



# **Biodiversity Net Gain Assessment**

**Land south of the Den  
Richborough Road  
Sandwich  
Kent  
CT13 9JG**

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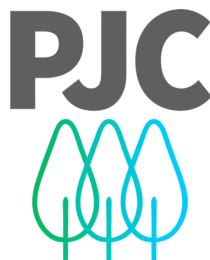
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arboriculture . ecology . landscape



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# 1 EXECUTIVE SUMMARY

1.1.1 PJC Consultancy Ltd were commissioned by Lauren Terraforte to undertake a Biodiversity Net Gain (BNG) assessment in relation to the proposed development of a parcel of land south of The Den, Richborough Road, Sandwich, Kent, CT13 9JG (hereafter referred to as the 'Site') to support a planning application for construction of eight holiday cabins with associated access track, parking and landscaping.

This report assesses the likely impacts of the proposed development on biodiversity. BNG is an approach to development that leaves biodiversity in a better state than before. The UK government's 25-year environment plan is focused on achieving BNG through development and the new Environment Bill will mandate a measurable 10% BNG for most new developments in England.

BNG is a move away from a traditional subjective and qualitative assessment to a more quantitative, measurable and transparent based assessment using the DEFRA biodiversity metric tool to quantify biodiversity losses and gains in terms of 'biodiversity units'. The DEFRA biodiversity metric tool can be used to calculate the ecological baseline value of a site pre-development and the predicted ecological value of a site post-development using detailed design proposals.

BNG still relies on the application of the mitigation hierarchy to avoid and mitigate for biodiversity losses. Compensation for losses that cannot be avoided should only be considered as a last resort. In the first instance, compensation for losses should be carried out within the development footprint. If this is not possible or does not generate the targeted biodiversity net gain, then it may be necessary to offset losses by compensation measures elsewhere.

This BNG Assessment, alongside the accompanying DEFRA 'Biodiversity Metric 4.0', aims to:

- Present the pre-development (baseline) biodiversity units;
- Present the anticipated post-development biodiversity units based on current detailed design information;
- Present a summary of the overall BNG assessment calculations; and (if necessary)
- Provide recommendations to achieve BNG target based on appropriate good practice principles.

Overall, the Site baseline generates 4.71 area-based habitat units, comprising of four broad area-based habitat types. The Site baseline also generates a total of 0.51 linear-based habitat units comprising of one broad linear-based habitat types.

Habitat clearance works required as part of the proposed development will result in the loss of 1.93 area-based and 0.00 linear-based habitat units.

Habitat enhancement and creation measures are anticipated to generate 6.73 area-based habitat units and 0.71 linear-based habitat units.

Overall, the proposed development is anticipated to result in a net change of +2.02 (43.03% net gain) area-based habitat units and a net change of +0.20 (40.02% net gain) linear-based habitat units.

Based on current design information, the proposed development is considered to achieve 10% BNG, largely due to enhancement of retained other neutral grassland parcels and increased tree planting within the Site.



## **2 INTRODUCTION**

### **2.1 Instruction**

- 2.1.1 PJC Consultancy Ltd were commissioned by Lauren Terraforte to undertake a Biodiversity Net Gain (BNG) assessment in relation to the proposed development of a parcel of land south of The Den, Richborough Road, Sandwich, Kent, CT13 9JG (hereafter referred to as the 'site') to support a planning application for construction of eight holiday cabins with associated access track, parking and landscaping.
- 2.1.2 This BNG assessment report should be read in conjunction with the initial preliminary ecological appraisal (PEA) ref: 5361E/23/01 (PJC Consultancy, 2023).

### **2.2 Background Information**

- 2.2.1 An Extended Phase 1 Ecological Habitat Survey Report, informed by an extended phase 1 habitat survey and preliminary bat roost assessment (PBRA) was initially undertaken by PJC Consultancy in August 2023 (document reference: 5361E/23/01). The initial report recommended avoidance and mitigation measures for protected and notable species.
- 2.2.2 PJC Consultancy Ltd were then provided with a Landscape Plan including a detailed planting schedule, drawing no: PJC.1229.00 Rev, produced by PJC Consultancy in December 2023.

### **2.3 Site Description and Baseline Conditions**

- 2.3.1 A full description of the Site can be found within the PEA report (PJC/5361E/23/01). The location of the buildings surveyed as part of this report can be seen within Appendix I.

### **2.4 Document Objectives**

- 2.4.1 The UK government's 25-year environment plan is focused on achieving BNG through development and the new Environment Bill will mandate a measurable BNG for most new developments in England. Furthermore, the National Planning Policy Framework (2023) sets out the Government's planning policies for England and places a responsibility on local planning authorities to identify and pursue opportunities for securing measurable gains for biodiversity when determining planning applications, likely through planning policies and decisions.
- 2.4.2 BNG is essentially an approach to development that leaves biodiversity in a better state than before.
- 2.4.3 Where a development has an impact on biodiversity it encourages developers to provide an increase in appropriate natural habitat and ecological features over and above that being affected in such a way it is hoped that the current loss of biodiversity through development will be halted and ecological networks can be restored.
- 2.4.4 BNG still relies on the application of the mitigation hierarchy to avoid and mitigate for biodiversity losses. Compensation for losses that cannot be avoided should only be considered as a last resort. In the first instance, compensation for losses should be carried out within the development footprint. If this is not possible or does not generate the targeted 10% biodiversity net gain, then it may be necessary to offset losses by compensation measures elsewhere.
- 2.4.5 Therefore, following CIEEM (2021) This BNG Assessment, alongside the accompanying DEFRA 'Biodiversity Metric 4.0', aims to:
- Present the pre-development (baseline) biodiversity units;
  - Present the anticipated post-development biodiversity units based on current detailed design information;
  - Present a summary of the overall BNG assessment calculations; and (if necessary)
  - Provide recommendations to achieve BNG target based on appropriate good practice principles.



## **2.5 Legislation and Planning Policy**

2.5.1 This BNG Feasibility report has been compiled with reference to relevant wildlife and countryside legislation, planning policy and the UK Biodiversity Framework. Their context and applicability is explained as appropriate in the relevant sections of the report and additional details are presented in Appendix II.

2.5.2 The key articles of relevance are:

- The Environment Act (2021);
- The Natural Environment and Rural Communities (NERC) Act 2006;
- National Planning Policy Framework (NPPF) 2023 (Ministry of Housing, Communities and Local Government, 2023);
- The UK Post-2010 Biodiversity Framework (2011-2020); and
- Dover District Local Plan to 2040 (Dover District Council, 2022).



### 3 METHODOLOGY

#### 3.1 Desk Study

- 3.1.1 A desk study was undertaken in November 2023 with the objective of collating and reviewing existing ecological information, and obtaining data and information held by relevant third parties.
- 3.1.2 In addition, datasets from Natural England (MAGIC, 2023) were reviewed to identify the presence of UK statutory designated sites and notable habitats within the zone of influence, including woodlands listed on the ancient woodland inventory, habitats of principal importance (HPI) listed on the priority habitat inventory and statutory designated for their nature conservation value at the national scale such as sites of scientific interest (SSSI) and at the European and/or international scale namely: special areas of conservation (SACs), special protection areas (SPAs), and internationally designated wetland (Ramsar) sites. These sites collectively are hereafter referred to as 'European Sites'.
- 3.1.3 Furthermore, Google Earth aerial imagery was reviewed to assess habitats within the Site and wider environment.
- 3.1.4 Data for sites within the zone of influence where European Protected Species Mitigation (EPSM) licences have been granted, were also reviewed. This information allows a greater understanding of the potential for European protected species to be present in the local area.
- 3.1.5 The zone of influence is the area over which ecological features, such as designated sites of nature conservation importance and protected and notable habitats and species, may be affected by the biophysical changes caused by the proposed development and associated activities. Due to the size of the Site and nature of the proposed development it is considered that a zone of 1km from the centre of the Site is appropriate for the gathering of information for the desk study.

#### 3.2 Extended Phase 1 Habitat Survey

- 3.2.1 An extended phase 1 habitat survey was undertaken on the 30<sup>th</sup> August 2023 by Naomi Cornwell BSc(Hons) MSc following the standard 'Phase 1 Habitat survey' auditing method developed by the Joint Nature Conservancy Council (JNCC, 2010) and extended to include consideration of protected species in accordance with good practice guidance for preliminary ecological appraisal (CIEEM, 2017).

#### 3.3 Approach to Biodiversity Net Gain

- 3.3.1 This BNG Assessment report adheres to the recognised Biodiversity Net Gain: Good Practice Principles for Development (CIEEM, CIRIA and IEMA, 2019).
- 3.3.2 The key principles of BNG are as follows:
- *Principle 1: The metric does not change the protection afforded to biodiversity;*
  - *Principle 2: Biodiversity metric calculations can inform decision-making where application of the mitigation hierarchy and good practice principles conclude that compensation for habitat losses is justified.*
  - *Principle 3: The metric's biodiversity units are only a proxy for biodiversity and should be treated as relative values. While it is underpinned by ecological evidence the units generated by the metric are only a proxy for biodiversity and, to be of practical use, it has been kept deliberately simple. The numerical values generated by the metric represent relative, not absolute, values;*
  - *Principle 4: The metric focuses on typical habitats and widespread species; important or protected habitats and features should be given broader consideration;*
  - *Principle 5: The metric design aims to encourage enhancement, not transformation, of the natural environment;*
  - *Principle 6: The metric is designed to inform decisions, not to override expert opinion;*



- *Principle 7: Compensation habitats should seek, where practical, to be local to the impact; and*
- *Principle 8: The metric does not enforce a mandatory minimum 1:1 habitat size ratio for losses and compensation but consideration should be given to maintaining habitat extent and habitat parcels of sufficient size for ecological function.*

### 3.3.3 The key rules of BNG are as follows:

- *Rule 1: Where the metric is used to measure change, biodiversity unit values need to be calculated prior to the intervention and post-intervention for all parcels of land / linear features affected.*
- *Rule 2: Compensation for habitat losses can be provided by creating new habitats, or by restoring or enhancing existing habitats.*

*Measures to enhance existing habitats must provide a significant and demonstrable uplift in distinctiveness and/or condition to record additional biodiversity units.*

- *Rule 3: 'Trading down' must be avoided. Losses of habitat are to be compensated for on a "like for like" or "like for better" basis. New or restored habitats should aim to achieve a higher distinctiveness and/or condition than those lost.*

*Losses of irreplaceable or very high distinctiveness habitat cannot adequately be accounted for through the metric.*

- *Rule 4: Biodiversity unit values generated by biodiversity metric 4.0 are unique to this metric and cannot be compared to unit outputs from version 3.1, the original Defra metric or any other biodiversity metric.*

*Furthermore, the three types of biodiversity units generated by this metric (for area, hedgerow and river habitats) are unique and cannot be summed.*

- *Rule 5: It is not the area/length of habitat created that determines whether ecological equivalence or better has been achieved but the net change in biodiversity units. Risks associated with creating or enhancing habitats mean that it may be necessary to create or enhance a larger area of habitat than that lost, to fully compensate for impacts on biodiversity.*

- *Rule 6: Deviations from the published methodology of biodiversity metric 4.0 need to be ecologically justified and agreed with relevant decision makers. While the methodology is expected to be suitable in the majority of circumstances it is recognised that there may be exceptions. Any local or project-specific adaptations of the metric must be transparent and fully justified.*

## 3.4 Competency of Assessor

- 3.4.1 The author of this report, Liam Mattingly BSc(Hons) has been a practising ecologist in ecological consultancy since 2021. During this time, Liam has assisted on and completed multiple BNG Assessments and accompanying reports, using both the DEFRA Metric 4.0 (and previous versions) and DEFRA Small Sites Metric.

## 3.5 Condition Assessment

- 3.5.1 A condition assessment of the current baseline habitat on Site was informed by the extended phase 1 habitat survey undertaken on the 30<sup>th</sup> August 2023 by Naomi Cornwell BSc(Hons) MSc following the standard 'Phase 1 Habitat survey' auditing method developed by the Joint Nature Conservancy Council (JNCC, 2010) and extended to include consideration of protected species in accordance with good practice guidance for preliminary ecological appraisal (CIEEM, 2017). The JNCC habitats codes were then translated into the 'UK habitat classification system' (developed by UKHab, 2023), using the Phase 1 translation tool within the Biodiversity Metric 4.0 Calculation Tool. The condition assessment aims to classify each habitat parcel found on Site and identify the quality of each habitat following The Biodiversity Metric 4.0 – Technical Annex 1: Condition Assessment Sheets (Natural England, 2023) and the original PEA.





### 3.6 Biodiversity Unit Calculation: Pre-Development (Baseline)

- 3.6.1 The total number of number of ‘habitat units’ and ‘hedgerow units’ (hereafter collectively referred to as ‘biodiversity units’) generated by the Site pre-development (the ecological baseline) was calculated for all area-based habitats (habitat units) and linear-based habitats (hedgerow units) within the Site, which accounts for the area/length, distinctiveness, condition, connectivity and strategic significance of each habitat parcel recorded. The ecological baseline was calculated using the DEFRA ‘Biodiversity Metric 4.0’.
- 3.6.2 The habitat type and area/length as well as the condition of each habitat parcel was informed from habitat data collected as part of the initial extended phase 1 habitat survey undertaken on 30<sup>th</sup> August 2023.
- 3.6.3 In accordance with recognised good practice principles, the Biodiversity Metric 4.0 excludes protected and irreplaceable habitats (i.e. ancient woodland, ancient and veteran trees, blanket bog, sand dunes, salt marsh and lowland fen).
- 3.6.4 The Biodiversity Metric 4.0 also accounts for various multipliers such as strategic significance. The strategic significance of each habitat accounts for whether or not each habitat is situated within an area identified locally, typically in a relevant policy of plan, as being of significant for nature.
- 3.6.5 The Biodiversity Metric 4.0 operates by applying a score or multiplier to each of these separate variables (distinctiveness, condition, ecological connectivity and strategic significance). It then multiplies the area/length of each habitat using each of these scores/multipliers to produce a number that represents the biodiversity unit value of each area-based habitat parcel (habitat units) and linear-based habitat (hedgerow units). The ecological baseline of the Site is calculated by totaling the habitat units across all area-based habitat parcels and hedgerow units all linear-based habitats within the Site.

#### Habitat Distinctiveness

- 3.6.6 Habitat distinctiveness is defined as a collective measure of biodiversity, including parameters such as species richness, diversity, rarity and the degree to which a habitat supports species rarely found in other habitats.
- 3.6.7 The distinctiveness of each habitat is preassigned in the Biodiversity Metric 4.0. The distinctiveness bands are based upon the UK Habitat Classification System. A combination of simple rules and expert judgement have been used to assign each habitat type to the appropriate distinctiveness band. The Defra distinctiveness bands and corresponding scores are as follows:
- Very high (8);
  - High (6);
  - Medium (4);
  - Low (2); and
  - Very low (0).

#### Habitat Condition

- 3.6.8 Habitat condition is defined as the quality of a particular habitat which measures the biological ‘working-order’ of a habitat type judged against the perceived ecological optimum state for that particular habitat, as it considers how many of the key physical characteristics and typical species of a particular habitat type are present in a habitat.
- 3.6.9 Habitat condition assessment bands were assigned to each habitat using condition assessment criteria detailed within the appropriate habitat condition sheet (refer to Appendix III) as presented in the Biodiversity Metric 4.0 Technical Supplement (Natural England, 2019). These condition assessment criteria list positive indicators for each habitat and indicate how many of these indicators



need to be present to meet certain thresholds of condition. The habitat condition bands and corresponding scores are as follows:

- Very high (8);
- High (6);
- Medium (4);
- Low (2); and
- Very low (0).

#### Strategic Significance

3.6.10 Strategic significance in the Biodiversity Metric 4.0 considers the importance of each habitat on a landscape scale, for example whether habitats are situated in preferred locations for biodiversity and other environmental objectives.

3.6.11 Strategic significance utilises published local plans and objectives to identify local priorities for targeting biodiversity and nature conservation objectives, such as Nature Recovery Areas/Networks, Biodiversity Opportunity Areas, local biodiversity action plans and green infrastructure strategies. In summary, proposed developments within areas of strategic significance are assigned a higher connectivity band and corresponding strategic position multiplier than proposed developments that are not situated within areas of strategic significance.

#### Measurement of Habitats

3.6.12 Baseline and proposed habitat areas were measured as distinct habitat parcels. Baseline habitat parcels were measured using habitat mapping, aerial imagery and proposed plans overlain in AutoCAD and GIS software.

### **3.7 Biodiversity Unit Calculation: Post-Development**

3.7.1 The total number of biodiversity units of the Site post-development was calculated using the 'Landscape Masterplan (Drawing No: PJC.1229.00 Rev A) (PJC Consultancy, 2023).

3.7.2 The area/length retained and enhanced of each area-based and linear-based habitat parcel previously identified as part of the ecological baseline calculation, and area of any newly created area-based and linear-based habitat parcel identified as part of the landscape proposals was inputted into the DEFRA Biodiversity Metric 4.0. The areas retained, enhanced and created is defined as the following:

- Area retained: Area of each habitat parcel kept on the Site and protected throughout any development or landscaping process and featuring in final detailed designs;
- Area enhanced: Area of each habitat parcel kept on the Site throughout any development or landscaping process but enhanced as part of the final detailed designs; and
- Area created: Area of each new habitat parcel created as part of the development or landscaping process and featuring in final detailed designs.

### **3.8 Limitations**

3.8.1 The total number of biodiversity units generated by the Site pre-development has been informed by data collected as part of the extended phase 1 habitat survey, aerial imagery and a desktop study. As such, the assessment is based on a number of important assumptions. This report aims to make any such assumptions explicit so that they can be reviewed or updated as appropriate. Given the various sources of information used and assessment/measurement tools used to inform these calculations, it is possible that minor discrepancies exist, particularly between the size and length of the baseline habitats. However, any discrepancies present are not anticipated to significantly influence the outcome of the various calculations and the overall BNG assessment.



- 3.8.2 In addition to aiming to achieve BNG within developments, developers must implement avoidance, mitigation, compensation and/or enhancement measures required to prevent harm to legally protected species (such as reptiles and nesting birds). Achieving BNG does not override the legal protection of these species and their habitats. Further information about avoidance, mitigation, compensation and/or enhancement measures required, are included in the Preliminary Ecological Appraisal (PJC Consultancy, 2023).
- 3.8.3 The total number of biodiversity units generated by the Site pre-development has been informed by data collected as part of the extended phase 1 habitat survey, aerial imagery and a desktop study. However, the ecological value of the Site post-development (number of area-based habitat units and linear-based habitat units post-development) has been informed by the design information that was available at the time within the detailed landscaping plan, drawing no: PJC.1229.00 Rev A, produced by PJC Consultancy (December 2023).
- 3.8.4 As such, the assessment is based on a number of important assumptions. This report aims to make any such assumptions explicit so that they can be reviewed or updated as appropriate. Given the various sources of information used and assessment/measurement tools used to inform these calculations, it is possible that minor discrepancies exist, particularly between the size and length of the baseline habitats and post-development habitats. However, any discrepancies present are not anticipated to significantly influence the outcome of the various calculations and the overall BNG Feasibility assessment.
- 3.8.5 In addition to aiming to achieve BNG within developments, developers must implement avoidance, mitigation, compensation and/or enhancement measures required to prevent harm to legally protected species (such as nesting birds and roosting bats). Achieving BNG does not override the legal protection of these species and their habitats. Further information about avoidance, mitigation, compensation and/or enhancement measures required, are included in the Preliminary Ecological Appraisal Report, document reference: PJC/5361E/23 (PJC Consultancy, 2023).



## 4 BIODIVERSITY UNIT CALCULATION: PRE-DEVELOPMENT (BASELINE)

### 4.1 Habitat Description

- 4.1.1 Overall, the Site supported parcels of other neutral grassland, tall ruderal, developed land/sealed surface, line of trees and line of trees with associated bank or ditch.
- 4.1.2 A full description of the Site can be found within the PEA report provided by PJC Consultancy, (5361E/23/03).

### 4.2 Irreplaceable Habitats

- 4.2.1 No irreplaceable habitats were identified as part of the extended phase 1 habitat survey.

### 4.3 Area Based Habitats

- 4.3.1 A total of three broad area-based habitat types were recorded within the Site during the extended phase 1 habitat survey.
- 4.3.2 A description of the habitat types, classification and condition as well as the total number of habitat units generated pre-development (ecological baseline), including the various attributes such as habitat distinctiveness, habitat condition, ecological connectivity and strategic significance of the area-based habitats, are presented in Table 1 below.

Table 1: Area-based Habitat Condition Assessment.

Habitat ID	BNG Habitat Type	Distinctiveness	Condition	Strategic Significance	Area (ha)	Habitat Units
1	Other grassland	neutral, Medium (4)	Passes 3-5 criteria, Area/compensation not including essential in local strategy/ no criterion A Moderate (2)	-local strategy - Low (1)	0.52	4.16
2	Ruderal/Ephemeral	Low (2)	Passes all 3 core criteria - Good (3)	Area/compensation not in local strategy/ no local strategy - Low (1)	0.023	0.14
3	Ruderal/Ephemeral	Low (2)	Passes all 3 core criteria - Good (3)	Area/compensation not in local strategy/ no local strategy - Low (1)	0.043	0.26
4	Ruderal/Ephemeral	Low (2)	Passes all 3 core criteria - Good (3)	Area/compensation not in local strategy/ no local strategy - Low (1)	0.025	0.15
5	Urban; Development land; sealed surface	N/A other	Condition Assessment N/A (1)	Area/compensation not in local strategy/ no local strategy - Low (1)	0.007	0.00
<b>Total</b>					<b>0.62</b>	<b>4.71</b>

- 4.3.3 Overall, the Site generated a total of 4.71 habitat units, with the areas of good quality modified grassland contributing the most habitat units.
- 4.3.4 A map displaying the extent of the area-based habitats on-Site, along with Site photographs, can be seen in Appendix III and Appendix IV of the PEA report (PJC Consultancy, 2023), respectively.
- 4.3.5 The area of each previously identified area-based habitat to be retained/lost and/or enhanced post-development and corresponding total number of habitat units to be retained/lost and/or enhanced post-development is presented in Table 2 below.



Table 2: Total number of 'area-based habitat units' generated by the Site pre-development which are to be retained and/or enhanced and total number of 'area-based habitat units' retained and lost within the Site post-development.

Habitat ID	Area of Habitat Retained (ha)	Baseline Habitat Units Retained	Area of Habitat Enhanced (ha)	Baseline Habitat Units Enhanced	Area of Habitat Lost (ha)	Habitat Units Lost
1	0.047	0.38	0.3005	2.4	0.17	1.38
2	0.00	0.00	0.00	0.00	0.02	0.14
3	0.00	0.00	0.00	0.00	0.04	0.26
4	0.00	0.00	0.00	0.00	0.03	0.15
5	0.00	0.00	0.00	0.00	0.01	0.00
<b>Total</b>	<b>0.047</b>	<b>0.38</b>	<b>0.3005</b>	<b>2.4</b>	<b>0.27</b>	<b>1.93</b>

#### 4.4 Linear-Based Habitats

- 4.4.1 A total of two linear-based habitat type was recorded within the Site during the extended phase 1 habitat survey.
- 4.4.2 The linear-based habitat conditions assessment is required for the habitat type line of trees and line of trees with associated ditch and is of a low distinctiveness (appendix III).
- 4.4.3 A description of the habitat type, classification and condition as well as the total number of habitat units generated pre-development (ecological baseline), including the various attributes such as habitat distinctiveness, habitat condition, ecological connectivity and strategic significance of the linear-based habitats, are presented in Table 3 below.

Table 3: Linear--based habitat condition assessment.

Hedge number	BNG Habitat Type	Distinctiveness	Condition	Strategic Significance	Length (km)	Habitat Units
1	Line of trees - associated with bank or ditch	Low (2)	Passes 3 or 4 criteria – Moderate (2)	Formally identified in local strategy - High (1.15)	0.082	0.38
2	Line of trees	Low (2)	Passes 3 or 4 criteria – Moderate (2)	Formally identified in local strategy - High (1.15)	0.028	0.13
<b>Total</b>					<b>0.11</b>	<b>0.51</b>

- 4.4.4 Overall, the Site generated a total of 0.51 linear-based habitat units, with the line of trees contributing all of the hedgerow units.
- 4.4.5 A map displaying the extent of the linear-based habitats, along with Site photographs, can be seen in Appendix III and Appendix IV of the PEA (PJC Consultancy, 2023), respectively.



4.4.6 The length of each previously identified linear-based habitat to be retained/lost, enhanced post-development and corresponding total number of habitat units to be retained/lost and/or enhanced post-development is presented in Table 4 below.

*Table 4: Total number of 'linear-based habitat units' generated by the Site pre-development which are to be retained and/or enhanced and total number of 'linear-based habitat units' retained and lost within the Site post-development.*

<b>Hedge number</b>	<b>Length of Habitat Retained (km)</b>	<b>Baseline Habitat Units Retained</b>	<b>Length of Habitat Enhanced (km)</b>	<b>Baseline Habitat Units Enhanced</b>	<b>Length of Habitat Lost (km)</b>	<b>Habitat Units Lost</b>
1	0.082	0.38	0.00	0.00	0.00	0.00
2	0.028	0.13	0.00	0.00	0.00	0.00
<b>Total</b>	<b>0.11</b>	<b>0.51</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>



## 5 BIODIVERSITY UNIT CALCULATION: POST-DEVELOPMENT

### 5.1 Area-Based Habitats

5.1.1 A total of three semi-natural and one artificial broad area-based habitat types are proposed to be created within the Site post-development. A description of the habitat types and classification are presented in Table 4 below.

Table 5: Area-based habitats created post-development.

Habitat ID	UK Habs Classification	Description
1	Developed land; sealed surface	Development proposals include the construction of 8 holiday cabins with associated parking, vehicular and pedestrian access.
2	Mixed scrub	Soft landscaping proposals include the natural screening comprised of 10 native woody scrub species and a creation of a wildflower seed mix understory.
3	Individual trees	Soft landscaping proposals include the planting of 142 trees including 7 native species. The species are predicted to achieve either 'medium' or 'small' size long term and this is accounted for within the metric.
4	Other neutral grassland	Soft landscaping proposals include the creation of wildflower rich grassland using a general-purpose wildflower seed mix contain 15 native UK wildflowers (Emorsgate EW2F). The management of the grassland will be for the benefit of ecology and biodiversity to establish the wildflowers within the seed mix.

5.1.2 The total number of area-based habitat units expected to be generated as a result of habitat creation measures post-development, is presented in Table 5 below.

Table 6: Total number of 'area-based habitat units' generated by the Site post-development through habitat creation measures.

BNG Habitat Type	Distinctiveness	Condition	Strategic Significance	Area (ha)	Habitat Units Delivered
Mixed Scrub	Medium (3)	Condition Assessment Good (3)	Area/compensation not in local -strategy/no local strategy - Low (1)	0.0515	0.43
Developed land; sealed surface	Very Low (1)	Condition Assessment N/A (1)	Area/compensation not in local -strategy/no local strategy - Low (1)	0.14	0.00
Rural tree	Medium (3)	Condition Assessment Moderate (2)	Formally identified in local -strategy - High (1.15)	0.57	2.00
Other neutral grassland	Medium (3)	Condition Assessment Moderate (2)	Area/compensation not in local -strategy/no local strategy - Low (1)	0.08	0.67
<b>Total</b>				<b>0.84</b>	<b>3.11</b>



5.1.3 Overall, post-development the proposals are anticipated to generate a total of 3.11 area-based habitat units through on-site habitat creation measures, most of which have been generated by significant native tree planting.

5.1.4 In addition to the above, the retained parcel of other neutral grassland is proposed to be enhanced post-development (see Table 6 below).

*Table 7: Area-based habitats enhanced post-development.*

Habitat ID	UK Habs Classification	Description
1	Other neutral grassland	The parcel of retained grassland will be enhanced through the seeding of a biodiverse seed mix and an appropriate management strategy for the benefit of the grassland on the currently over grazed grassland found on Site, increasing it to a good quality.

5.1.5 The total number of area-based habitat units expected to be generated as a result of habitat enhancement measures post-development, is presented in Table 7 below.

*Table 8: Total number of 'area-based habitat units' generated by the Site post-development through habitat enhancement measures.*

BNG Habitat Type	Distinctiveness	Condition pre-development	Condition post-development	Strategic Significance	Area (ha)	Habitat Units Delivered
Other neutral grassland	Medium (3)	Moderate (2)	Good (3)	Area/compensation not in local strategy/no strategy - Low (1)	0.3005	3.11
<b>Total</b>					<b>0.3005</b>	<b>3.11</b>

5.1.6 Overall, the proposals are anticipated to generate a total of 0.3005 area-based habitat units post-development, through on-site habitat enhancement measures, namely the enhancement of the retained parcels of other neutral grassland.

## 5.2 Linear-Based Habitats

5.2.1 A single linear-based habitat type is proposed within the Site post-development. A description of the habitat type and classification are presented in Table 8 below.

*Table 9: Linear-based habitats created post-development.*

Habitat ID	UK Habs Classification	Description
1	Native hedgerow	Landscape proposals include the planting of a native hedgerow within the Site. A minimum of five woody species will be planted per metre of hedgerow, in double staggered rows. The hedgerow will be managed on an annual rotation, whereby half of each hedgerow is cut in any one year. This will encourage a diverse structure to produce both a wide and dense hedgerow.

5.2.2 The total number of linear-based habitat units expected to be generated post-development, is presented in Table 10 below.





Table 10: Total number of 'linear-based habitat units' generated by the Site post-development through habitat creation measures.

<b>BNG Habitat Type</b>	<b>Distinctiveness</b>	<b>Condition pre-development</b>	<b>Strategic Significance</b>	<b>Area (ha)</b>	<b>Habitat Units Delivered</b>
Native hedgerow	Low (2)	Moderate (2)	Area/compensation not in local strategy/no local strategy - Low (1)	0.3005	3.11
<b>Total</b>				<b>0.3005</b>	<b>3.11</b>

5.2.3 Overall, post-development the proposals are anticipated to generate a total of 3.11 linear-based habitat units through habitat creation measures.



## **6 DISCUSSION**

- 6.1.1 BNG calculations, using the Biodiversity Metric 4.0 have been undertaken for the proposed development. The ecological baseline calculations have been informed by the findings of the extended phase 1 habitat survey and desk-stop study.
- 6.1.2 Overall, pre-development the Site generates 4.71 area-based habitat units and 0.51 linear-based hedgerow units.
- 6.1.3 Post-development, development proposals (including soft landscaping proposals) are anticipated to generate 6.73 area-based habitat units and 0.71 linear-based habitat units through on-site habitat creation and enhancement measures. This represents a net-gain of 2.02 area-based habitat units which equates to a net % change of 43.03%, and a net-gain of 0.2 linear-based habitat units which equates to a net % change of 40.02%. The majority of area-based habitat units generated post-development are anticipated to be generated through the enhancement of the retained other neutral grassland and the significant native tree planting measures.
- 6.1.4 It should also be noted that all trading rules (see DEFRA 'Biodiversity Metric 4.0') have been satisfied.
- 6.1.5 It is therefore considered that, with the current landscaping plan and layout, that the proposed development is likely to deliver it's BNG targets on the provision that the habitats created and enhanced are managed appropriately according to a LEMP which will detail the requirements for achieving the target condition consistently over the 30-year period.



## 7 REFERENCES

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## **8 APPENDICES**

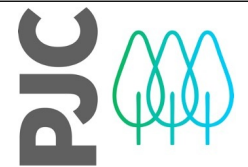
### **Appendix I: Site location map**



**LEGEND:**

- Anticipated development footprint
- Site boundary

**STATUS:** FOR INFORMATION ONLY



Sussex Office: Rocks Yard, Victoria Rd, Herstmonceux, Hailsham, BN27 4TQ.  
 T: 01323 832120.  
 Kent Office: Unit 1, Hanover Mill, Mersham, Nr Ashford, Kent, TN25 6NU.  
 T: 01233 225365  
 E: [contact@pjconsultancy.com](mailto:contact@pjconsultancy.com)  
 W: <https://www.pjconsultancy.com>

**CLIENT:** Lauren Terraforte

**PROJECT:** Land south of The Den  
 Richborough  
 CT13 9JG

**TITLE:** Appendix I: Site Location Plan

<b>SCALE AT A4:</b> 1:1,604	<b>DRAWN:</b> NC	<b>APPROVED:</b> TK
<b>PROJECTION:</b> EPSG:27700	<b>DATE:</b> 15/09/23	<b>DATE:</b> 25/09/23

**DRAWING No:** PJC/5361E/23/A1/V1



## Appendix II: Legislation and Planning Policy

### Legislation

#### The Environment Act (2021)

The Environment Act (2021) is the UK's framework of environmental protection, post Brexit, and provides binding targets for improving air quality, water, biodiversity, and waste reduction. The Environment Act requires all development schemes in England (that are subject to Town and Country Planning Act 1990) to deliver a mandatory 10% biodiversity net gain (BNG) to be maintained for a period of at least 30 years. The concept seeks measurable improvements for biodiversity by creating or enhancing habitats in association with development. Key parts of the Environment Act 2021 which relate to BNG and its delivery are Part 6: Nature and Biodiversity and the supporting Schedule 14, particularly sections 9(3), 13(1), 14(2) and 15.

#### The Natural Environment and Rural Communities Act (NERC) 2006

Section 40 of the Act requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'. Section 41 of the Act provides a list of habitats and species, which are of 'principal importance for the conservation of biodiversity.' This list aids decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications.

### Biodiversity Policies

#### National Planning Policy Framework (NPPF) 2023

Published in 2023 the NPPF sets out the Government's planning policies for England and how these are expected to be applied by local authorities. It replaces all the Planning Policy Statements and Guidance (PPSs and PPGs). The NPPF emphasises the need for sustainable development, whilst specifying the need for protection of designated sites and priority habitats and priority species (as listed in section 41 of the Natural Environment and Rural Communities (NERC) Act 2006). Paragraph 174 of The National Planning Policy Framework (NPPF) states:

"Planning policies and decisions should contribute to and enhance the natural and local environment by:

- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
- minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and



- remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.”

Paragraph 179 states that “to protect and enhance biodiversity and geodiversity, plans should:

- Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.”

Furthermore, paragraph 185 states that when determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:

- if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

Paragraph 181 states:

“The following should be given the same protection as habitats sites:

- potential Special Protection Areas and possible Special Areas of Conservation;
- listed or proposed Ramsar sites; and
- sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.”

Paragraph 182 states:

“The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.”



#### The UK Biodiversity Framework (2011-2020).

The UK Biodiversity Framework is an important framework that is owned, governed and implemented by the four UK countries, assisted by Defra and JNCC in their UK co-ordination capacities. Although differing in details and approach, the four UK countries have published strategies which promote the same principles and address the same global targets: joining-up our approach to biodiversity across sectors; and identifying, valuing and protecting our 'Natural Capital' to protect national well-being now and in the future. This new framework has been developed to enhance the recovery of priority habitats and species in England (published under section 41 of the NERC Act 2006), thereby contributing to the delivery of the England Biodiversity Strategy. The framework has been developed and endorsed by the England Biodiversity Group and wider partnership. It is the starting point for a more integrated approach to biodiversity conservation in England, building on the strengths of the former UK Biodiversity Action Plan (BAP) process and improving those areas where insufficient progress was being made.

#### Dover District Local Plan to 2040

The Dover District Local Plan to 2040 (Dover District Council, 2022) sets out the relevant policies for the control of development with regards to the natural environment and biodiversity.

#### *NE1 - Biodiversity Net Gain*

1. Development proposals must provide a minimum of 10% biodiversity net gain above the ecological baseline and in accordance with the Biodiversity Net Gain SPD. Proposals for biodiversity net gain must:

- be provided as part of the development, within the development site boundary. Only if it can be demonstrated that ecologically meaningful biodiversity net gain cannot be achieved within the site boundary will the Council consider off-site alternatives in line with the mitigation hierarchy approach;
- be provided above the agreed pre-development ecological baseline of the site, for both area and linear habitats, and in addition to any loss;
- focus on local priorities and be informed by the Kent Local Nature Recovery Strategy, the Dover District Green Infrastructure Strategy and the Kent Biodiversity Strategy;
- be secured for a minimum of 30 years after completion;
- be informed by a comprehensive understanding of habitats and species associated with the site, to include survey and assessment work carried out by suitably qualified professionals and relevant information from the Kent and Medway Biological Records Centre; and
- follow the mitigation hierarchy and demonstrate by appropriate project design, evidence of adequate avoidance, minimisation and mitigation measures. Where harm to wildlife habitats cannot be avoided or adequately mitigated, appropriate compensation measures will be sought as a last resort.

2. Biodiversity net gain must be in addition to any form of compensation.

3. All planning applications must be supported by a Biodiversity Net Gain Plan and supporting reports with information to demonstrate how at least 10% biodiversity net gain will be achieved, including:

- use of the applicable and most up-to-date DEFRA metric calculation, including breakdown of stages;
- an assessment of the likely effects of the development and changes to the ecological baseline; iii details of the ecological assessments to include both qualitative and quantitative evidence;
- details of the design and location of the proposals; and
- details of how the net gain proposals will be implemented, managed and maintained.





4. Biodiversity net gain proposals will be secured by condition and/or legal agreement. This will include a requirement to cover the Council's costs associated with the long-term monitoring of the biodiversity net gain proposals.

5. Applications for change of use in order to create biodiversity sites in appropriate locations, including biodiversity enhancement sites and sites associated with the Strategic Priorities of the Dover Green Infrastructure Strategy, and the Local Nature Recovery Strategy when adopted, will be supported.



**Appendix III: Habitat condition sheets**

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)			
UK Habitat Classification (UKHab) Habitat Type(s)			
<b>Grassland - Lowland calcareous grassland</b> <b>Grassland - Lowland dry acid grassland</b> <b>Grassland - Lowland meadows</b> <b>Grassland - Other lowland acid grassland</b> <b>Grassland - Other neutral grassland</b> <b>Grassland - Tall herb communities (H6430)</b> [Note Tall herb habitat that does not meet the Annex 1 definition should be recorded as 'Other neutral grassland'] [Not to be confused with the Tall forbs secondary code – see UKHab guidance for details.] <b>Grassland - Upland acid grassland</b> <b>Grassland - Upland calcareous grassland</b> <b>Grassland - Upland hay meadows</b>			
<b>Site name and location</b>	The Den	<b>On-site or off-site</b>	On-site
<b>Limitations (if applicable)</b>		<b>Survey reference (if relating to a wider survey)</b>	
<b>Grid reference</b>	TR 32293 58983	<b>Habitat parcel reference</b>	G1
Habitat Description			
poor semi-improved grassland of a short sward (approximately <5- 10cm) which was considered consistent with the fact that the Site was used for grazing horses. Species recorded here included perennial ryegrass <i>Lolium perenne</i> , red fescue <i>Festuca rubra</i> , cocksfoot <i>Dactylis glomerata</i> , common bent <i>Agrostis capillaris</i> , annual meadowgrass <i>Poa annua</i> , Yorkshire fog <i>Holcus lanatus</i> , bristly oxtongue <i>Helminthotheca echioides</i> , spear thistle <i>Cirsium vulgare</i> , meadow foxtail <i>Alopecurus pratensis</i> , mouse ear chickweed <i>Cerastium arvense</i> , ribwort plantain <i>Plantago lanceolata</i> , selfheal <i>Prunella vulgaris</i> , dock <i>Rumex sp.</i> , meadow buttercup <i>Buttercup sp.</i>			
<a href="#">ukhab – UK Habitat Classification</a>			
Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by UKHab for the specific grassland habitat type are consistently present.  <b>Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.</b>	Y	
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Y	
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens <sup>1</sup> .	Y	
D	Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5%.	Y	
E	Combined cover of species indicative of sub-optimal condition <sup>2</sup> and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.  If any invasive non-native plant species <sup>3</sup> (as listed on Schedule 9 of WCA <sup>4</sup> ) are present, this criterion is automatically failed.	N	

Additional Criterion - must be assessed for all non-acid grassland types			
F	There are 10 or more vascular plant species per m <sup>2</sup> present, including forbs that are characteristic of the habitat type (species referenced in Footnote 2 and 4 cannot contribute towards this count).  <b>Note - this criterion is essential for achieving Good condition for non-acid grassland types only.</b>	N	
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		N	
Number of criteria passed		4	
Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓	
<b>Acid Grassland Types (Result out of 5 criteria)</b>			
Passes 5 criteria	Good (3)		
Passes 3 or 4 criteria	Moderate (2)		
Passes 2 or fewer criteria	Poor (1)		
<b>Non-acid grassland Types (Result out of 6 criteria)</b>			
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)		
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)	Y	
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)		
<b>Suggested enhancement interventions to improve condition score</b>			
<b>Notes</b>			
<p><b>Footnote 1</b> – For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.</p> <p><b>Footnote 2</b> - Species indicative of sub-optimal condition for this habitat type include: creeping thistle <i>Cirsium arvense</i>, spear thistle <i>Cirsium vulgare</i>, curled dock <i>Rumex crispus</i>, broad-leaved dock <i>Rumex obtusifolius</i>, common nettle <i>Urtica dioica</i>, creeping buttercup <i>Ranunculus repens</i>, greater plantain <i>Plantago major</i>, white clover <i>Trifolium repens</i> and cow parsley <i>Anthriscus sylvestris</i>. There may be additional relevant species local to the region and or site.</p> <p><b>Footnote 3</b> – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, by applying professional judgement.</p> <p><b>Footnote 4</b> – Wildlife and Countryside Act 1981 (as amended).</p>			

Condition Sheet: LINE OF TREES Habitat Type												
Habitat Type(s)												
<b>Line of trees</b>												
<b>Line of trees – associated with bank or ditch</b>												
<b>Ecologically valuable line of trees</b>												
<b>Ecologically valuable line of trees – associated with bank or ditch</b>												
Habitat Description												
A treeline was recorded along the eastern boundary of the Site lining a dry ditch, comprising predominantly of mature hawthorn <i>Crateagus monogyna</i> and semi-mature elder <i>Sambucus nigra</i> . There was a ground flora of nettle <i>Urtica dioica</i> , grasses of a longer sward, willowherb <i>Epilobium</i> sp., and ivy <i>Hedera helix</i> .												
See the Biodiversity Metric 4.0 User Guide Section 9. This assessment is based on the Hedgerow Survey Handbook <sup>1</sup> . For further clarifications please refer to the Handbook. Where ancient and veteran trees are present within the line of trees, see Footnote 2 for standing advice.												
Site name and location		The Den		On-site or off-site		On-site						
Limitations (if applicable)				Survey reference (if relating to a wider survey)								
Condition Assessment Criteria		Habitat parcel reference										Notes (such as justification)
		L1	L2									
		Grid reference										
		TR	TR									
		32339	32258									
		58982	58943									
		Criterion passed (Yes or No)										
A		Y	Y									
B		Y	Y									
C		N	N									
D		N	Y									
E		Y	Y									
Number of criteria passed		3	4									
Condition Assessment Result (out of 5 criteria)		Condition Assessment Score		Score Achieved ×/✓								
Passes 5 criteria		Good (3)										
Passes 3 or 4 criteria		Moderate (2)		Y	Y							
Passes 2 or fewer criteria		Poor (1)										
Suggested enhancement interventions to improve condition score												
Allow trees to mature through appropriate management so the trees develop ecological niches.												
Footnotes												



Essential criteria relevant for habitat type achieved (Yes or No)		Y	Y	Y											
Number of criteria passed		3	2	3											
Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓													
Results for habitats requiring assessment of 3 core criteria only (all listed urban habitats except Open mosaic habitat on previously developed land, Bioswale, SuDS and Green roofs) :															
<ul style="list-style-type: none"> <li>• Passes all 3 core criteria;</li> <li>AND</li> <li>• Meets the requirements for Good condition within criterion C.</li> </ul>	Good (3)	Y	Y	Y											
<ul style="list-style-type: none"> <li>• Passes 2 of 3 core criteria;</li> <li>OR</li> <li>• Passes 3 of 3 core criteria but does not meet the requirements for Good condition within criterion C.</li> </ul>	Moderate (2)														
<ul style="list-style-type: none"> <li>• Passes 0 or 1 of 3 core criteria.</li> </ul>	Poor (1)														
Results for Green roofs (requiring assessment of 4 criteria only - core criteria plus additional criterion specified for habitat type):															
<ul style="list-style-type: none"> <li>• Passes all 3 core criteria;</li> <li>AND</li> <li>• Meets the requirements for Good condition within criterion C;</li> <li>AND</li> <li>• Passes additional criterion relevant to specific habitat type (F or G).</li> </ul>	Good (3)														
<ul style="list-style-type: none"> <li>• Passes 2 or 3 of 4 criteria;</li> <li>OR</li> <li>• Passes 4 of 4 criteria but does not meet the requirements for Good condition within criterion C.</li> </ul>	Moderate (2)														
<ul style="list-style-type: none"> <li>• Passes 0 or 1 of 4 criteria.</li> </ul>	Poor (1)														
Results for Open mosaic habitat on previously developed land, Bioswale or SuDS (requiring assessment of 5 criteria - core criteria plus additional criteria specified for habitat type):															
<ul style="list-style-type: none"> <li>• Passes all 3 core criteria;</li> <li>AND</li> <li>• Meets the requirements for Good condition within criterion C;</li> <li>AND</li> <li>• Passes all additional criteria relevant to specific habitat type (Group D or Group E).</li> </ul>	Good (3)														
<ul style="list-style-type: none"> <li>• Passes 3 or 4 of 5 criteria;</li> <li>OR</li> <li>• Passes 5 of 5 criteria but does not meet the requirements for Good condition within criterion C.</li> </ul>	Moderate (2)														
<ul style="list-style-type: none"> <li>• Passes 2 or fewer of 5 criteria.</li> </ul>	Poor (1)														
Suggested enhancement interventions to improve condition score															
Footnotes															



## **Appendix IV: Post-development habitat landscape plan**



**GRASSWORKS SCHEDULE - TURF, PRE-SEED SOIL & SEEDING**

**WILDFLOWER TREATMENT - Emorgate EM2F Standard General Purpose Wild**  
 Product code: Emorgate EM2F Standard General Purpose Wild  
 Total approx. area 3,055 m<sup>2</sup>  
 Sowing Rate: 1.5 g/m<sup>2</sup>

EM2F is a mixture containing 100% native wildflowers for sowing into existing grass. This wildflower mixture contains species that are characteristic of traditional meadows and grassland across a wide range of soil types.

Mix made up of 15 UK native wildflowers, 100% wildflowers (REGULAR MANAGEMENT OF GRASSLAND PROPOSED)

Wild Flowers - 100%	Common name
<i>Achillea millefolium</i>	Yarrow
<i>Agropyron repens</i>	Agropyron
<i>Centaurea nigra</i>	Common Knapsweed
<i>Dianthus carota</i>	Wild Carrot
<i>Rumex acetosa</i>	Common Sorrel
<i>Galium verum</i>	Lady's Bedstraw
<i>Knautia arvensis</i>	Field Scabious
<i>Lucentherum vulgare</i>	Oxeye Daisy
<i>Malva moschata</i>	Musk Malow
<i>Plantago lanceolata</i>	Ribwort Plantain
<i>Pteridium aquilinum ssp. sarracense</i>	Selagin
<i>Primula veris</i>	Cowslip
<i>Ranunculus acris</i>	Meadow Buttercup
<i>Stellaria media</i>	Red Campion
<i>Rhinanthus minor</i>	Yellow Rattle

**WOODLAND BIODIVERSITY ENHANCEMENT WILDFLOWER SEED MIX**  
 PROPOSED WOODLAND OVER SEEDING  
 Mix: Emorgate EW1 - WOODLAND MIXTURE  
 Total approx. area 315 m<sup>2</sup>  
 Sowing Rate: 4 g/m<sup>2</sup>

Wild Flowers - 20%	Common name
<i>Alfalfa pratensis</i>	Garlic Mustard
<i>Alfalfa sativa</i>	Ramsons
<i>Anthriscus sylvestris</i>	Cow Parsley
<i>Actium minus</i>	Lesser Black-bell
<i>Aium maculatum</i>	Lords-and-Ladies
<i>Chaerophyllum temulum</i>	Rough Chervil
<i>Cuscuta topepra</i>	Crowfoot
<i>Digitalis purpurea</i>	Floerow
<i>Filipendula ulmaria</i>	Meadowweet
<i>Geum urbanum</i>	Wood Awns
<i>Hydrocotyle non-scripta</i>	Burhead
<i>Hei foetidissima</i>	Jack-in-the-box
<i>Furcula vagans</i>	Sediment
<i>Stellaria media</i>	Red Campion
<i>Teucrium scorodonia</i>	Wood Sage
<i>Tortula spicata</i>	Upright hedge-parisley

Grasses - 80%	Common name
<i>Agrostis capillaris</i>	Common Bore
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass (w)
<i>Bachypodium sylvaticum</i>	Crested Dogtail
<i>Cynopsis cristata</i>	Tufted Hair-grass (w)
<i>Deschampsia cespitosa</i>	Red Fescue
<i>Poa nemoralis</i>	Wood Meadow-grass

**PLANT SCHEDULE**

Trees marked position each with two post and timber crossbar installed with air bracing and clear spiral ratchet guard with the exception of multi-stem specimens.

QUANTITY	SPECIES	TYPE	HEIGHT cm	GIRTH cm	FORM
6 No.	<i>Acer campestre</i>	Std	350-450cm	12-14cm	CC
3 No.	<i>Alnus glutinosa</i>	Std	350-450cm	12-14cm	CC
4 No.	<i>Carpinus betulus</i>	Std	350-450cm	12-14cm	CC
30 No.	<i>Corylus avellana</i>	Std	175-200cm	Multi-stem	CC
87 No.	<i>Crataegus monogyna</i>	Std	175-200cm	Multi-stem	CC
4 No.	<i>Malus sylvestris</i>	Std	350-450cm	12-14cm	CC
8 No.	<i>Prunus avium</i>	Std	350-450cm	12-14cm	CC

**UK NATIVE MIXED SPECIES HEDGE - Total length of mixed hedge throughout the scheme 43.3m**  
 Double staggered row - 5 per metre for bareroot stock. Planting in species groups of 3 excluding Ilex and Rosa. All whip planting to be installed with Mini Rainbow Treeco Biodegradable Vole Spiral Guard and 900mm canes with the exception of Ilex aquifolium and Rosa canina which should be installed with plastic mesh guard and sawn timber stake.  
 Dressed with 75mm organic bark mulch each at base.

PERCENTAGE	QUANTITY	SPECIES	HEIGHT cm	TYPE	SIZE
2%	12 No.	<i>Carpinus betulus</i>	90-120	BR	-
2%	12 No.	<i>Cornus sanguinea</i>	60-80	BR	-
20%	45 No.	<i>Corylus avellana</i>	60-80	BR	-
40%	100 No.	<i>Crataegus monogyna</i>	90-120	BR	-
15%	30 No.	<i>Ilex aquifolium</i>	20-30	CC	2x
2%	7 No.	<i>Lonicera periclymenum</i>	60-80	CC	2x
5%	12 No.	<i>Malus sylvestris</i>	40-60	BR	-
3%	7 No.	<i>Rosa canina</i>	40-60	BR	-
Stock Total: 235					

**WOODLAND BIODIVERSITY ENHANCEMENT PLANTING MIX**  
 Planted randomly throughout mix in species groups of 3 or 5 together. Planting density / spacing at 1000mm centres & within gaps. All whip planting to be installed with Bio-Grid Biodegradable Plastic-Free Tree Shelter Guard and Treated Sawn Stakes with the exception of Ilex aquifolium & Pinus sylvestris which should be installed with plastic mesh guard and sawn timber stake. Mulch application to base of all planting approx. 0.2m<sup>2</sup> (spilling for woodland seed mix application).  
 Approx. Area 315 m<sup>2</sup>

PERCENTAGE	QUANTITY	SPECIES	SIZE (MM)	TYPE	SPACING (MM)
30%	103 No.	<i>Cornus sanguinea</i>	600-800	BR	1000
20%	68 No.	<i>Cornus avellana</i>	600-800	BR	1000
20%	103 No.	<i>Crataegus monogyna</i>	600-800	BR	1000
10%	32 No.	<i>Ilex aquifolium</i>	600-800	CC	1000
10%	32 No.	<i>Malus sylvestris</i>	400-600	BR	1000
10%	32 No.	<i>Prunus avium</i>	900-1200	BR	1000
3%	10 No.	<i>Sorbus aucuparia</i>	600-800	BR	1000
3%	12 No.	<i>Sorbus torminalis</i>	900-1200	BR	1000
2%	7 No.	<i>Sorbus torminalis</i>	400-600	BR	1000
Stock 514					

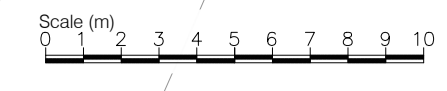
**TREE PIT SANDRIES / SPECIFICATION**

Tree pit sandries available from Green Blue Urban: <http://www.greenblue.com.au/> (or similar)

25 x Large A/Bs required in total

QUANTITY	SPECIES	HEIGHT cm (at PLANTING)	GIRTH cm (at PLANTING)	PROJECTED CANOPY COVER AREA m <sup>2</sup> (@ 25%)
6 No.	<i>Acer campestre</i>	350-450cm	13-14cm	39.20 m <sup>2</sup>
3 No.	<i>Alnus glutinosa</i>	350-450cm	12-14cm	24.00 m <sup>2</sup>
4 No.	<i>Carpinus betulus</i>	350-450cm	12-14cm	13.30 m <sup>2</sup>
4 No.	<i>Malus sylvestris</i>	350-450cm	12-14cm	18.90 m <sup>2</sup>
8 No.	<i>Prunus avium</i>	350-450cm	12-14cm	40.40 m <sup>2</sup>

Tree Pit Irrigation System:  
 25 x 1/2" (12.5mm) round stake kits with half round cross bar, rubber A/B block and strapping.  
 Tree Pit Irrigation System:  
 25 x RooterRam Urban: The RooterRam Urban is a large capacity irrigation system with a fixed grid base, particularly suited to open spaces and roadside verge tree planting in softscape.  
 Spec: Length 3m Diameter 60mm Inlet (Stainless Steel) 80mm Weight: 1kg



**KEY**

**soft landscape**

- EXISTING RETAINED TREES: Retained trees and canopy boundary of existing trees, shrubs & hedges positioned approximately from the existing site.
- PROPOSED TREE PLANTING: Standard tree planting proposed. Minimum 400mm depth of specific purpose free draining topsoil to BS 3882:2015 for tree planting (see Plant Schedule for further details & quantities of trees).
- PROPOSED TREE PLANTING: PROJECTED CANOPY AT 25 YEARS FROM PLANTING: Proposed canopy radius and canopy m<sup>2</sup> shown by dashed line. (see - Projected Canopy Cover Schedule for further details).
- HEDGE PLANTING - SINGLE & MIXED UK NATIVE SPECIES: Staggered Double rows, 5 plants per linear metre for bareroot stock. Installed with Mini Rainbow Treeco Biodegradable Vole Spiral Guard and 900mm canes. (see Plant Schedule for further details).
- WOODLAND BIODIVERSITY ENHANCEMENT PLANTING MIX: Staggered planting rows with max installed at 2000mm centres. Minimum 200mm depth of imported specific purpose free draining topsoil to BS 3882:2015 for each planting pit (see Plant Schedule for further details).
- GRASSWORKS - EXISTING GRASSWORKS / PADDOCK GRASS OVERSEEDED BY WILDFLOWER SEED MIX: Emorgate EM2F Standard General Purpose Wild. Areas of proposed mix applied upon existing grassland. REGULAR MANAGEMENT OF GRASSLAND PROPOSED - ONCE A YEAR (see Grassworks Schedule for further details).
- EXISTING RETAINED GRASS TREATMENT / PADDOCK
- GRASSWORKS - BOUNDARY SCREENING BUFFER & BIODIVERSITY ENHANCEMENT PLANTING MIX WOODLAND WILDFLOWER SEED MIX: Emorgate EW1 - Woodland mixture. Areas of proposed mix applied upon a minimum depth of 300mm specific purpose free draining topsoil to BS 3882:2015. Soil leveled and prepared to a fine tilth prior to sowing. NON REGULAR MANAGEMENT OF GRASSLAND PROPOSED (see Grassworks Schedule for further details).

**hard landscape**

- HARD LANDSCAPE - PROPOSED HOGGIN PATHWAY - Permeable: Proposed loose stone Hoggin chipping pathway (Permeable construction with treated timber edge system). Product: Hoggin Footpath Gravel Laid: Loose and compacted in situ. To Structural Engineer & Drainage Consultants specification.
- EXISTING RETAINED & ENHANCED CRUSHED CONCRETE SURFACE ACCESS TRACK

**boundary treatments**

PROPOSED 1.2m Square chestnut post and two cleft chestnut rail fence system

All works to conform to BS 5837:2012 Trees in relation to design, demolition and construction. Plus conforming to arboricultural method statements.  
 BS 4428:1989 Code of practice for general landscape operations (excluding hard surfaces)  
 BS 8545:2014 Trees: from nursery to independence in the landscape. Recommendations  
 ASTM D5268 - 13 Standard Specification for Topsoil Used for Landscaping Purposes  
**NOTE:** This drawing indicates design arrangement only. All works to be undertaken in accordance with best practice and all current BS & Building Regulations. Do not scale from drawing. Use figured dimensions only after checking. Drawing to be printed and read in colour only.

A:	Landscape amendments for BNG calculation tweaks	04.12.23
Rev:	Description:	Date:

Client: TERRAFORTE, Ms L

Project Name:  
 LAND SOUTH OF THE DEN  
 RICHBOROUGH ROAD  
 SANDWICH  
 KENT  
 CT13JUG

Drawing title: LANDSCAPE MASTERPLAN

Drawing no: PJC.1229.00 Rev: A

Scale: 1:200 at A1 Date: 22.11.2023

Drawn by: TR Designed by: TR

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