favourable	35
W2	ineral marsh & open water	144		27

The bark and sapwood decay (SAT) and wood decay (BAT) were in favourable condition.

## 6.0 ECOLOGICAL ASSESSMENT

The fields are all heavily grazed by sheep and flowering plants were virtually absent with the exception of a few Spear Thistles and Creeping Thistles. The hedgerows are clearly pre-Enclosure Act and are species-rich with a good mix of native trees. The fields on the south facing slope in the north-west part of the site have an old parkland quality with rush choked hollows (old ponds) fed by ditches and numerous old hedgebanks and earthworks. The ditches had a few plants such as Gypsywort and Water-pepper which had avoided the ravages of the sheep.

A range of local grass feeding species were present including Small Heath, and the diminutive Black and White Hopper *Delphacinus mesomelus* (for which the only other modern Kent record is from Dungeness)

Calves Field pond had open areas choked with *Hydrocotyle ranunculoides*. Emergents included Rushes and Common Reedmace. The nationally scarce Diving Beetle *Hydaticus seminiger* was present as were the local Dytiscids *Rhantus grapii*, *Liopterus haemorrhoidhalis* and hydrophilids *Cercyon convexiusculus*. *Enochrus coarctatus* was also present in numbers: this is invariably associated with old water bodies especially ancient field ponds and is often (as in this instance) with Great Crested Newt *Triturus cristatus*. There was a good mix of wetland Rove Beetles including *Paederus riparius*, *Lathrobium terminatum*, *Myllaena dubia*, and *Erichsonius cinerascens*. Local wetland spiders included *Antistea elegans* and *Hypomma bituberculatum*.

Calves Field pond is connected to a larger more shaded pond which is also choked with Floating Pennywort and *Crassula helmsii*, this yielded the nationally scarce Carabid *Anthracus consputus* and the local Hydrophilid *Cercyon ustulatus*.

The shaded draw-down zone of the large, shaded pond at southern edge of Dial Field had the local Ground Beetle *Bembidion dentellum*.

The large veteran Oaks in the dividing hedge between the south fields and around the northern boundary are likely to support a very rich saproxylic fauna. A recently felled Oak near the southern boundary yielded *Uleiota planatus*, *Silvanus unidentatus* and *Platypus cylindrus*. Saproxylic species which were once considered scarce and good indicators of ecological continuity. However, they have been expanding rapidly over past two decades and their statuses are in need of review.

## 7.0 REFERENCES

Brooks, S.J. 1993. Joint Committee for the Conservation of British Invertebrates: Guidelines for Invertebrate Surveys. British Wildlife 4(5) 283-287

Drake, C.M., Lott, D.A., Alexander, K.N.A. & Webb, J. 2007. *Surveying terrestrial and freshwater invertebrates for conservation evaluation*. (Natural England Research report (BERR005). Natural England, Sheffield.

**APPENDIX 1. Species list for 2019-20.**

Species	Family	Order	Conservation Status
<i>Agelena labyrinthica</i>	Agelenidae	Araneae	common
<i>Tegenaria gigantea</i>	Agelenidae	Araneae	common
<i>Amaurobius fenestralis</i>	Amaurobiidae	Araneae	common
<i>Araneus diadematus</i>	Araneidae	Araneae	common
<i>Araneus quadratus</i>	Araneidae	Araneae	common
<i>Gibbaranea gibbosa</i>	Araneidae	Araneae	common
<i>Larinioides cornutus</i>	Araneidae	Araneae	common
<i>Mangora acalypha</i>	Araneidae	Araneae	common
<i>Nuctenea umbratica</i>	Araneidae	Araneae	common
<i>Zilla diodia</i>	Araneidae	Araneae	common
<i>Zygiella atrica</i>	Araneidae	Araneae	common
<i>Clubiona comta</i>	Clubionidae	Araneae	common
<i>Clubiona phragmitis</i>	Clubionidae	Araneae	common
<i>Dictyna arundinacea</i>	Dictynidae	Araneae	common
<i>Harpactea hombergi</i>	Dysderidae	Araneae	common
<i>Antistea elegans</i>	Hahniidae	Araneae	common
<i>Bathyphanes gracilis</i>	Linyphiidae	Araneae	common
<i>Erigone atra</i>	Linyphiidae	Araneae	common
<i>Erigone dentipalpis</i>	Linyphiidae	Araneae	common
<i>Hypomma bituberculatum</i>	Linyphiidae	Araneae	common
<i>Linyphia triangularis</i>	Linyphiidae	Araneae	common
<i>Lophomma punctatum</i>	Linyphiidae	Araneae	common
<i>Pardosa nigriceps</i>	Lycosidae	Araneae	common
<i>Pardosa prativaga</i>	Lycosidae	Araneae	common
<i>Pardosa pullata</i>	Lycosidae	Araneae	common
<i>Pirata piraticus</i>	Lycosidae	Araneae	common
<i>Trochosa terricola</i>	Lycosidae	Araneae	common
<i>Philodromus cespitum</i>	Philodromidae	Araneae	common
<i>Philodromus dispar</i>	Philodromidae	Araneae	common
<i>Philodromus praedatus</i>	Philodromidae	Araneae	local
<i>Salticus scenicus</i>	Salticidae	Araneae	common
<i>Pachygnatha clercki</i>	Tetragnathidae	Araneae	common
<i>Pachygnatha degeeri</i>	Tetragnathidae	Araneae	common
<i>Tetragnatha extensa</i>	Tetragnathidae	Araneae	common
<i>Tetragnatha montana</i>	Tetragnathidae	Araneae	common
<i>Anelosimus vittatus</i>	Theridiidae	Araneae	common
<i>Asagena phalerata</i>	Theridiidae	Araneae	local
<i>Theridion mystaceum</i>	Theridiidae	Araneae	common
<i>Theridion varians</i>	Theridiidae	Araneae	common
<i>Misumena vatia</i>	Thomisidae	Araneae	common

<i>Xysticus cristatus</i>	Thomisidae	Araneae	common
<i>Xysticus lanio</i>	Thomisidae	Araneae	common
<i>Paraligolophus agrestis</i>	Phalangiidae	Opiliones	common
<i>Odiellus spinosus</i>	Phalangiidae	Opiliones	common
<i>Dicranopalpus ramosus</i>	Phalangiidae	Opiliones	common
<i>Dilta cf hibernica</i>	Machilidae	Arachaeognatha	common
<i>Aeshna cyanea</i>	Aeshnidae	Odonata	common
<i>Chorthippus brunneus</i>	Acridiidae	Orthoptera	common
<i>Chorthippus parallelus</i>	Acridiidae	Orthoptera	common
<i>Pholidoptera griseoptera</i>	Tettigonidae	Orthoptera	common
<i>Leptophyes punctatissima</i>	Tettigonidae	Orthoptera	common
<i>Conocephalus discolor</i>	Tettigonidae	Orthoptera	common
<i>Meconema thalassina</i>	Tettigonidae	Orthoptera	common
<i>Forficula auricula</i>	Forficulidae	Dermaptera	common
<i>Anobium fulvicorne</i>	Anobiidae	Coleoptera	common
<i>Anobium inexpectatum</i>	Anobiidae	Coleoptera	local
<i>Ptilinus pectinicornis</i>	Anobiidae	Coleoptera	common
<i>Aphodius ater</i>	Aphodiidae	Coleoptera	common
<i>Aphodius fossor</i>	Aphodiidae	Coleoptera	common
<i>Aphodius sphacelatus</i>	Aphodiidae	Coleoptera	common
<i>Exapion ulicis</i>	Apionidae	Coleoptera	common
<i>Protapion fulvipes</i>	Apionidae	Coleoptera	common
<i>Biphyllus lunatus</i>	Biphyllidae	Coleoptera	local
<i>Agrilus biguttatus</i>	Buprestidae	Coleoptera	common
<i>Agrilus laticornis</i>	Buprestidae	Coleoptera	local
<i>Agrilus sinuatus</i>	Buprestidae	Coleoptera	common
<i>Cantharis cryptica</i>	Cantharidae	Coleoptera	common
<i>Cantharis decipiens</i>	Cantharidae	Coleoptera	common
<i>Cantharis rustica</i>	Cantharidae	Coleoptera	common
<i>Malthodes flaveolus</i>	Cantharidae	Coleoptera	common
<i>Malthodes minimus</i>	Cantharidae	Coleoptera	common
<i>Rhagonycha fulva</i>	Cantharidae	Coleoptera	common
<i>Rhagonycha lignosa</i>	Cantharidae	Coleoptera	common
<i>Rhagonycha limbata</i>	Cantharidae	Coleoptera	common
<i>Acupalpus dubius</i>	Carabidae	Coleoptera	common
<i>Anthracus consputus</i>	Carabidae	Coleoptera	NS
<i>Bembidion biguttatum</i>	Carabidae	Coleoptera	common
<i>Bembidion dentellum</i>	Carabidae	Coleoptera	common
<i>Calodromius spilotus</i>	Carabidae	Coleoptera	common
<i>Carabus violaceus</i>	Carabidae	Coleoptera	common
<i>Dromius quadrimaculatus</i>	Carabidae	Coleoptera	common
<i>Elaphrus cupreus</i>	Carabidae	Coleoptera	common
<i>Nebria brevicollis</i>	Carabidae	Coleoptera	common
<i>Paradromius linearis</i>	Carabidae	Coleoptera	common
<i>Pterostichus madidus</i>	Carabidae	Coleoptera	common

<i>Grammoptera ruficornis</i>	Cerambycidae	Coleoptera	common
<i>Pseudovadonia livida</i>	Cerambycidae	Coleoptera	common
<i>Rhagium mordax</i>	Cerambycidae	Coleoptera	common
<i>Altica lythri</i>	Chrysomelidae	Coleoptera	common
<i>Aphthona euphorbiae</i>	Chrysomelidae	Coleoptera	common
<i>Bruchus rufimanus</i>	Chrysomelidae	Coleoptera	common
<i>Psylliodes chrysocephala</i>	Chrysomelidae	Coleoptera	common
<i>Ennearthron cornutum</i>	Ciidae	Coleoptera	common
<i>Orthocis alni</i>	Ciidae	Coleoptera	local
<i>Cis boleti</i>	Ciidae	Coleoptera	common
<i>Anisosticta novemdecimpunctata</i>	Coccinellidae	Coleoptera	common
<i>Calvia quattuordecimguttata</i>	Coccinellidae	Coleoptera	common
<i>Coccidula rufa</i>	Coccinellidae	Coleoptera	common
<i>Coccinella septempunctata</i>	Coccinellidae	Coleoptera	common
<i>Exochomus quadripustulatus</i>	Coccinellidae	Coleoptera	common
<i>Harmonia axyridis</i>	Coccinellidae	Coleoptera	common
<i>Cicones undatus</i>	Colydiidae	Coleoptera	local
<i>Micrambe ulicis</i>	Cryptophagidae	Coleoptera	common
<i>Telmatophilus typhae</i>	Cryptophagidae	Coleoptera	common
<i>Curculio glandium</i>	Curculionidae	Coleoptera	common
<i>Rhinocyllus conicus</i>	Curculionidae	Coleoptera	[Nb]
<i>Scolytus intricatus</i>	Curculionidae	Coleoptera	common
<i>Sitona lineatus</i>	Curculionidae	Coleoptera	common
<i>Sitona striatellus</i>	Curculionidae	Coleoptera	common
<i>Tychius picirostris</i>	Curculionidae	Coleoptera	common
<i>Dryocoetes villosus</i>	Curculionidae	Coleoptera	common
<i>Hylesinus varius</i>	Curculionidae	Coleoptera	common
<i>Dasytes aeratus</i>	Dasytidae	Coleoptera	common
<i>Dryops luridus</i>	Dryopidae	Coleoptera	common
<i>Acilius sulcatus</i>	Dytiscidae	Coleoptera	common
<i>Agabus bipustulatus</i>	Dytiscidae	Coleoptera	common
<i>Hydaticus seminiger</i>	Dytiscidae	Coleoptera	NS
<i>Hydroporus palustris</i>	Dytiscidae	Coleoptera	common
<i>Hydroporus planus</i>	Dytiscidae	Coleoptera	common
<i>Hydroporus pubescens</i>	Dytiscidae	Coleoptera	common
<i>Ilybius ater</i>	Dytiscidae	Coleoptera	common
<i>Liopterus haemorrhoidalis</i>	Dytiscidae	Coleoptera	common
<i>Rhantsu grapii</i>	Dytiscidae	Coleoptera	local
<i>Athous bicolor</i>	Elateridae	Coleoptera	common
<i>Athous haemorrhoidalis</i>	Elateridae	Coleoptera	common
<i>Geotrupes spiniger</i>	Geotrupidae	Coleoptera	common
<i>Hydraena testacea</i>	Hydraenidae	Coleoptera	common
<i>Anacaena lutescens</i>	Hydrophilidae	Coleoptera	common
<i>Cercyon convexiusculus</i>	Hydrophilidae	Coleoptera	local
<i>Cercyon ustulatus</i>	Hydrophilidae	Coleoptera	local

<i>Coelostoma orbiculare</i>	Hydrophilidae	Coleoptera	common
<i>Enochrus coarctatus</i>	Hydrophilidae	Coleoptera	local
<i>Enochrus testaceus</i>	Hydrophilidae	Coleoptera	common
<i>Helochares lividus</i>	Hydrophilidae	Coleoptera	local
<i>Helophorus aequalis</i>	Hydrophilidae	Coleoptera	common
<i>Helophorus brevipalpis</i>	Hydrophilidae	Coleoptera	common
<i>Sphaeridium scarabaeoides</i>	Hydrophilidae	Coleoptera	common
<i>Corticicara gibbosa</i>	Latridiidae	Coleoptera	common
<i>Dorcus parallelipedus</i>	Lucanidae	Coleoptera	common
<i>Sinodendron cylindricum</i>	Lucanidae	Coleoptera	common
<i>Malachius bipustulatus</i>	Malachiidae	Coleoptera	common
<i>Cordylepherus viridis</i>	Malachiidae	Coleoptera	common
<i>Litargus connexus</i>	Mycetophagidae	Coleoptera	common
<i>Meligethes aeneus</i>	Nitidulidae	Coleoptera	common
<i>Brachypterus glaber</i>	Nitidulidae	Coleoptera	common
<i>Oedemera lurida</i>	Nitidulidae	Coleoptera	common
<i>Oedemera nobilis</i>	Nitidulidae	Coleoptera	common
<i>Platypus cylindrus</i>	Platypodidae	Coleoptera	[Nb]
<i>Pyrochroa coccinea</i>	Pyrochroidae	Coleoptera	common
<i>Pyrochroa serraticornis</i>	Pyrochroidae	Coleoptera	common
<i>Salpingus planirostris</i>	Salpingidae	Coleoptera	common
<i>Cyphon padi</i>	Scirtidae	Coleoptera	common
<i>Scirtes hemisphaericus</i>	Scirtidae	Coleoptera	common
<i>Anaspis fasciata</i>	Scraptiidae	Coleoptera	common
<i>Anaspis lurida</i>	Scraptiidae	Coleoptera	local
<i>Anaspis maculata</i>	Scraptiidae	Coleoptera	common
<i>Anaspis regimbarti</i>	Scraptiidae	Coleoptera	common
<i>Anaspis rufilabris</i>	Scraptiidae	Coleoptera	common
<i>Silpha atrata</i>	Silphidae	Coleoptera	common
<i>Uleiota planatus</i>	Silvanidae	Coleoptera	[Na]
<i>Aleochara lanuginosa</i>	Staphylinidae	Coleoptera	common
<i>Alianta incana</i>	Staphylinidae	Coleoptera	common
<i>Erichsonius cinerascens</i>	Staphylinidae	Coleoptera	common
<i>Lathrobium terminatum</i>	Staphylinidae	Coleoptera	common
<i>Myllaena dubia</i>	Staphylinidae	Coleoptera	common
<i>Ocypus olens</i>	Staphylinidae	Coleoptera	common
<i>Paederus riparius</i>	Staphylinidae	Coleoptera	common
<i>Quedius cruentus</i>	Staphylinidae	Coleoptera	common
<i>Stenus bifoveolatus</i>	Staphylinidae	Coleoptera	common
<i>Stenus juno</i>	Staphylinidae	Coleoptera	common
<i>Stenus latifrons</i>	Staphylinidae	Coleoptera	common
<i>Stenus solutus</i>	Staphylinidae	Coleoptera	common
<i>Nalassus laevioctostriatus</i>	Tenebrionidae	Coleoptera	common
<i>Prionychus ater</i>	Tenebrionidae	Coleoptera	local
<i>Bitoma crenata</i>	Zopheridae	Coleoptera	common

<i>Phytomyza ilicis</i>	Agromyzidae	Diptera	common
<i>Leptogaster cylindrica</i>	Asilidae	Diptera	common
<i>Bibio marci</i>	Bibionidae	Diptera	common
<i>Bombylius major</i>	Bombyliidae	Diptera	common
<i>Lucilia caesar</i>	Calliphoridae	Diptera	common
<i>Chlorops pumilionis</i>	Chloropidae	Diptera	common
<i>Dicraeus vagans</i>	Chloropidae	Diptera	common
<i>Meromyza femorata</i>	Chloropidae	Diptera	common
<i>Meromyza zachvatkini</i>	Chloropidae	Diptera	common
<i>Medetera truncorum</i>	Dolichopodidae	Diptera	DD
<i>Musca autumnalis</i>	Muscidae	Diptera	common
<i>Chrysopilus cristatus</i>	Rhagionidae	Diptera	common
<i>Sarcophaga carnaria</i>	Sarcophagidae	Diptera	common
<i>Scathophaga stercoraria</i>	Scathophagidae	Diptera	common
<i>Tetanocera elata</i>	Sciomyzidae	Diptera	common
<i>Tetanocera ferruginea</i>	Sciomyzidae	Diptera	common
<i>Limnia unguicornis</i>	Sciomyzidae	Diptera	common
<i>Beris chalybata</i>	Stratiomyidae	Diptera	common
<i>Beris vallata</i>	Stratiomyidae	Diptera	common
<i>Chloromyia formosa</i>	Stratiomyidae	Diptera	common
<i>Eristalis intricarius</i>	Syrphidae	Diptera	common
<i>Eristalis pertinax</i>	Syrphidae	Diptera	common
<i>Eristalis tenax</i>	Syrphidae	Diptera	common
<i>Eupeodes corollae</i>	Syrphidae	Diptera	common
<i>Helophilus pendulus</i>	Syrphidae	Diptera	common
<i>Meredon equestris</i>	Syrphidae	Diptera	common
<i>Myathropa florea</i>	Syrphidae	Diptera	common
<i>Neoascia tenur</i>	Syrphidae	Diptera	common
<i>Scaeva pyrastris</i>	Syrphidae	Diptera	common
<i>Sphaerophoria scripta</i>	Syrphidae	Diptera	common
<i>Syritta pipiens</i>	Syrphidae	Diptera	common
<i>Syrphus ribesii</i>	Syrphidae	Diptera	common
<i>Tabanus bromius</i>	Tabanidae	Diptera	common
<i>Terellia tussilaginis</i>	Tephritidae	Diptera	common
<i>Urophora cardui</i>	Tephritidae	Diptera	common
<i>Urophora jaceana</i>	Tephritidae	Diptera	common
<i>Geophilus flavus</i>	Geophilidae	Geophilomorpha	common
<i>Acanthosoma haemorrhoidale</i>	Acanthosomatidae	Hemiptera	common
<i>Elasmotethus interstinctus</i>	Acanthosomatidae	Hemiptera	common
<i>Anthocoris confusus</i>	Anthocoridae	Hemiptera	common
<i>Anthocoris nemoralis</i>	Anthocoridae	Hemiptera	common
<i>Cardiastethus fasciventris</i>	Anthocoridae	Hemiptera	common
<i>Xylocoris cursitans</i>	Anthocoridae	Hemiptera	common
<i>Philaenus spumarius</i>	Aphrophoridae	Hemiptera	common
<i>Acericerus ribauti</i>	Cicadellidae	Hemiptera	common

<i>Alebra albostrilla</i>	Cicadellidae	Hemiptera	common
<i>Anaceratagallia ribauti</i>	Cicadellidae	Hemiptera	common
<i>Arthaldeus pascuellus</i>	Cicadellidae	Hemiptera	common
<i>Cicadella viridis</i>	Cicadellidae	Hemiptera	common
<i>Doratura stylata</i>	Cicadellidae	Hemiptera	common
<i>Deltocephalus pulicarius</i>	Cicadellidae	Hemiptera	common
<i>Errastunus ocellaris</i>	Cicadellidae	Hemiptera	common
<i>lassus lanio</i>	Cicadellidae	Hemiptera	common
<i>Oncopsis carpini</i>	Cicadellidae	Hemiptera	common
<i>Oncopsis carpini</i>	Cicadellidae	Hemiptera	common
<i>Zonocyba bifasciata</i>	Cicadellidae	Hemiptera	common
<i>Coreus marginatus</i>	Coreidae	Hemiptera	common
<i>Conomelus anceps</i>	Delphacidae	Hemiptera	common
<i>Delphacinus mesomelas</i>	Delphacidae	Hemiptera	local
<i>Gerris (Gerris) lacustris</i>	Gerridae	Hemiptera	common
<i>Hydrometra stagnorum</i>	Hydrometridae	Hemiptera	common
<i>Cymus melanocephalus</i>	Lygaeidae	Hemiptera	common
<i>Heterogaster urticae</i>	Lygaeidae	Hemiptera	common
<i>Kleidocerys resedae</i>	Lygaeidae	Hemiptera	common
<i>Loricula elegantula</i>	Microphysidae	Hemiptera	common
<i>Acetropis (Acetropis) gimmerthalii</i>	Miridae	Hemiptera	common
<i>Amblytylus nasutus</i>	Miridae	Hemiptera	common
<i>Atractotomus mali</i>	Miridae	Hemiptera	common
<i>Blepharidopterus angulatus</i>	Miridae	Hemiptera	common
<i>Campyloneura virgula</i>	Miridae	Hemiptera	common
<i>Capsus ater</i>	Miridae	Hemiptera	common
<i>Closterotomus norwegicus</i>	Miridae	Hemiptera	common
<i>Deraeocoris flavilinea</i>	Miridae	Hemiptera	common
<i>Deraeocoris lutescens</i>	Miridae	Hemiptera	common
<i>Heterotoma planicornis</i>	Miridae	Hemiptera	common
<i>Leptopterna dolabrata</i>	Miridae	Hemiptera	common
<i>Liocoris tripustulatus</i>	Miridae	Hemiptera	common
<i>Lygocoris pabulinus</i>	Miridae	Hemiptera	common
<i>Lygocoris rugicollis</i>	Miridae	Hemiptera	common
<i>Megacoelum infusum</i>	Miridae	Hemiptera	common
<i>Megaloceroea recticornis</i>	Miridae	Hemiptera	common
<i>Notostira elongata</i>	Miridae	Hemiptera	common
<i>Orthotylus adenocarpis</i>	Miridae	Hemiptera	common
<i>Phylus coryli</i>	Miridae	Hemiptera	common
<i>Phylus melanocephalus</i>	Miridae	Hemiptera	common
<i>Phytocoris varipes</i>	Miridae	Hemiptera	common
<i>Phytocoris tiliae</i>	Miridae	Hemiptera	common
<i>Plagiognathus arbustorum</i>	Miridae	Hemiptera	common
<i>Plagiognathus chrysanthemi</i>	Miridae	Hemiptera	common
<i>Psallus assimilis</i>	Miridae	Hemiptera	common

<i>Psallus ambiguus</i>	Miridae	Hemiptera	common
<i>Psallus flavellus</i>	Miridae	Hemiptera	common
<i>Psallus perrisi</i>	Miridae	Hemiptera	common
<i>Psallus varians</i>	Miridae	Hemiptera	common
<i>Stenodema holsata</i>	Miridae	Hemiptera	common
<i>Stenodema laevigata</i>	Miridae	Hemiptera	common
<i>Stenotus binotatus</i>	Miridae	Hemiptera	common
<i>Teratocoris antennatus</i>	Miridae	Hemiptera	local
<i>Trigonotylus ruficornis</i>	Miridae	Hemiptera	common
<i>Himacerus (Himacerus) apterus</i>	Nabidae	Hemiptera	common
<i>Nepa cinerea</i>	Nepidae	Hemiptera	common
<i>Notonecta (Notonecta) glauca</i>	Notonectidae	Hemiptera	common
<i>Notonecta (Notonecta) viridis</i>	Notonectidae	Hemiptera	common
<i>Aelia acuminata</i>	Pentatomidae	Hemiptera	common
<i>Palomena prasina</i>	Pentatomidae	Hemiptera	common
<i>Pentatoma rufipes</i>	Pentatomidae	Hemiptera	common
<i>Piezodorus lituratus</i>	Pentatomidae	Hemiptera	common
<i>Cacopsylla peregrina</i>	Psyllidae	Hemiptera	common
<i>Craspedolepta nervosa</i>	Psyllidae	Hemiptera	common
<i>Psyllopsis fraxini</i>	Psyllidae	Hemiptera	common
<i>Psyllopsis fraxinicola</i>	Psyllidae	Hemiptera	common
<i>Trioza remota</i>	Triozidae	Hemiptera	common
<i>Trioza urticae</i>	Triozidae	Hemiptera	common
<i>Myrmus miriformis</i>	Rhopalidae	Hemiptera	common
<i>Chartoscirta cincta</i>	Saldidae	Hemiptera	common
<i>Physatocheila dumetorum</i>	Tingidae	Hemiptera	common
<i>Tingis ampliata</i>	Tingidae	Hemiptera	common
<i>Tingis cardui</i>	Tingidae	Hemiptera	common
<i>Trioza remota</i>	Triozidae	Hemiptera	common
<i>Trioza urticae</i>	Triozidae	Hemiptera	common
<i>Physella acuta</i>	Physidae	Hygrophila	common
<i>Andrena haemorrhoa</i>	Apidae	Hymenoptera	common
<i>Andrena fulva</i>	Apidae	Hymenoptera	common
<i>Bombus lapidarius</i>	Apidae	Hymenoptera	common
<i>Bombus pascuorum</i>	Apidae	Hymenoptera	common
<i>Bombus terrestris</i>	Apidae	Hymenoptera	common
<i>Hylaeus communis</i>	Colletidae	Hymenoptera	common
<i>Lasioglossum morio</i>	Colletidae	Hymenoptera	common
<i>Lasioglossum leucozonium</i>	Colletidae	Hymenoptera	common
<i>Cerceris rybyensis</i>	Crabronidae	Hymenoptera	common
<i>Pemphredon lugubris</i>	Crabronidae	Hymenoptera	common
<i>Ectemnius cephalotes</i>	Crabronidae	Hymenoptera	common
<i>Andricus quercuscalicis f. agamic</i>	Cynipidae	Hymenoptera	common
<i>Formica fusca</i>	Formicidae	Hymenoptera	common
<i>Lasius flavus</i>	Formicidae	Hymenoptera	common

<i>Myrmica scabrinodis</i>	Formicidae	Hymenoptera	common
<i>Temnothorax nylanderi</i>	Formicidae	Hymenoptera	common
<i>Bethylus dendrophilus</i>	Bethylidae	Hymenoptera	rare
<i>Vespula vulgaris</i>	Vespidae	Hymenoptera	common
<i>Armadillidium vulgare</i>	Armadillidiidae	Isopoda	common
<i>Oniscus asellus</i>	Oniscidae	Isopoda	common
<i>Philoscia muscorum</i>	Philosciidae	Isopoda	common
<i>Agriphila straminella</i>	Crambidae	Lepidoptera	common
<i>Opisthograptis luteolata</i>	Geometridae	Lepidoptera	common
<i>Biston betularia</i>	Geometridae	Lepidoptera	common
<i>Eranni defoliaria</i>	Geometridae	Lepidoptera	common
<i>Ourapteryx sambucaria</i>	Geometridae	Lepidoptera	common
<i>Cameraria ohridella</i>	Gracillariidae	Lepidoptera	common
<i>Parornix devoniella</i>	Gracillariidae	Lepidoptera	common
<i>Phyllonorycter coryli</i>	Gracillariidae	Lepidoptera	common
<i>Phyllonorycter nicellii</i>	Gracillariidae	Lepidoptera	common
<i>Celastrina argiolus</i>	Lycenidae	Lepidoptera	common
<i>Polyommatus icarus</i>	Lycenidae	Lepidoptera	common
<i>Stigmella aurella</i>	Nepticulidae	Lepidoptera	common
<i>Autographa gamma</i>	Noctuidae	Lepidoptera	common
<i>Nonagria typhae</i>	Noctuidae	Lepidoptera	common
<i>Agrotis exclamationis</i>	Noctuidae	Lepidoptera	common
<i>Phalera bucephala</i>	Notodontidae	Lepidoptera	common
<i>Aglais urticae</i>	Nymphalidae	Lepidoptera	common
<i>Aglais io</i>	Nymphalidae	Lepidoptera	common
<i>Coenonympha pamphilus</i>	Nymphalidae	Lepidoptera	common
<i>Maniola jurtina</i>	Nymphalidae	Lepidoptera	common
<i>Pararge aegeria</i>	Nymphalidae	Lepidoptera	common
<i>Pyronia tithonus</i>	Nymphalidae	Lepidoptera	common
<i>Vanessa atalanta</i>	Nymphalidae	Lepidoptera	common
<i>Pieris brassicae</i>	Pieridae	Lepidoptera	common
<i>Pieris rapae</i>	Pieridae	Lepidoptera	common
<i>Gonipteryx rhamni</i>	Pieridae	Lepidoptera	common
<i>Prays fraxinella</i>	Praydidae	Lepidoptera	common
<i>Luffia ferchaultella</i>	Psychidae	Lepidoptera	common
<i>Acrobasis advenella</i>	Pyralidae	Lepidoptera	common
<i>Nomophila noctuella</i>	Pyralidae	Lepidoptera	common
<i>Myelois circumvoluta</i>	Pyralidae	Lepidoptera	common
<i>Celypha lacunana</i>	Tortricidae	Lepidoptera	common
<i>Pandemis cerasana</i>	Tortricidae	Lepidoptera	common
<i>Tortrix vididana</i>	Tortricidae	Lepidoptera	common
<i>Limnephilus rhombicus</i>	Limnephilidae	Trichoptera	common
<i>Lithobius (Lithobius) forficatus</i>	Lithobiidae	Lithobiomorpha	common
<i>Conwentzia psociformis</i>	Coniopterygidae	Neuroptera	common
<i>Conocephalus fuscus</i>	Conocephalidae	Orthoptera	common

<i>Metrioptera roeselii</i>	Tettigoniidae	Orthoptera	common
<i>Graphopsocus cruciatus</i>	Stenopsocidae	Psocoptera	common
<i>Elipsocus hyalinus</i>	Elipsocidae	Psocoptera	common
<i>Mesopsocus immunis</i>	Mesopsocidae	Psocoptera	common
<i>Physa acuta</i>	Physidae	Pulmonata	naturalized
<i>Limax maximus</i>	Limacidae	Pulmonata	common
<i>Aegopinella nitidula</i>	Oxychilidae	Pulmonata	common
<i>Oxychilus (Oxychilus) cellarius</i>	Oxychilidae	Pulmonata	common
<i>Discus (Gonyodiscus) rotundatus</i>	Patulidae	Pulmonata	common
<i>Pisidium casertanum</i>	Sphaeriidae	Veneroida	common
<i>Helobdella stagnalis</i>	Glossiphoniidae	Rhynchobdellida	common

## Appendix 2. Summary of the IUCN categories and criteria.

### GB Rarity Status categories and criteria

- **Nationally Rare (NR)**

Native species which have not been recorded from more than 15 British hectads since 31st December 1979 and where there is reasonable confidence that exhaustive recording would not find them in more than 15 hectads. This category includes species which are probably extinct.

- **Nationally Scarce (NS)**

Native species which are not regarded as Nationally Rare AND which have not been recorded from more than 100 British hectads since 31st December 1979 and where there is reasonable confidence that exhaustive recording would not find them in more than 100 hectads.

### Other species status terminology.

- **Local.** Species that are restricted in distribution either geographically or by habitat. Also used for species that are widespread but infrequently encountered, e.g., encountered in no more than 300 10km squares of the national Ordnance Survey grid since 1970. Or those species listed as such, based upon modern geographical data, by ISIS (2010) and/or relevant recording schemes.
- **Common.** Generally widespread throughout the UK.

**ANNEX 4**

2021 Updated/Scoping Invertebrate

Survey Report

**COLIN PLANT ASSOCIATES (UK)**  
CONSULTANT ENTOMOLOGISTS

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Ecology Solutions Limited  
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Worcestershire  
WR12 7LJ

30 May 2021

Our Reference: CPA-21156

**Briefing Note: Land adjacent to Appledore Rd, Tenterden, Kent**

Dear George,

As requested we have made some brief notes and comments regarding the survey work undertaken at the above site between August 2019 and May 2021 to better understand our opinion that the existing 2020 invertebrate survey is both robust and still valid.

Firstly to clarify, we considered the existing single-visit invertebrate species list supplied by you in Appendix 10 of the 2019 Ecological Impact Assessment Report to be both competent and still valid. On the basis of the species included in this list, we estimated that the visit had been made sometime in mid-July and given the time constraints in 2021 (a mid-June reporting deadline), suggested we supplement these data with invertebrate sampling visits made in May and June, since many spring and early summer species were largely absent from the list.

Our visit to the site on 9th May 2021 has added numerous species to the 2019 list. In particular, early season arboreal true bugs (Hemiptera-Heteroptera) associated with oaks such as *Harpocera thoracica*, *Rhabdomiris striatellus*, *Miris striatus* and *Dryophilacorix flavoquadrinaculatus*, as well as true flies (Diptera) characteristic of woodland edge and field margins which were poorly represented in the 2019 list, for example *Epistrophe eligans*, *Melanostoma scalare* and *Gymnochaeta viridis*.

We were also able to add early season bees and wasps (Hymmenoptera), such as the solitary bees *Andrena fulva*, *Andrena haemorrhoa* and *Andrena chrysoseles*. Numerous beetle families were also under represented in the existing list, particularly those associated with spring blossom, as well as many common leaf-beetles, ladybirds, weevils and pollen beetles.

We were confident that other absent beetle families, for example soldier beetles, longhorn beetles and malachite beetles, as well as many expected Diptera species, would be picked up by the early June visit, when it was also hoped that weather conditions would be considerably better than those experienced during much of May.

However, now that the overlooked 2020 Invertebrate Survey has been brought to our attention, it is apparent that much of our additional May material is already included, as are many of the species that we would have expected to find during our June visit. There are a few surprises of course, both present and absent, but then no two invertebrate sampling visits are ever the same! It is the overall continuity between what we added (and would have expected to add) to the 2019 list and the list in the 2020 report that further reinforces our feelings that the site remains broadly unchanged and that the invertebrate survey your client currently holds is perfectly adequate and entirely fit for purpose.

We do not believe that inclusion of the species recorded in May 2021 that are not in the existing report (less than 40 species) would significantly alter the assessment of the site and we do not believe that their inclusion would warrant the time and expense of re-analysing and re-writing the report.

In conclusion, it is our opinion that the previous Invertebrate Survey (Denton, June 2020) remains robust, and that the data within it continues to represent the current condition of the survey area, which on initial view does not appear to contain invertebrate habitats that are likely to be significantly raised above that of the regional background level. However, it must be stressed that no detailed analysis of the available invertebrate data has taken place.

I hope that you will find this report adequate for your client's current needs.

With all best wishes,



Tristan Bantock  
Partner

**APPENDIX 4**

Email to Helen Forster (KCC) dated 20 August 2021  
- Ecological enhancements using green  
infrastructure and waterbodies within new  
development

**Vicky Rogan**

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**From:** Vicky Locke  
**Sent:** 20 August 2021 14:27  
**To:** Helen.Forster [REDACTED]  
**Cc:** Tim Goodwin; George Miles  
**Subject:** FW: Land off Appledore Road, Tenterden - Ecology 21/00790/AS (9349)  
**Attachments:** 9349.Ecological enhancements using green infrastructure and waterbodies within new development.pdf

**Categories:** Purple Category

Dear Helen

Many thanks for taking the time to meet me and George on site on Monday 16<sup>th</sup> August, hope you didn't end up getting wet before you got back to your car.

I promised I'd write to clarify a few points that you raised during the site visit and also just to recap on some of the concerns and issues that we discussed at the time.

#### Country Park

I have discussed with the client your concerns that the 'Country Park' can be interpreted as meaning quite a few different things and maybe much more formal than perhaps you or I had envisaged. However, I can confirm that the client's intention is to deliver a large area of open space managed on an informal basis, the main purpose of which is to deliver biodiversity gains both from a habitat point of view and for a number of species. Presently, we are thinking that it might be better to describe this part of the development proposals as Countryside Open Space which I think conveys a better understanding of what we are trying to achieve but I'd welcome any further views that you may have.

I appreciate that whatever the title this part of the site must capitalise on its delivery in biodiversity terms while also providing a recreational resource of an informal nature. This can obviously be achieved by either a planning condition or as part of the 106 legal agreement which would spell out that biodiversity is the primary target of what is a substantial tract of land being some 8.66 hectares.

#### Existing grasslands

I think our site visit was an ideal opportunity to get a better handle on the existing quality and diversity of the grasslands currently on site. As we discussed the grass species complement is high and apart from one or two limited locations there is no indication of over sowing with rye grass or something like brown top bent. In the past all of the meadows have been extensively grazed but there was no indication at the time that I originally visited the site, that this had led to a reduction in biodiversity of the flowering herb content. If it was simply over grazing one would have expected a relatively even distribution of the herb content once grazing ceased, but as you discovered on site there are vast areas which are devoid of a broad leafed component. As I discussed on site, my own take on this is that at some point in the past there has been a general herbicide application, as it's rare to come across a decent grass species complement and such a depleted forb element. It is exactly that observation which has led me to downgrade the existing grasslands and there is no evidence to substantiate a claim that they are 'unimproved'.

From past experience, I really don't consider that it would be difficult to achieve a far more diverse grassland element to both the areas we retain within the green corridors and within the Countryside Open Space and I have attached some examples that ESL or myself have been directly involved in, including briefing and overseeing the landscape contractors.

#### Hedgerows

You know already that the scheme design has based itself around the existing field pattern so that the existing hedgerow features are to be retained. As you commented on site many hedgerows can no longer be regarded as such a feature, many as you observed were lines of individual hedgerow species with no structure and little if any associated ground flora. I don't need to explain to you that hedgerows were established in the UK largely for two reasons, either to delineate an ownership / administrative boundary, or as a stock proof feature within which the owner of the land could be safe in the knowledge that their cattle / sheep could be retained. It's pertinent to remind ourselves that the hedgerow regulations make it clear that a line of individual vegetation does not qualify for protection. However, as I've already mentioned the intention is to retain, manage and enhance by laying where this is possible and by closing gaps with new planting. Those measures alone would be significant given that strong linear features provide a wealth of opportunities for wildlife movement, foraging, breeding and cover.

We also saw that there are a few hedgerows, now between 6 and 8 metres tall which provide a different set of opportunities particularly in terms of a food source where mature plants substantially bear more fruiting bodies, or nectar sources than a hedgerow which is cut and maintained. Both types I believe are important to have as a feature of the proposals.

#### Veteran trees

We examined on site a number of the most substantial veteran individuals, mostly of oak and the role that they would play in maintaining species connectivity across a wider landscape. As you will see from the aboricultural report that has already been submitted such trees are to be retained and linked as far as possible by green infrastructure. One of the points you raised in this regard was to ensure that light spill is avoided on any of these key features. As I suggested and indeed what my client has suggested in the past, is that this can be delivered and achieved via an appropriate condition which requires a scheme of lighting to be submitted to and agreed with the local planning authority. Like you I would want to ensure that lighting adjacent to any of the key green corridors is minimal and where absolutely necessary is achieved by low level bollard lighting to minimise light spill.

#### Existing ponds

We had the opportunity to look at some of the onsite ponds and again I think it was clear from our discussions, indeed agreement, that we could do so much better than the current position. Most are densely shaded with willow and hawthorn scrub, with little in the way of emergent and no true aquatic vegetation on a level that would provide the basic needs for key species groups, for example dragonflies. I couldn't agree more that any works would need to be done sensitively, but they are the type of works which are routinely carried out on Wildlife Trust reserves or indeed within statutory designated sites. The delivery of the benefit comes from ensuring that the management plan and landscape works have been properly thought out and are subsequently controlled and overseen by an ecologist with the requisite knowledge.

#### Protected species

From the surveys (past and present) bats, breeding birds, common reptiles and GCNs are the key issues. There is no indication from any of the work undertaken that we have something with very specialist or sensitive requirements. I don't believe it's beyond you and I to prepare an appropriate mitigation scheme for common reptiles, neither do I see any concern or limitations to delivering a significantly enhanced range of habitats of benefit to the more common bat species which the surveys indicate use the existing site. In terms of breeding birds these were relatively common species and largely those found in open countryside but no Skylark or Meadow Pipit were identified. This is probably as a result of over grazing in the past where the grassland vegetation would be too short to provide suitable breeding sites for either of these ground nesters, but also I believe it may be as a result of a reduction in invertebrate prey given the lack of the forb content of the grasslands themselves. As you know from the masterplan the proposals seek to enhance existing water features and provide new waterbodies within the green corridors and the Countryside Open Space. I have also attached some pictures of a scheme in Rugby where the population of GCNs has been significantly enhanced by the appropriate design and planting of the new ponds within green corridors, all of which were established in line with Natural England's green infrastructure publications and which Natural England are on record as saying it is an exemplar scheme for how green infrastructure should be delivered as part of development. I've used exactly the same principles in advising the design team on this site and this largely led to a reduction in units when compared with the original scheme.

BNG

As you know there has been much controversy over the use of the BNG and a significant difference between EPR (the previous ecological consultants representing the client) and the Wildlife Trust. I was brought on board for a second opinion and while there are some differences to my interpretation of the current value of the habitats on site, it is undeniable that the existing grasslands are at a relatively low base. They could not be described as anything other than in poor condition when one looks at the criteria associated with how to assess condition. It is that starting point which seems to generate the gap in disagreement between the various parties, but I hope that now you have seen the site in person you will be able to reflect better on that starting point. One must also remember that the BNG / metric is a 'tool' and nothing more, it is not the start, the middle or the end of an assessment undertaken by a professional ecologist, it is simply one process by which we measure biodiversity and the fact that it is unable to assess or ascribe a value for key species is a case in point.

I have no hesitation in saying that if you, I and any other party who wants to achieve biodiversity gains as part of this development work together we can deliver something equally as exciting as the green infrastructure at a site like Rugby.

Once you've had time to reflect on the site visit, the example photographs and my thoughts set out above I'd be grateful for a further consultation response and given where we are in terms of the planning process it would be very helpful to get an updated steer from you in the next seven days. I know when we discussed your latest response to the development proposals you pointed out that you rarely set out any of the good points but concentrate on the remaining concerns. While I understand that this is the position you adopt, others who may read your consultation response may do so in a different light and see none of the benefits that are both part of the scheme in terms of design but also the measures which can be secured by condition or legal agreement to your and the LPA's satisfaction.

Finally, I promised I would update you with the new round of surveys (we discussed many of the findings during our site visit) and I have since spoken to George who informs me that he will be circulating to you shortly the survey results / reports for badgers, reptiles, GCNs, invertebrates and breeding birds, if he has not already done so. As I mentioned on site there are no new issues which need to be assessed but the surveys give us an up-to-date position to enable us to fine tune the mitigation proposals.

I hope all of the above is clear but do come back to me if you want to discuss anything further, or you think that there are any additional concerns that I've forgotten to address, otherwise I look forward to your updated response as soon as possible.

Kind regards

Tim

**Dictated by and sent on behalf of Tim Goodwin by**

**Vicky Locke** | PA to Tim Goodwin



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# Ecological enhancements using green infrastructure and waterbodies within new development



Photo 1  
One of the  
existing ponds  
at Rugby



Photo 2  
Same  
waterbody as  
in Photo 1,  
enlarged and  
replanted  
within one of  
the green  
corridors



Photo 3  
One of the  
green  
corridors, the  
focus of  
which is wet  
tussocky  
grassland,  
particularly  
for GCNs



Photo 4  
A drier neutral  
grassland mix



141

Photo 5  
Existing pond  
in its  
agricultural  
setting



Photo 6  
Re-profiled  
with planting  
after eight  
months  
growth



Photo 7  
One of the  
artificially  
created ponds  
with shrub  
and tree  
planting and a  
rough  
grassland mix,  
all after eight  
months



Photo 8  
We created  
some wide  
but shallow  
basins to try  
and get  
swamp based  
habitats



Photo 9  
New pond within green  
corridor ahead of built form



Photo 10  
Photo from  
the same  
linear feature  
as Photo 9  
now with  
development,  
36 months  
after  
establishment



Photo 11  
Green corridor with  
informal pathway showing  
new development



Photo 12  
Species rich grassland  
achieved by over  
sowing into an existing  
poor sward



Photo 13  
Species rich grassland  
from a subsoil base





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