

# Stonestreet Green Solar

## Biodiversity Net Gain Assessment

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# 1 Executive Summary

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- 1.1.1 This Biodiversity Net Gain ('BNG') Assessment (this 'Assessment') has been prepared on behalf of EPL 001 Limited ('the Applicant') to set out the anticipated effect on biodiversity and consider the role of habitat mitigation and enhancements proposed in relation to the Development Consent Order ('DCO') application for Stonestreet Green Solar ('the Project').
- 1.1.2 The Project comprises the construction, operational phase and maintenance, and decommissioning of solar photovoltaic ('PV') arrays and energy storage, together with associated infrastructure and an underground cable connection to the existing National Grid Sellindge Substation.
- 1.1.3 The Project will include a generating station (incorporating solar arrays) with a total capacity exceeding 50 megawatts ('MW'). The agreed grid connection for the Project will allow the export and import of up to 99.9 MW of electricity to the grid. The Project will connect to the existing National Grid Sellindge Substation via a new 132 kilovolt ('kV') substation constructed as part of the Project and cable connection under the Network Rail and High Speed 1 ('HS1') railway.
- 1.1.4 The location of the Project is shown on **ES Volume 3, Figure 1.1: Site Location Plan (Doc Ref. 5.3)**. The Project will be located within the Order limits (the land shown on the **Works Plans (Doc Ref. 2.3)** within which the Project can be carried out). The Order limits plan is provided as **ES Volume 3, Figure 1.2: Order Limits (Doc Ref. 5.3)**. Land within the Order limits is known as the 'Site'.
- 1.1.5 The majority of the Site comprises agricultural fields used for arable cropping and is delineated by hedgerows and tree belts, as shown on BNG Assessment **Appendix 1, Figure 1: Habitats Prior to Development**. The Site also supports hedgerow, parcels of woodland, drainage ditches, ponds, arable field margins and a section of the East Stour River. The Site extends to approximately 192ha.
- 1.1.6 This BNG Assessment uses the Department for Environment, Food & Rural Affairs ('Defra') 'Statutory Biodiversity Metric' calculation tool<sup>1,2</sup> which is based on biodiversity 'units', to assess the overall loss of the following on-Site:
- c. 163 hectares of arable crop fields;
  - c. 1.48 hectares of grassland (Other neutral grassland);
  - c. 0.28ha of woodland and 0.37ha of scrub (this includes a worst case assessment of total loss for the Sellindge Substation habitats); and
  - c. 150 metres of native hedgerow.
- 1.1.7 The majority of boundary habitat is to be retained and enhanced, with the majority of initial habitat 'losses' being arable cropland, which will be replaced with flower rich grasslands of greater biodiversity value. Some temporary and permanent habitat loss is associated with the creation of infrastructure and the installation of cables.

However, the majority of habitat change is due to the change from arable cropland to grassland.

1.1.8 The proposed operational period for the Project is 40 years. During the operational period, the habitats present on-Site are anticipated to include:

- c. 167 hectares of grassland, classed as 'other neutral grassland', created and enhanced within the PV Arrays and within Biodiversity Improvement Areas ('BIAs') free of solar panels;
- c. 5.1 hectares of woodland (wet and broadleaved deciduous) as a result of habitat creation;
- c. 0.7 hectares of Traditional Orchard (a Habitat of Principal Importance) with diverse grassland understorey;
- c. 1.6 hectares of mixed scrub including woodland buffer planting and BIA diversification;
- c. 2.2 hectares of arable field margins seeded with a game bird seed mix as part of the farmland bird mitigation;
- c. 0.9 hectares of wetland features comprising habitat ponds, scrapes, swales and drainage;
- c 17 km of native hedgerow and treelines; and
- c. 1.142km enhancement of riparian zone habitats within 10m of the East Stour River and c.2.2km within 5m of drainage ditches, through conversion of arable habitats to grassland and trees to remove riparian zone encroachment.

1.1.9 The **Outline Landscape and Ecological Management Plan ('LEMP') (Doc Ref. 7.10)** sets out the management measures that would be put in place to establish and maintain the habitats created.

1.1.10 The design of the landscape proposals, through submission of detailed LEMP(s) as well as the submission of a Biodiversity Design Strategy, are secured by a Requirement in the **Draft Development Consent Order (Doc Ref. 3.1)**. These documents would detail how those proposals secure a BNG of at least 100% for habitat units, at least 10% for hedgerow units and at least 10% for river units during the operational phase of the authorised development. The final BNG Assessment included in future detailed LEMP(s) will be informed by the further surveys and ecological works that are set out within the **Outline LEMP (Doc Ref. 7.10)**.

1.1.11 The total predicted net biodiversity unit change (based on the **Vegetation Removal Plan (Doc Ref 2.7)** and the **Illustrative Landscape Drawings (Doc Ref 2.7)**) is as follows:

- Habitat units + **186.65 %** (507.21 baseline - 1453.91 operational stage = +946.70 units);
- Hedgerow units +**36.28%** (160.09 baseline – 218.17 operational stage units) = + 58.08 units); and



- River **+15.24%** (25.33 baseline - 29.20 operational stage = +3.86 units).

1.1.12 The creation and enhancement of these habitats represents a significant increase in the extent and quality of on-Site habitats which is assessed as providing a substantial contribution towards both local and national biodiversity enhancement objectives.

## 2 Introduction

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### 2.1 Scope of Works

- 2.1.1 This BNG Assessment has been informed by a suite of ecological surveys conducted at the Site between 2020 and 2024 to inform **ES Volume 2, Chapter 9: Biodiversity (Doc Ref. 5.2)**. All survey work has been undertaken by Lloydbore Ltd.
- 2.1.2 An evaluation of recent and historic aerial images and Ordnance Survey maps was also undertaken as part of the desk study.
- 2.1.3 This BNG Assessment has been produced in accordance with the 'Statutory Biodiversity Metric' User Guide<sup>1</sup> and statutory biodiversity metric tools and guides<sup>2</sup>. Reference is also made to the BNG 'Good Practice Principles' produced by the Chartered Institute of Ecology and Environmental Management ('CIEEM'), the Construction Industry Research and Information Association ('CIRIA') and the Institute of Environmental Management and Assessment ('IEMA') (2019<sup>3</sup>). This BNG Assessment confirms the predicted initial biodiversity unit loss that will occur through construction of the Project and provides details of a suitable habitat enhancement scheme in order to deliver overall BNG for the Project.

### 2.2 Existing Site

- 2.2.1 The majority of the Site comprises agricultural fields delineated by hedgerows and tree belts, as shown within BNG Assessment **Appendix 1, Figure 1: Habitat Prior to Development Plan** of this report. The Site extends to approximately 192 hectares and is currently predominantly used for arable cropping with less than 10% of the total Site area managed as grazing pasture. The Site also supports hedgerow, parcels of woodland, drainage ditches, ponds and arable field margins. The East Stour River flows in an east to west direction within, and adjacent to, the northern part of the Site.
- 2.2.2 The surrounding agricultural landscape supports broad land uses and habitat types similar to those present on Site, but also includes the Backhouse Wood Local Wildlife Site ('LWS') ancient woodland to the east, an operational railway and the M20 to the north, the village of Aldington to the south and intersecting roads within and beyond the Site.

### 2.3 The Project

- 2.3.1 The Project comprises the construction, operational phase and maintenance, and decommissioning of solar photovoltaic ('PV') arrays and energy storage, together with associated infrastructure and an underground cable connection to the existing National Grid Sellindge Substation.

2.3.2 The Project will include a generating station (incorporating solar arrays) with a total capacity exceeding 50 megawatts ('MW'). The agreed grid connection for the Project will allow the export and import of up to 99.9 MW of electricity to the grid. The Project will connect to the existing National Grid Sellindge Substation via a new 132 kilovolt ('kV') substation constructed as part of the Project and cable connection under the Network Rail and High Speed 1 ('HS1') railway.

## 2.4 Objectives of this Biodiversity Net Gain Assessment

2.4.1 The objectives of this BNG Assessment are to:

- Review the existing habitats present on-Site, including an assessment of their condition, ecological connectivity and strategic significance.
- Determine and quantify the Site's ecological baseline in the form of total biodiversity units and units retained or lost in accordance with Defra's 'Statutory Biodiversity Metric' calculation tool.
- Demonstrate that a BNG of at least 100% (for habitat units) and at least 10% for hedgerow and river units is deliverable, and which is secured by DCO Requirement;
- Provide an assessment of the Illustrative Landscape Drawings and confirm the potential BNG that these proposals are capable of delivering; and
- Identify suitable on-Site habitat creation scheme(s) that are appropriate for delivering relevant biodiversity units to offset losses.

## 2.5 Associated Documents

2.5.1 The Site has been subject to a suite of ecological surveys conducted between 2020 and 2024 to inform the assessment set out within **ES Volume 2, Chapter 9: Biodiversity (Doc Ref. 5.2)**. A number of survey reports, figures, assessments and mitigation strategies are referenced as part of this BNG Assessment, with the most relevant as follows:

- **ES Volume 4, Appendix 9.4: Preliminary Ecological Appraisal (Doc Ref. 5.4);**
- **ES Volume 4, Appendix 9.5a: Hedgerow Condition and Importance Assessment (Doc Ref. 5.4);**
- **Outline LEMP (Doc Ref. 7.10);**
- **ES Volume 3, Figure 9.5: East Stour River - Proximity Plans (Doc Ref. 5.3);**
- **ES Volume 3, Figure 9.6: Habitat Prior to Development Plan (Doc Ref. 5.3);**
- **ES Volume 3, Figure 9.8: Locations of Habitats of Principal Importance (Doc Ref. 5.3);**
- **ES Volume 3, Figure 9.10: Habitat Impacts Plan (Doc Ref. 5.3);** and
- **ES Volume 3, Figure 9.11: Post-Development Habitat Plan (Doc Ref.**

**5.3).**

2.5.2 To assess the post-development habitat baseline and the expected habitat impacts associated with construction of the Project, the following documents have been reviewed:

- **Works Plans (Doc Ref. 2.3);**
- **Illustrative Project Drawings – Not for Approval (Doc Ref. 2.6);**
- **Illustrative Landscape Drawings – Not for Approval (Doc Ref. 2.7); and**
- **Vegetation Removal Plan (Doc Ref. 2.8).**



## 3 Legislation, National Policy and Guidance

### 3.1 Overview

- 3.1.1 A summary of relevant legislation, planning policy and guidance is provided below, with further detailed provided in **ES Volume 4, Appendix 9.1: Legislation, Planning Policy and Guidance (Doc Ref. 5.4)**.

### 3.2 Legislation

#### Planning Act 2008

- 3.2.1 The Planning Act 2008 ('PA 2008') provides the legislative basis and defines the application process under which consent for Nationally Significant Infrastructure Projects ('NSIPs') is sought. The PA 2008 sets out that projects meeting certain defined criteria are classified as NSIPs. It provides that a DCO is required for development that is or forms part of an NSIP (section 31 PA 2008).
- 3.2.2 The Project is defined as an NSIP under section 14(1)(a) and 15(1) and (2) of the PA 2008.

#### Environment Act 2021

- 3.2.3 The Environment Act 2021 introduced a requirement for new developments to deliver a measurable 10% net gain in biodiversity, normally measured in 'biodiversity units' under Defra/Natural England methodology. This legal duty came into force for 'major' development projects (subject to exceptions) from 12 February 2024, under Schedule 7a of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2021).
- 3.2.4 Regulations for biodiversity net gain came into force on 2 April 2024 for 'small sites' (those that do not fall into the category of a major development and that meet the Defra 'small site' criteria (Defra, 2024c)). In addition, it is intended the BNG will apply to all terrestrial NSIPs accepted for examination from November 2025.
- 3.2.5 Schedule 7a intends to encourage developers to avoid the most important existing habitat and focus habitat creation and enhancement where it will be most ecologically appropriate in helping to halt and reverse biodiversity decline.
- 3.2.6 In addition, Schedule 7a also:
- introduces a new system of strategic Local Nature Recovery Strategies;
  - places a new general duty on public bodies to conserve and enhance biodiversity;
  - introduces Conservation Covenants as a new alternative mechanism to Section 106 Agreements for securing off-site habitat provision and other conservation measures that deliver public good; and

- introduces a framework for Natural England to develop Protected Site and Species Conservation Strategies.

3.2.7 The following statutory instruments, published in February 2024, provide further detail of legal duties in relation to biodiversity net gain:

- The Biodiversity Gain Site Register Regulations 2024;
- The Biodiversity Gain Site Register (Financial Penalties and Fees) Regulations 2024;
- The Biodiversity Gain Requirements (Exemptions) Regulations 2024;
- The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024;
- The Biodiversity Gain (Town and Country Planning) (Consequential Amendments) Regulations 2024; and
- The Biodiversity Gain (Town and Country Planning) (Modifications and Amendments) Regulations 2024.

### Natural Environment & Rural Communities (NERC) Act 2006

3.2.8 The NERC Act places a duty on public bodies and statutory undertakers to ensure due regard to the conservation of biodiversity. Section 41 of the Act requires the Secretary of State to publish a list of species and habitats which are of 'principal importance for the purpose of conserving or enhancing biodiversity'. These lists generally reflect the species and habitats previously listed as priorities under the UK Biodiversity Action Plan<sup>4</sup>.

## 3.3 Policy Context

3.3.1 Pursuant to the PA 2008, the Secretary of State ('SoS') must decide the application in accordance with any relevant National Policy Statement ('NPS'), and have regard to the relevant NPS, any local impact report, and any other matters considered both *'important and relevant'* to the decision.

3.3.2 On 17 January 2024, the overarching NPS for Energy ('NPS EN-1') and the NPS for Renewable Energy Infrastructure ('NPS EN-3') came into force. This means that these NPSs are the relevant NPSs that have effect for the determination of the Project. The main documents that may be considered relevant and important to the SoS's decision would also include:

- Policies from the adopted development plan and other relevant planning policy documents;
- National Planning Policy Framework ('NPPF')<sup>5</sup>; and
- Planning Practice Guidance.

3.3.3 Whilst the NPPF<sup>4</sup> does not contain specific policies for projects consented under the DCO regime, it can be an important and relevant consideration under the PA 2008. This would be where there are no directly applicable NPS policies, or where there are no relevant and/or up to date development plan policies.

3.3.4 Paragraph 4.1.15 of NPS EN-1 states that:

*'In the event of a conflict between these documents and an NPS, the NPS prevails for the purpose of Secretary of State decision making given the national significance of the infrastructure.'*

3.3.5 An assessment of the Project against relevant planning policy and guidance is set out within the **Planning Statement (Doc Ref. 7.6)**.

### **The Kent Biodiversity Strategy**

3.3.6 The Kent Biodiversity Strategy (Kent Nature Partnership (2020)<sup>6</sup> is a relevant biodiversity guidance document, with targets and objectives applicable to developments in Kent. Its stated aims are as follows:

*'The Kent Biodiversity Strategy aims to deliver, over a 25 year period, the maintenance, restoration and creation of habitats that are thriving with wildlife and plants and ensure that the county's terrestrial, freshwater, intertidal and marine environments regain and retain good health.*

*The strategy looks to protect and recover threatened species and enhance the wildlife habitats that Kent is particularly important for. It also aims to provide a natural environment that inspires citizen engagement and is well used and appreciated, so that the mental and physical health benefits of such a connection can be realised by the people of Kent.'*

## **3.4 Principles of Biodiversity Net Gain**

3.4.1 A summary of the CIEEM's Good Practice Principles for Development (2016)<sup>7</sup> and associated requirements (CIEEM, 2021a)<sup>8</sup>, templates (CIEEM, 2021b)<sup>9</sup> and CIRIA guidance (2019a<sup>3</sup> and 2019b<sup>10</sup>) in relation to BNG are provided within BNG Assessment **Appendix 4: Principles of Biodiversity Net Gain**.

## 4 Method

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### 4.1 Site survey

4.1.1 Site survey visits to categorise, map and assess on-Site habitats have been carried out between 2020 and 2024 as described below.

### 4.2 UK Habitat Classification and Habitat Condition Assessment

4.2.1 Habitats present on the Site have been classified and mapped using the UK Habitat Classification ('UKHab') system, following standard UKHab habitat descriptions (UK HCWG, 2020<sup>11</sup>). Habitat survey work was undertaken in spring 2020, in spring and summer 2022 and again in summer 2023. Habitat condition assessment surveys were also conducted in June to August 2022, June to July 2023, and January 2024 with habitat classification updated in accordance with the latest 2022 version of the 'UKHab' system (UK, HCWG, 2022<sup>19</sup>).

4.2.2 The UKHab mapping method does not record very small-scale habitat features such as individual trees or ponds. Where these are considered to be of importance, they have been addressed separately in the relevant habitat sections of this report.

4.2.3 Habitat Prior to Development Plans (i.e., baseline habitat plans) have been produced using the UKHab mapping method, to show the locations, extents and areas of the habitat types present on the Site. These plans are included as **Figure 1: Habitat Prior to Development Plan, Appendix 1** of this report.

4.2.4 Habitat Condition Assessment results are summarised in **Appendix 2: Habitat Condition Assessment Results** of this Assessment.

4.2.5 The initial Preliminary Ecological Appraisal ('PEA') site visit was undertaken by two appropriate qualified and experienced ecologists on 21 April 2020 and on various dates in 2022 (during spring and summer) to update the habitat baseline. The 2023 survey visits were undertaken by a Chartered Environmentalist (CEnv) and full Member of CIEEM. A survey of the Sellindge Substation was undertaken on 10 January 2024 by a full Member of CIEEM.

4.2.6 A hedgerow condition assessment was conducted separately, with full results and methods detailed within **ES Volume 4, Appendix 9.5a: Hedgerow Condition and Importance Assessment (Doc Ref. 5.4)**.

4.2.7 The hedgerow surveys were undertaken in accordance with the Hedgerow Survey Handbook (2nd edition) (Defra, 2007<sup>12</sup>) in conjunction with the Biodiversity Metric 4.0 Habitat Condition Assessment Sheets<sup>13</sup> (updated 18/5/2022). These condition assessments have been reviewed in accordance with the 'Statutory Biodiversity Metric' to ensure compatibility.



- 4.2.8 The full lengths of all hedgerows were surveyed, and plant species were noted along the entirety of the hedgerows on Site. Each hedgerow section was split into a hedgerow unit and given a number. Both sides of each hedgerow were surveyed.
- 4.2.9 Hedgerow surveys were undertaken in June - August 2022 by a qualified ecologist (MCIEEM).

### 4.3 River Condition Assessment

- 4.3.1 The river condition assessment of the East Stour River was undertaken in accordance with the guidance provided by Gurnell, et al 2020<sup>14</sup>. This document was used in conjunction with the Modular River Physical Survey ('MoRPh') Survey Technical Reference Manual 2022 version<sup>15</sup>. The MoRPh forms an integral part of the field element of the condition assessment.

#### Selection of survey units

- 4.3.2 Five representative sections of the sub-reach (sub-reach being the length of the river within the Site) of the East Stour River were selected for survey. These survey units ('modules') were selected to ensure that the survey captured a representative range of river character features, both artificial and natural.
- 4.3.3 Two additional survey modules that were not directly connected to the sub reach were also surveyed, but since these were not part of the sub-reach, did not have a direct bearing on the river condition assessment for the East Stour River sub-reach.
- 4.3.4 Each river module was based on the river width, which for the East Stour River was taken between 5 - <10m. As such, each module length was taken to be 20m, as the MoRPh methodology requires module length to be twice the river width.

#### Timing

- 4.3.5 Ideal timing for this survey type is either May / June or October when vegetation is visible but not so well developed that it makes access or observation to physical features difficult. Surveys were undertaken during low flow conditions to ensure riverbed visibility and consistent hydraulic conditions (i.e., avoiding times of temporarily high water levels or flows which may not be representative of typical conditions).
- 4.3.6 Once the field elements are completed, information from the field is used in conjunction with the online program cartographer.io (online Geographic Information System ('GIS') program) to calculate a river type and final river condition assessment score for the sub reach.
- 4.3.7 The Site visits were undertaken on 19 May 2023 and 23 June 2023 by a full member of CIEEM with other over 15 years of experience of habitat survey and ecological appraisal and a surveyor over five years of experience habitat survey and ecological appraisal. Both surveyors are River Condition Assessment ('RCA') accredited.

### 4.4 DEFRA's 'Statutory Biodiversity Metric' Calculation Tool

4.4.1 Defra's 'Statutory Biodiversity Metric' Calculation Tool<sup>2</sup> was utilised to calculate the biodiversity units on Site. This tool quantifies each habitat type into 'units' based on a number of factors including; habitat distinctiveness, area, condition and strategic significance. Further details on each of these factors is provided below.

### Distinctiveness

4.4.2 Each UKHab category is automatically assigned a distinctiveness score by the metric tool, which is based on rarity, proportion of habitat protected within SSSIs (the less protected the higher the distinctiveness), UK Priority Habitat Status and the European Red List Categories. **Table 1** presents the distinctiveness categories applied in the assessment.

Table 1: Distinctiveness Categories (Panks et al., 2022a<sup>16</sup>)

Category	Score	Example of habitat type	Intertidal habitat type	Hedgerows
Very High	8	Priority habitats as defined in Section 41 of the Natural Environment and Rural Communities ('NERC') Act 2006 that are highly threatened, internationally scarce and require conservation action, e.g. blanket bog. Small amount of remaining habitat with a high proportion unprotected by designation. Endangered or critical European red list habitats.	Natural habitats on bedrock including peat, clay or chalk.	Native species rich hedgerow with trees - with bank or ditch.
High	6	Priority habitats as defined in Section 41 of the NERC Act 2006 requiring conservation action, e.g. lowland fens.	Most other naturally occurring intertidal habitats.	Native species rich hedgerow with trees; Native species rich hedgerow - with bank or ditch; or

Category	Score	Example of habitat type	Intertidal habitat type	Hedgerows
		Remaining priority habitats not in very high distinctiveness band and other red list habitats.		Native hedgerow with trees - with bank or ditch.
Medium	4	Semi-natural habitats not classed as priority habitats but with significant wildlife benefit, e.g. mixed scrub. Arable field margins (Priority habitat) only.	Artificial hard structures with integrated greening of grey infrastructure (IGGI) Littoral coarse sediment Littoral sand	Native species rich hedgerow; Native hedgerow - associated with bank or ditch; Native hedgerow with trees; Line of trees (ecologically valuable); or Line of trees (ecologically valuable) - with bank or ditch.
Low	2	Habitat of low biodiversity value e.g. temporary grass and clover ley. Agricultural and urban land use of lower biodiversity value.	All other artificial habitats	Native hedgerow; Line of trees; or Line of trees - with bank or ditch.
Very Low	0	Little or no biodiversity value e.g. hard standing or sealed surface.	N/A	Any hedgerow containing 20% or more canopy cover of a non-native species.

### Condition

- 4.4.3 The condition of each habitat type is assessed against specific requirements listed within the guidance documents. These requirements are specific to each habitat type and relate to physical characteristics, structural attributes, typical species present and positive and negative indicators, such as the presence of invasive species.
- 4.4.4 The condition assessment uses agreed standards and methodology tailored to each habitat type, which is similar to that used for Common Standards Monitoring<sup>17</sup> and

supersede the previously used Farm Environment Plan methodology, which can be difficult to apply for non-agricultural schemes.

- 4.4.5 A condition assessment is not required for certain habitat types (e.g. certain cropland and urban habitats) and some habitat types have a fixed condition score (e.g. bramble scrub).
- 4.4.6 The condition categories are 'Good', 'Fairly good', 'Moderate', 'Fairly poor', 'Poor' and 'N/A', the definition for each category varying according to habitat type. The applicable score multiplier for each habitat condition category is shown in **Table 2**.

**Table 2: Habitat condition category scores (Panks et al., 2022a)**

Condition Category	Score
Good	3
Fairly good	2.5
Moderate	2
Fairly poor	1.5
Poor	1
N/A	1

### Strategic Significance

- 4.4.7 Strategic significance is considered separately for each individual habitat type. Only habitat specified in some form of strategy, map or plan for that area should be identified. If a strategy, map, or plan identifies an area as ecologically significant without specifying particular habitats, all habitats occurring within that area are identified as 'formally identified in a local strategy'.
- 4.4.8 Strategic significance relates to the spatial location of a habitat parcel and is measured at a landscape scale, taking into consideration local plans for green infrastructure and biodiversity, national character areas and national objectives. This category gives value to habitats that are situated within optimal locations which could enable biodiversity objectives to be met and gives additional biodiversity unit value to habitats that have been identified as habitats of strategic importance to that local area.
- 4.4.9 For the purposes of this Project, a search of published local strategies and objectives has been undertaken to identify any local priorities for targeting biodiversity and nature improvement, such as local nature recovery strategies, local biodiversity plans, national character areas objectives, Local Planning Authority (LPA) local ecological networks, shoreline management plans, estuary strategies and green infrastructure strategies.



4.4.10 **Table 3** shows the multiplier scores that apply across all pre- and post-intervention and on and off-site calculations for habitat and hedgerow units.

**Table 3: Strategic significance categories for habitat and hedgerows (Panks et al., 2022a)**

Category	Description	Score
High strategic significance	High potential - area/action formally identified within a local plan, strategy or policy	1.15
Medium strategic significance	Good potential - location ecologically desirable but area/action not identified in local plan, strategy or policy.	1.1
Low strategic significance	Low potential - area/action not identified in any local plan, strategy or policy; or No local strategy in place.	1

4.4.11 Strategic significance for rivers and streams is determined using the delivery of identified actions within river basin management plans, catchment plans and local plans. **Table 4** shows the strategic significance multiplier scores for river units.

**Table 4: Strategic significance categories for river units (Panks et al., 2022a)**

Category	Description of multiplier	Strategic multiplier
High strategic significance	Delivery of river restoration actions within: <ul style="list-style-type: none"> <li>▪ Local plans;</li> <li>▪ Local nature recovery strategies</li> <li>▪ River basin management plan;</li> <li>▪ Catchment plans;</li> <li>▪ Catchment planning system; or</li> <li>▪ Priority habitats for restoration.</li> </ul>	1.15
Low strategic significance	Low potential - area/action not identified in any local plan, strategy or policy.	1

### Temporal Risk

4.4.12 Temporal and difficulty multipliers are applied to the biodiversity unit calculation in the case of habitat creation or enhancement in order to take into account the time it will likely take to achieve the target condition and how difficult it will be to achieve the desired result.

4.4.13 This gives some weighting to the level of uncertainty that these factors create.

4.4.14 There can be a negative impact on biodiversity for a period of time whilst newly created or enhanced habitat is establishing to its required level of maturity. The temporal risk accounts for this time lag.

4.4.15 Where habitat creation is delayed significantly beyond the point at which the baseline losses occur the number of years delay in starting habitat creation will be added to the below temporal risk (adjusting habitat unit score by that multiplier). **Table 5** shows the temporal risk categories and multipliers applied in the assessment.

Table 5: Temporal risk categories and multipliers (Panks et al., 2022a)

Time to Target Condition (years)	Time to Target Multiplier	Time to Target Condition (years)	Time to Target Multiplier
0	1.000	16	0.566
1	0.965	17	0.546
2	0.931	18	0.527
3	0.899	19	0.508
4	0.867	20	0.490
5	0.837	21	0.473
6	0.808	22	0.457
7	0.779	23	0.441
8	0.752	24	0.425
9	0.726	25	0.410
10	0.700	26	0.396
11	0.676	27	0.382
12	0.652	28	0.369
13	0.629	29	0.356
14	0.607	30	0.343
15	0.586	>30	0.320

4.4.16 The metric considers how difficult it is to create or enhance different habitat types based on a number of ecological factors and applies a multiplier to account for the

uncertainty of achieving the target state. **Table 6** shows the difficulty risk categories and multipliers applied in the assessment.

**Table 6: Difficulty risk categories and multipliers (Panks et al., 2022a)**

Difficulty of Creation Category	Difficulty of Creation Multiplier
Very High	0.1
High	0.33
Medium	0.67

### Spatial Risk

- 4.4.17 Spatial risk reflects the relationship between the locations where a biodiversity loss is occurring and where the off-site habitat is being delivered. This risk factor is only applied to the off-site post-intervention calculations.
- 4.4.18 Compensatory habitat created a greater distance from the site of habitat loss will deplete a local area of natural habitat, risking reduced habitat connectivity and limiting available food sources for a variety of wildlife. Distant habitat creation is therefore attributed a higher level of spatial risk. Habitat created closer to the site of loss is attributed a lower level of spatial risk. **Table 7** shows the spatial risk categories and multipliers applied in the assessment.

**Table 7: Spatial risk categories and multipliers (Panks et al., 2022a)**

Score	Area habitats	Intertidal habitats	Rivers and stream habitats
1.0	Compensation inside LPA or National Character Area (NCA) of impact site.	Compensation inside same Marine Plan Area (MPA), or deemed to be sufficiently local, to site of biodiversity loss.	Within waterbody.
0.75	Compensation outside LPA or NCA of impact site but in neighbouring LPA or NCA.	Compensation outside same MPA but in neighbouring MPA.	Within catchment.
0.5	Compensation outside LPA or NCA of impact site and beyond neighbouring LPA or NCA.	Compensation outside MPA of impact site and beyond neighbouring MPA.	Outside catchment.

## 4.5 Assessment and Evaluation

4.5.1 The assessment approach used within this BNG Assessment has been informed by guidelines provided within *BS 42020:2013: Biodiversity: Code of practice for planning and development* (BSI, 2013)<sup>18</sup>.

4.5.2 Section 5.5 of BS 42020:2013 states that:

*'The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development.'*

4.5.3 The Site assessment was undertaken in broad accordance with Defra's biodiversity metric technical supplement guidance (2023<sup>2</sup>) and The UK Habitat Classification User Manual (2023)<sup>19</sup>.

### Limitations

4.5.4 Interpretation of operational stage habitats requires professional judgement where detailed landscaping prescriptions are not available.

4.5.5 All habitats within the Project's Order limits have been included within the calculation to provide the baseline biodiversity values.

4.5.6 The survey of the Sellindge Substation and surroundings was completed in January 2024 (outside the main botanical survey season) as access could not be granted prior to this date. Habitat condition results however appear representative given the limited extent and types of habitats present, and the recorded habitats are a small proportion of the overall Site habitat extents.

4.5.7 A River Habitat Condition Assessment of the tributaries of the East Stour River (Horton Prior Dyke) adjacent to the Sellindge Substation was not possible. However, the Horton Prior Dyke is not expected to be impacted by the Project (specifically the Sellindge Substation works). For the purposes of this assessment, Horton Prior Dyke is classed as being in moderate condition, based upon survey results of the nearby sections of the East Stour River

4.5.8 All habitat areas and lengths have been measured manually using GIS based on the pre-development habitat plan, as such habitat areas are approximations only.

4.5.9 Automatic rounding in the Metric means that stated habitat areas and lengths may differ slightly from those shown on Figures as a result of cumulative rounding of multiple parcels and lengths, especially when habitats are broken down into many sub-units or lengths (i.e. hedgerows). The overall results in the Metric are however assessed as representative despite this limitation.

4.5.10 Strategic significance has been assessed using regional and national associated Policies, as local policies are not available.



### Lifespan of this Assessment

- 4.5.11 The lifespan of this BNG Assessment and the ecological survey information contained herein has been determined based on CIEEM's Advice Note: On the Lifespan of Ecological Reports and Surveys (CIEEM, 2019<sup>20</sup>), as the presence, condition and distribution of habitats may change over time.
- 4.5.12 If the commencement of Site works is delayed beyond 18 months from the date of issue of this BNG Assessment, an update site walkover should be undertaken by a suitably experienced ecologist.
- 4.5.13 Following the update walkover, the ecologist will need to then determine whether there have been any material changes to the ecological baseline and the potential impacts of the Project.
- 4.5.14 If there have been any material changes, or any material changes to relevant ecology-related legislation, standing advice, best practice and/or guidance, an updated BNG Assessment should be produced by a suitably experienced ecologist.

## 5 Biodiversity Losses and Gains on Site

### 5.1 Overview

- 5.1.1 This section summarises the calculations of biodiversity losses and gains on Site, through habitat loss, creation and enhancement.
- 5.1.2 The Defra Biodiversity Metric uses separate calculations for three broad habitat groupings. The baseline and predicted net change in biodiversity units are calculated separately for each of these three broad groupings, which are as follows:
- Habitat areas ('habitat units');
  - Hedgerows (linear) ('hedgerow units'); and
  - Rivers and streams (linear) ('river units').
- 5.1.3 For ease of reference, this section of the BNG Assessment is primarily split between the pre-development baseline and the proposed operational stage habitats, with predicted net changes in each of the three biodiversity unit types contained within.
- 5.1.4 A biodiversity design strategy will provide details of how the landscape and biodiversity enhancement works provided as part of the authorised development will comply with the biodiversity net gain Requirement secured by the **Draft Development Consent Order (Doc Ref. 3.1)**. This Requirement secure biodiversity net gain during the operational phase of the authorised development of at least 100% for habitat units, at least 10% for hedgerow units and at least 10% for river units, calculated using the statutory biodiversity metric published by Defra on 12 February 2024).
- 5.1.5 The assessment presented in the following sections calculates the total predicted net biodiversity unit change (based on the **Vegetation Removal Plan (Doc Ref. 2.7)** and the **Illustrative Landscape Drawings (Doc Ref. 2.7)** in order to demonstrate that the Draft DCO Requirement is achievable.

### 5.2 Habitat Baseline

#### Calculation Overview

#### Habitat Type, Area and Distinctiveness

- 5.2.1 Calculation of the biodiversity unit baseline for the three unit types (habitat, hedgerow and river) is primarily informed by the results of the UK Habitat Classification and Habitat Condition Assessment surveys conducted on Site. Note that habitat distinctiveness is automatically assigned within the Defra BNG metric to the habitat types recorded by UK Habitat Classification survey.
- 5.2.2 The Habitat Condition Assessment results are summarised in **Appendix 2: Habitat Condition Assessment Results** of this Assessment.

5.2.3 GIS-based digital mapping of habitat areas and types has been used to produce the baseline areas within the Order limits.

### Condition

5.2.4 The Site baseline is based upon the extent and condition of habitats as recorded during the latest habitat condition assessment surveys, which were undertaken in 2023 (raw data attached as **Appendix 2: Habitat Condition Assessment Results** of this report). The results of baseline surveys carried out in previous years are considered where appropriate.

### Strategic significance

5.2.5 A search of published local strategies and objectives has been used to assigned strategic significance to the baseline and proposed habitats as set out within **Paragraphs 4.4.7 to 4.4.11** of this BNG Assessment. The basis for assigning scores is outlined below.

- Arable crops (all types): Default strategic significance assigned in the metric as low, as these are intensively managed agricultural land of generally limited agricultural value.
- Grassland - Other neutral grassland: Assigned as medium significance due to inherent value of grassland, its extent and connectivity to local habitats. While some areas qualify as a Habitat of Principal Importance ('HPI') as arable field margins, they lack the rare and scarce arable flora that characterise this habitat and so remain as medium significance (quality is accounted for as part of the condition assessment).
- Woodland and pond: Assigned as high strategic significance due to being a Habitat of Principal Importance and directly referenced within the Kent Biodiversity Strategy (Kent Nature Partnership, 2020<sup>6</sup>).
- Native hedgerow. Hedgerows of medium distinctiveness or higher (i.e. species rich native hedgerow) have been assigned high strategic significance due to being a HPI and directly referenced within the Kent Biodiversity Strategy (Kent Nature Partnership, 2020<sup>4</sup>). Native hedgerows that are not species rich, and tree lines, are assigned medium strategic significance due to their habitat connectivity and biodiversity value but note these still qualify as HPIs.
- Mixed scrub: All habitat assessed as low strategic significance as primarily comprised of common habitat types (bramble scrub is assigned low significance by default).
- East Stour River: Assigned as high strategic significance as rivers are an HPI and part of the regional River District Basin ('RDB').
- Ditches: Assigned medium significance due to inherent value of grassland, its extent and connectivity to local habitats.

### Habitat unit summary

5.2.6 The Site currently supports a total of c. 507 habitat units, summarised in **Table 8**. For the full data, refer to the metric spreadsheet and BNG Assessment **Appendix 3: Detailed Results of Statutory Biodiversity Metric Calculations**.

**Table 8: Baseline Habitat Units and Areas**

Habitat type	Distinctiveness	Condition	Area (ha)	Ecological baseline (Total units)
Cereal crops	Low	N/A	73.02	146.04
Developed land; sealed surface	V. Low	N/A	4.06	0.00
Horticulture	Low	N/A	29.23	58.46
Lowland mixed deciduous woodland	High	Moderate	1.23	16.97
Mixed scrub	Medium	Poor - Moderate	1.18	9.94
Non-cereal crops	Low	N/A	34.66	69.31
Other neutral grassland	Medium	Poor - Good	18.17	138.19
Ponds (priority habitat)	High	Poor	0.08	1.15
Ruderal/Ephemeral	Low	Poor	0.09	0.18
Temporary grass and clover leys	Low	N/A	28.03	56.05
Watercourse footprint	V. Low	N/A	1.14	0.00
Wet woodland	High	Moderate	0.79	10.9
Total (rounded)				507

#### Hedgerow unit summary

5.2.7 The Site currently supports a total of c. 160 hedgerow units, as summarised in **Table 9**. For the full data, refer to the metric and BNG Assessment **Appendix 3: Detailed Results of Statutory Biodiversity Metric Calculations**.

Table 9: Baseline Hedgerow Units and Lengths

Habitat type	Distinctiveness	Condition	Length (km)	Ecological baseline (Total units)
Line of trees	Low	Moderate - Good	0.56	3.45
Native hedgerow	Low	Poor - Good	3.71	23.03
Native hedgerow - associated with bank or ditch	High	Moderate	0.24	2.56
Native hedgerow with trees	Medium	Poor - Good	1.86	16.87
Native hedgerow with trees - associated with bank or ditch	High	Moderate - Good	1.34	24.56
Species-rich native hedgerow	Medium	Moderate	0.39	3.51
Species-rich native hedgerow - associated with bank or ditch	High	High	1.74	36.02
Species-rich native hedgerow with trees	High	Moderate - Good	0.79	15.70
Species-rich native hedgerow with trees - associated with bank or ditch	V. High	Moderate - Good	1.28	34.38
Total (rounded)				160

### River Unit Summary

5.2.8 The Site currently supports a total of c. 25 river units as summarised in **Table 10**. For the full data, refer to the metric and BNG Assessment **Appendix 3: Detailed Results of Statutory Biodiversity Metric Calculations**.

Table 10: Baseline River Units and Lengths Units

Habitat type	Distinctiveness	Condition	Length (km)	Ecological baseline (Total units)
Ditches	Medium	Poor - Moderate	2.17	11.17
Other rivers and streams	High	Moderate	1.44	14.17



Habitat type	Distinctiveness	Condition	Length (km)	Ecological baseline (Total units)
Total (rounded)				25

### 5.3 Retention, enhancement and loss of areas / units

5.3.1 The Project (based on the **Vegetation Removal Plan (Doc Ref 2.8)** and the **Illustrative Landscape Drawings – Not for Approval (Doc Ref 2.7)**) will result in the expected changes to the existing baseline habitats, broadly categorised as retention, enhancement or loss.

5.3.2 The overall unit habitat loss is calculated from the Site currently supporting the following habitat types and biodiversity units. For the full data, see BNG Assessment **Appendix 3: Detailed Results of Statutory Biodiversity Metric Calculations**.

### 5.4 Habitat Unit Summary

5.4.1 **Table 11** shows a summary breakdown of the habitat areas and units that would be retained, enhanced and lost on-Site. This shows the majority of arable habitats would be lost (comprising the majority of Site) while boundary grassland, scrub, woodland are to be mostly retained in terms of both areas and units. All ponds would be retained.

**Table 11: Baseline Habitat Areas and Habitat Units – Retained, Enhanced and Lost**

Habitat type	Area Retained (ha)	Area Enhanced (ha)	Area Lost (ha)	Habitat Units Retained	Habitat Units Enhanced	Habitat Units Lost
Cereal crops	1.96	-	71.06	3.92	-	142.12
Developed land; sealed surface	3.813	-	0.25	0.00	-	0.00
Horticulture	-	-	29.23	0.00	-	58.46
Lowland mixed deciduous woodland	1.23	-	-	16.974	-	-
Mixed scrub	0.81	-	0.37	7.08	-	2.86
Non-cereal crops	-	-	34.66	0.00	-	69.31

Habitat type	Area Retained (ha)	Area Enhanced (ha)	Area Lost (ha)	Habitat Units Retained	Habitat Units Enhanced	Habitat Units Lost
Other neutral grassland	1.94	14.76	1.48	17.05	113.112	8.05
Ponds (priority habitat)	0.08	-	0.00	1.15	-	0.00
Ruderal/Ephemeral	-	-	0.09	0.00	-	0.18
Temporary grass and clover leys	-	-	28.03	0.00	-	56.05
Watercourse footprint	1.14	-	0.00	0.00	-	0.00
Wet woodland	0.51	-	0.278	7.07	-	3.84

### Hedgerow Unit Summary

5.4.2 **Table 12** below shows the majority of the Site hedgerow network would be retained (in terms of both lengths and hedgerow units) with minimal losses overall.

5.4.3 Note it is assumed that the entire retained hedgerow network will be enhanced but that hedgerows that are already in good condition have been assessed as retained to avoid errors in the metric.

**Table 12: Baseline Hedgerow Lengths and Units – Retained, Enhanced and Lost**

Habitat type	Length Retained (km)	Length Enhanced (km)	Length Lost (km)	Hedgerow Units Retained	Hedgerow Units Enhanced	Hedgerow Units Lost
Line of trees	0.45	0.12	0.00	2.94	0.51	0.00
Native hedgerow	3.18	0.44	0.08	21.16	1.37	0.50
Native hedgerow - associated with bank or ditch	0.16	0.08	0.00	2.19	0.37	0.00
Native hedgerow with trees	0.93	0.91	0.02	10.35	6.36	0.16
Native hedgerow with trees - associated with bank or ditch	1.02	0.29	0.03	20.12	3.84	0.60
Species-rich native hedgerow	0.17	0.21	0.02	2.35	0.96	0.21

Habitat type	Length Retained (km)	Length Enhanced (km)	Length Lost (km)	Hedgerow Units Retained	Hedgerow Units Enhanced	Hedgerow Units Lost
Species-rich native hedgerow - associated with bank or ditch	1.72	-	0.02	35.62	0.00	0.39
Species-rich native hedgerow with trees	0.70	0.08	0.00	14.57	1.09	0.04
Species-rich native hedgerow with trees - associated with bank or ditch	1.18	0.09	0.01	32.43	1.67	0.28

### River Unit Summary

5.4.4 **Table 13** below shows the entire river network to be enhanced (through removal of encroachment (through removal of arable land use and landscape enhancement proposals) within the riparian zone). No river units would be lost.

Table 13: Baseline River Lengths and Units – Retained, Enhanced and Lost

Habitat type	Length Retained (km)	Length Enhanced (km)	Length Lost (km)	River Units Retained	River Units Enhanced	River Units Lost
Ditches	-	2.17	-	-	11.17	-
Other rivers and streams	0.30	1.14	-	1.22	10.72	-

### Retention and Losses Description

#### Key Principles

5.4.5 The habitat retention and loss areas and units have been calculated with reference to key control documents and design principles as discussed below.

#### Retention

5.4.6 All boundary grassland margins have been assessed as retained aside from where grassland removal is shown within the **Vegetation Removal Plan (Doc Ref. 2.8)**. Any grassland present within BIA and boundary areas is to be retained and enhanced.

- 5.4.7 While arable cropland is to be removed to create the PV Array grassland (i.e. within security fence and managed as operational solar farm), existing pasture will be retained (and enhanced through management).
- 5.4.8 All woodlands, ponds and the vast majority of hedgerows are assessed as retained based on the **Vegetation Removal Plan (Doc Ref. 2.8)**.

### Losses

- 5.4.9 The Project is assessed as removing all arable cropland, with the exception of the retained cable route. Note grassland arable margins are retained, as described within retention and enhancement. The quantum of woodland, hedgerow and scrub removal required within the Site have been calculated from the **Vegetation Removal Plan (Doc Ref. 2.8)** and assessment of the layout and **Illustrative Landscape Drawings – Not for Approval (Doc Ref. 2.7)**.
- 5.4.10 Where minor areas of new habitat are created within retained grassland areas, this has been assessed on a case-by-case basis, noting this is limited to the BIAs that are being created on retained grassland areas. Generally, creation of wetland features or extensive plantings are assessed as a loss of grassland. Where minor areas of scrub (of less than 25m<sup>2</sup>) are proposed, these are below the Minimum Mapping Unit ('MMU') size in accordance with UKHab guidance (2022)<sup>11</sup> and classed as retention. Similarly, where tree planting is to take place within grassland, this is generally assessed as retention and enhancement of the existing grassland habitat type.
- 5.4.11 On a precautionary basis, the habitats present within the existing National Grid Sellindge Substation area (mixed scrub, wet woodland and ruderal/ephemeral) have been assessed as being removed in their entirety. While proposals are not yet finalised for this area, it is expected that full loss of these habitats is unlikely to occur and that such habitat loss would be minimised and not encompass the entire area. This BNG Assessment has however been produced using a worst-case assessment that assumes total loss.
- 5.4.12 Where temporary grassland losses are required to facilitate the cable route, internal haul roads or access as part of construction, these are to be reinstated through reinstatement of existing topsoil, turf or re-seeding. As such, this meets the criteria for temporary losses and is stated as retained in the metric in accordance with BNG user guide criteria<sup>1</sup> as follows:

### *'Accounting for temporary losses*

*You do not need to account for habitat loss where there are temporary impacts to a habitat and the area can be restored to both:*

*-baseline habitat type within two years of the initial impact; and*

*-baseline condition within two years of the initial impact'*

- 5.4.13 Very minor temporary loss of habitat within the riparian zone could occur from the installation of crossing points (i.e., temporary bank to bank bridges). Temporary crossing points have been accounted as 'temporary losses' as per the above definition, noting that the permanent crossings comprise underground cables and therefore will not alter above ground habitats.
- 5.4.14 Where hedgerow is to be lost as part of construction but later reinstated, this is still accounted for as a loss (due to the time required for hedgerow re-establishment in excess of 2 years).

### Enhancement

- 5.4.15 Where a habitat is to be retained within the Project and subject to long term habitat management, this will be in accordance with the **Outline LEMP (Doc Ref. 7.10)**.
- 5.4.16 Enhancement principles are provided within the following section to enable the interpretation of the post development landscape.

### Enhancement and Creation Description

#### Key Principles

- 5.4.17 Habitat enhancement and creation areas and units have been calculated with reference to the following key documents and design principles.

#### Habitat enhancement interpretation

- 5.4.18 The broad principles for retention and enhancement of existing habitats are provided within the **Outline LEMP (Doc Ref. 7.10)**. For the purposes of the assessment, it is assumed that the entire retained hedgerow network, grassland areas and riparian zone of the East Stour River will be enhanced through a combination of beneficial habitat management and cessation of agricultural activities.
- 5.4.19 Due to the limited proposed interventions for retained scrub, woodlands and ponds within the **Outline LEMP (Doc Ref. 7.10)**, these habitats are assessed to be retained but not enhanced.

#### Condition

- 5.4.20 The retained and enhanced 'other neutral grassland' within the BIAs is assigned a predicted condition score of good, given the use of diverse meadow mixes, proposed management primarily for biodiversity, opportunity for further diversification through natural plant colonisation from adjacent areas seeded with diverse meadow mixes, elimination of nutrient enrichment from adjacent on-Site agricultural land and cessation of damage from agricultural machinery.
- 5.4.21 Retained and enhanced pasture has been assigned a predicted condition score of moderate, the same as created areas seeded with BS MeadowMax or equivalent. It is likely that the enhanced swards could achieve greater structure and diversity than 'moderate', but the assigned condition level overall reflects the distinction

between the pasture mix seeding (and retained pasture) and meadow mix seeded areas across the Site.

- 5.4.22 Hedgerows across the Site are predicted to achieve 'good' condition given the extensive relaxation of hedgerow management within the Site and the reinforcement of existing hedgerows with native, species rich plantings.

### Strategic Significance

- 5.4.23 The other neutral grassland and hedgerows to be enhanced are assigned the same strategic significance scores within the Metric as for the on-Site habitat baseline equivalent (medium distinctiveness, semi-natural habitats not classed as priority habitats but with significant wildlife benefit, e.g. mixed scrub) as follows:
- Grassland - Other neutral grassland: Assigned as medium significance due to inherent value of grassland, its extent and connectivity to local habitats.
  - Woodland, pond and native species rich hedgerow: Assigned as high strategic significance due to being a Habitat of Principal Importance and directly referenced within the Kent Biodiversity Strategy (Kent Nature Partnership, 2020).
  - Mixed scrub: All habitat assessed as low strategic significance as primarily comprised of common habitat types (bramble scrub is assigned low significance by default).

### European Protected Species Mitigation Exclusions

- 5.4.24 Based upon understood legal precedent and in response to consultation feedback (Kent Wildlife Trust, 2023), habitats that are created or enhanced to compensate for impacts to the habitats of European Protected Species ('EPS') can be counted towards achieving a position of no net loss of biodiversity units but cannot be counted towards a predicted net gain in biodiversity units. This means that EPS compensatory habitats cannot be used to allow a project to cross the threshold from no net loss to net gain.
- 5.4.25 In this case however, the extent of EPS compensatory habitats required is so small (due to minimal loss of EPS habitats and therefore minimal need for EPS compensation) that they fall well below the threshold of no net loss.
- 5.4.26 While the Metric is not designed to account for such artificial distinctions, a 'best fit approach' has been included within this assessment.
- 5.4.27 The expected EPS compensatory habitats (which would be confirmed as part of a final EPS mitigation licence issue) are small areas contributing a relatively minor percentage of operational phase habitats and units. Furthermore, such areas have not been designed solely for EPS as they fulfil other purposes in the broader ecological and landscape strategies.
- 5.4.28 The proposed EPS compensatory habitat requirements in terms of habitat creation and enhancement have been calculated from the draft licences (Lloydore, 2024)



produced for the Natural England pre-screening submission service (noting these are draft only). The habitats are limited within the Project to the following:

#### *Great crested newt compensation:*

- Loss of suitable great crested newt (*Triturus cristatus*) terrestrial habitat (suitable habitat within 250m of ponds with confirmed presence) is limited across the Site to minor boundary margins of approx. 1.75ha, noting no aquatic habitat loss is to occur.
- This is compensated for by the enhancement of a small grassland field between Fields 10 and 12 and the south east corner of Field 8 as BIAs to potentially accommodate construction stage translocations. Enhancement of these existing grassland areas (c. 0.93ha for the Fields 10-12 BIA and c. 0.29ha of the Field 8 BIA) total c. 1.09ha.

#### *Hazel dormouse compensation:*

- Like for like compensation of hedgerow removals accounts for 150m of created hedgerow.
- Like for like compensation of scrub loss accounts for c. 0.28ha of the habitat creation proposals.

5.4.29 As the EPS mitigation areas are not required to provide net gain, are draft only, fulfil other ecological and landscape benefits and contribute only a minor habitat area and unit amounts to the calculation, they have been identified within the Metric spreadsheet but no artificial modification or removal of units or areas in the Metric has been applied.

#### *Habitat creation interpretation*

5.4.30 Habitats to be created within the Site have been interpreted from the **Illustrative Landscape Drawings – Not for Approval (Doc Ref. 2.7)**. The broad principles for creation of habitats are provided within the **Outline LEMP (Doc Ref. 7.10)**. BNG Assessment **Appendix 1, Figure 2: Habitat Impacts Plan** and **Figure 3: Proposed Post Development Habitat Plan** have accounted for the retention of boundary grassland, rather than small areas of habitat creation suggested on the **Illustrative Landscape Drawings – Not for Approval (Doc Ref. 2.7)**. The broad habitat enhancement (as detailed above) and creation measures factored into this Assessment have been developed through coordination between the Project ecologist, Project landscape architect, the Applicant and wider Project team. These broad habitat measures will be subject to review and further development at the detailed habitat design stage, through submission of a Biodiversity Design Strategy as secured by a Requirement of the **Draft Development Consent Order (Doc Ref. 3.1)**.

5.4.31 The extensive areas of arable habitat that will be removed within the PV Arrays and BIAs be replaced by newly created habitats. Additionally, some habitat creation (rather than enhancement) will occur within existing BIA grassland at small scale in order to diversify pre-existing habitats (i.e. creation of ponds and scrapes, scrub areas and woodland screening belts).

#### *Habitat creation classifications and condition*

5.4.32 The interpretation of habitat creation as shown within the **Illustrative Landscape Drawings – Not for Approval (Doc Ref. 2.7)** and detailed within the Metric spreadsheet is summarised below, including the assigned condition:

- PV Array EM1 seeded grassland will be classed as the medium distinctiveness 'Other Neutral Grassland', to reflect that grassland will be unlikely to meet the quality required for 'Lowland Meadow'. Condition has been assigned as 'good' to reflect the seed mix and management.
- PV Array 'MeadowMax- grassland' will be classed as the medium distinctiveness 'Other Neutral Grassland', given the diverse grassland seed mix proposed (more diverse than intensive pasture mixes), management and expected colonisation from adjacent seedbanks. 'Moderate' condition has been assigned to this mixture, acknowledging it is not as diverse as the EM1 mix.
- It is assessed that, within PV Arrays, grassland habitat underneath the panels will be able to achieve the same condition score as grassland habitat that is not under panels. This is because grassland species will be able to grow beneath the panels (based upon the height and structure of the PV panels, which will allow sufficient light and moisture to reach ground level). While the areas under panels may include a portion of shade tolerant species, this is overall not assessed to change the proposed habitat type, predicted condition score or introduce any need to distinguish between areas below and around panels in the assessment.
- Internal access tracks through the PV Arrays will function as part of the wider grassland given it will be subject to grass seeding, but to reflect the use of permeable grass-paving hardstanding surface (and lack of a best fit urban habitat category in BNG) has been assigned as modified grassland in poor condition - seeded with a five species fescue and bent grass mix.
- Boundary grassland seeding EM10 is assigned as 'Other neutral grassland, tussocky' and assigned 'good' condition to reflect the proposed seed mix, management.
- Meadow mixtures and seeding within the BIAs has been classed as the medium distinctiveness 'Other neutral grassland' (similar to the PV Array grassland).
- New woodland areas have been assigned as meeting the species composition for 'Lowland mixed deciduous woodland' and 'Wet woodland', from review of the native mixes proposed. Assessed as achieving 'moderate' condition to account of a degree of uncertainty regarding successful establishment and maturation, which occurs over long timescales.
- The new orchard has been assessed as meeting HPI criteria as it will be non-intensively managed with a species rich grassland understorey. It has been assessed as meeting 'moderate' condition to account for establishment on nutrient rich arable soils and that ancient/veteran trees are required to meet 'good' condition for this habitat type.
- Scrub / woodland edge planting has been classed as 'mixed scrub' and is

predicted to achieve 'good' condition, to reflect the diverse native mix proposed and proposed management.

- Created ponds have been assessed as meeting the criteria for a HPI and are predicted to achieve 'good' condition to reflect the targeting of these features as wildlife habitat ponds.
- Created habitat scrapes have been classed as wetland features and are predicted to achieve 'moderate' condition to reflect wet meadow seeding with EM8 Wet Meadow mixture, but taking account of some uncertainty over maintenance of water levels.
- Sustainable urban drainage features have been classified as 'eutrophic standing water, sustainable urban drainage' and are predicted to achieve 'moderate' condition, to reflect their creation to benefit biodiversity but with their primary functionality being to provide drainage.
- Hedgerows have been classed as native and species rich based upon the proposed species mixes and classified as with or without trees depending on details within the **Illustrative Landscape Drawings – Not for Approval (Doc Ref. 2.7)**.
- The remaining infrastructure areas (substations, access roads, invertors etc) have been aggregated as 'urban - developed land, sealed surface' for simplicity within the Metric, noting a value of zero biodiversity units.

### Strategic Significance

5.4.33 A search of published local strategies and objectives (as identified in **Section 4** of this BNG Assessment) has been used to assign strategic significance levels to the habitats outlined in the **Illustrative Landscape Drawings (Doc Ref. 2.7)** using the strategic significance criteria detailed within **Section 4**. The basis for assigning scores for habitats not addressed within baseline or enhanced habitats is outlined below:

- Orchard creation is assigned a strategic significance of 'high' to acknowledge this habitat can meet HPI criteria.
- Created habitat scrapes are assigned a strategic significance of 'high' to acknowledge wetland feature creation and enhancement of the East Stour River riparian corridor.
- Sustainable urban drainage features are assigned a strategic significance of 'moderate' to acknowledge additional wetland habitat creation but that these features will be principally for drainage functionality.
- Bird crop strips are assigned a precautionary strategic significance of 'low' to match baseline arable habitats but noting this habitat is managed as specific mitigation for Species of Principal Importance ('SPI's).

## 5.5 Habitat Enhancement and Creation Summary

5.5.1 The Project is anticipated to deliver the following created habitats and associated biodiversity units on-Site, which are summarised in **Tables 14 to 16** below. The final BNG Assessment will be completed post final design and will confirm how the

Project will secure a BNG of at least 100% (for habitat units), at least 10% for hedgerow units and at least 10% for river units. The submission of a biodiversity design strategy which provides details of how the landscape and biodiversity enhancement works provided as part of the authorised development will comply with these BNG percentages (as the BNG requirement) is secured by Requirement in the **Draft Development Consent Order (Doc Ref. 3.1)**.

- 5.5.2 For the full data, refer to the metric and BNG Assessment **Appendix 2: Detailed Results of Statutory Biodiversity Metric Calculations**.

### Habitat Units

- 5.5.3 The Project is anticipated to deliver a total of c. 1,247 created habitat units. These will be created across 165 hectares. Note that the vast majority of habitat units are a result of grassland creation either within the PV Arrays or BIAs.
- 5.5.4 Details of the default time to target condition and difficulty multipliers can be found within BNG Assessment **Appendix 2: Detailed Results of Statutory Biodiversity Metric Calculations**.

Table 14: Created Habitat Units – Areas and Units

Habitat type	Distinctiveness	Condition	Area Created (ha)	Habitat Units Delivered
Arable field margins game bird mix	Medium	N/A	2.21	9.81
Developed land; sealed surface	V. Low	N/A -Other	4.061	0.00
Lowland mixed deciduous woodland	High	Moderate	3.068	4.47
Mixed scrub	Medium	High	0.77	7.11
Modified grassland	Low	Poor	2.38	4.59
Other neutral grassland (Meadow max within PV Arrays))	Medium	Moderate	100.116	737.63
Other neutral grassland (EM1 within PV Arrays))	Medium	Good	27.22	251.63
Other neutral grassland (EM8 boundaries and BIAs))	Medium	Good	14.631	135.24
Other neutral grassland (BIA 26-29 Wet Meadow))	Medium	Good	9.245	85.46
Ponds (priority habitat)	High	Good	0.09	1.02
Sustainable drainage system	Low	Moderate	0.25	0.67
Temporary lakes ponds and pools	High	Moderate	0.44	3.68
Traditional orchards	High	Moderate	0.66	4.44
Wet woodland	High	Moderate	0.251	1.36
			Total (rounded)	1247

- 5.5.5 Enhancement of existing grassland (margins and existing pasture) will deliver a total of c. 153 habitat units (which includes the retained baseline units) as shown in **Table 15**.

**Table 15: Enhanced Habitat Units – Areas and Units**

Habitat type	Distinctiveness	Existing Condition	Target Condition	Area Enhanced (ha)	Habitat Units Delivered
Other neutral grassland (proposed BIA between field 10 and 11 - but already good condition)	Medium	Good	Good	0.934	- (already good condition)
Other neutral grassland (Grassland margins to be enhanced through management)	Medium	Poor - Moderate	Good	10.108	114.66
Other neutral grassland (Field 8 BIA existing pasture to be enhanced)	Medium	Poor	Good	5.194	38.88
Total (rounded)					153

### Hedgerow Units

- 5.5.6 To simplify the calculation of hedgerow creation, all created hedgerow lengths have been aggregated into a single category of species-rich native hedgerow (medium distinctiveness good condition), based upon the planting mix within the **Outline LEMP (Doc Ref. 7.10)**, which delivers c. 49 hedgerow units.
- 5.5.7 Details of the default time to target condition and difficulty multipliers can be found within BNG Assessment **Appendix 2: Detailed Results of Statutory Biodiversity Metric Calculations**.
- 5.5.8 The enhancement of the existing hedgerow network overall delivers c. 27 hedgerow units as shown in **Table 16**.



Table 16: Enhanced Hedgerow Units – Length and Units

Habitat type	Distinctiveness	Existing Condition	Target Condition	Length Enhanced (km)	Hedgerow Units Delivered
Line of trees	Low	Moderate - Good	Good	0.12	0.71
Native hedgerow	Low	Poor - Good	Good	0.44	2.71
Native hedgerow - associated with bank or ditch	High	Moderate	Good	0.08	0.99
Native hedgerow with trees	Medium	Poor - Good	Good	0.92	10.74
Native hedgerow with trees - associated with bank or ditch	High	Moderate - Good	Good	0.30	5.51
Species-rich native hedgerow	Medium	Moderate	Good	0.21	2.46
Species-rich native hedgerow with trees	High	High	Good	0.08	1.56
Species-rich native hedgerow with trees - associated with bank or ditch	High	Moderate - Good	Good	0.09	2.30

### River Units

- 5.5.9 The enhancement of the riparian zone (removal of arable encroachment) for both ditches and rivers delivers a total of c. 26 river units.
- 5.5.10 Details of the encroachment multipliers can be found within BNG Assessment **Appendix 2: Detailed Results of Statutory Biodiversity Metric Calculations.**

## 5.6 Conclusion

- 5.6.1 The post-development habitats shown on the **Illustrative Landscape Drawings – Not for Approval (Doc Ref. 2.7)** are predicted to result in a positive biodiversity change on Site as shown in **Table 17** below. For the detailed results, see the Metric spreadsheet and BNG Assessment
- 5.6.2 **Appendix 2: Detailed Results of Statutory Biodiversity Metric Calculations.**

Table 17: Overall net biodiversity unit change

Description	Unit	Net Change
Total net unit change (including all on site retention, creation and enhancement)	Habitat	<b>+ 186.65 %</b> (507.21 baseline - 1453.91 post development = +946.70 units)
	Hedgerow	<b>+36.28%</b> (160.09 baseline – 218.17 post development = +58.08 units)
	River	<b>+15.24%</b> (25.33 baseline- 29.20 post development = +3.86 units)

- 5.6.3 The above indicates a significant increase of habitat and hedgerow units. The river unit increase represents the retention of the existing river and drain network and terrestrial habitat enhancement within the riparian zone.
- 5.6.4 The submission of the detailed LEMP(s) as well as the submission of a Biodiversity Design Strategy are secured by a Requirement in the **Draft Development Consent Order (Doc Ref. 3.1)**, which would detail how those proposals secure a BNG during the operational phase of the authorised development of at least 100% for habitat units, at least 10% for hedgerow units and at least 10% for river units. The final BNG Assessment included in future detailed LEMP(s) will be informed by the further surveys and ecological works that are set out within the **Outline LEMP (Doc Ref. 7.10)**.
- 5.6.5 While the metric shows 'trading rules not satisfied', this is a result of the worst-case wet woodland loss for the Sellindge Substation Area of -2.48 habitat units. The trading rules require higher distinctiveness habitat losses to be compensated with the exact same habitat type. There is a net increase overall in woodland units (+1.99 habitat units in this worst case assessment) with the trading rules not being met due to the division between the created wet and lowland, deciduous woodland habitat types. In the eventuality additional wet woodland is required, the Site has sufficient space to accommodate this habitat type.

## 6 Creation, Enhancement and Long-Term Management of Habitats

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### 6.1 Overview

- 6.1.1 Ongoing, appropriate habitat management and monitoring will be required to deliver the proposed biodiversity units.
- 6.1.2 The detailed habitat creation, enhancement and management prescriptions will be set out in detailed LEMP(s), with the overarching requirements set out in the **Outline LEMP (Doc Ref. 7.10)**.
- 6.1.3 The habitat management prescriptions that will be required to secure the long-term ecological value of the proposed habitats, and the associated net gain in biodiversity units, will comprise basic vegetation management prescriptions that are compatible with the continued operational phase and management of the Project. The biodiversity net gain secured by a Requirement in the **Draft Development Consent Order (Doc Ref. 3.1)** is therefore achievable, deliverable and appropriate to the wider land use.
- 6.1.4 The detailed LEMP(s) will also set out (where the results from monitoring show that conservation aims and objectives of the **Outline LEMP (Doc Ref. 7.10)** are not being met) how contingencies and/or remedial action will be identified, agreed and implemented so that the development still delivers the fully functioning biodiversity objectives of the originally approved Project.

### 6.2 Management of Key Habitats to Meet Target Condition

- 6.2.1 An overview of the target condition criteria and their feasibility for key habitats to be created, managed and enhanced is provided below.
- 6.2.2 Criteria have been taken from 'Natural England Joint Publication JP039 The biodiversity metric 4.0: auditing and accounting for biodiversity'<sup>21</sup> and 'Statutory Biodiversity Metric' Condition assessment sheets'<sup>2</sup>.
- 6.2.3 Further detail on habitat management prescriptions and associated requirements for monitoring of habitat establishment (and thereby condition) can be found within the **Outline LEMP (Doc Ref. 7.10)**.

#### Other neutral grassland

- 6.2.4 Creation and enhancement of other neutral grassland is achievable within both the PV Arrays, BIAs and boundary habitats, noting that while structure and species composition will vary, both areas should be able to achieve this habitat through increasing species diversity. Note that while several differing grass mixes are proposed on Site (i.e., PV Array diverse pasture, other neutral grassland of

tussocky, wet or flower rich types), the below condition criteria are applicable to all as 'medium distinctiveness' grasslands.

6.2.5 The condition criteria for this grassland type are summarised below, noting that generally;

- Good condition passes five of six criteria including those essential for good condition;
- Moderate condition passes three of four criteria including those essential for moderate condition; and
- Poor condition passes less than three, or more than three but fails essential criteria.

6.2.6 Further detail is provided within 'Natural England Joint Publication JP039' as further methodology is specified but the above forms a useful guide. A summary of the six applicable criteria is provided below.

- The appearance and composition of the vegetation closely matches characteristics of the specific grassland habitat type (see UKHab<sup>16</sup> definition);
- Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm). Essential for achieving moderate condition;
- Cover of bare ground between 1% and 5%;
- Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%;
- There is an absence of invasive non-native species (as listed on Schedule 9 of Wildlife and Countryside Act, 1981<sup>22</sup>);
- Combined cover of species indicative of sub-optimal condition 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; and
- There are greater than 9 species per metre squared. NB - This criterion is essential for achieving good condition (non-acid grassland types only).

### **Woodland and forest - Lowland deciduous mixed and wet**

6.2.7 Management will ensure overall habitat condition of moderate or better by achieving the following parameters including:

- Five or more woody species are distributed across the woodland;
- An absence of invasive non-native species (as listed on Schedule 9 of the Wildlife and Countryside Act 1981 ('WCA 1981')) and species indicative of sub-optimal condition will make up less than 5% of the total area;
- Deadwood is present throughout (this can be provided as a result of any vegetation removal); and

- >80% of tree canopy and understorey shrubs.

6.2.8 The management measures are then set out within the **Outline LEMP (Doc Ref. 7.10)** to ensure establishment and through control of any invasive species identified as part of ecological monitoring.

### Traditional Orchard

6.2.9 An orchard is proposed within the south east of the Site (Field 22) which will include a meadow understorey as detailed above and be managed in a non-intensive manner (i.e., limited use of pesticides). Its non-intensive and non-commercial management along with management of grassland as meadow means that once established this will meet the criteria for the HPI of 'Traditional Meadow'.

6.2.10 It should be noted that 'good' condition requires the presence of veteran or ancient trees, which cannot be met through new habitat creation.

6.2.11 'Fairly good or moderate' condition can however be met by meeting the following targets which are all achievable within the Project:

- Less than 5% of fruit trees are smothered by scrub. Small patches of dense scrub and/or scattered scrub growing between trees can be beneficial to biodiversity, however these should occupy less than 10% of ground cover;
- There is evidence of formative and/or restorative pruning to maintain longevity of trees;
- Presence of standing and/or fallen dead wood: all mature trees have standing or fallen branches, stems and stumps greater than 10 cm diameter associated with them;
- At least 95% of the trees are free from damage caused by humans or animals e.g., browsing, bark stripping or rubbing on non-adjusted ties;
- Sward height is varied (between 5 cm and 30 cm) and small patches of bare ground are present creating structural diversity. Up to 10% cover of patches of tall herb vegetation may be present;
- Species richness of the grassland is equivalent to a medium, high, or very high distinctiveness grassland; and
- There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and species of sub-optimal condition make up less than 10% of ground cover.

### Heathland and shrub- mixed scrub

6.2.12 The scrub areas within the Project include woodland buffer plantings and patches within the BIAs to create the scrub / grassland mosaic favoured by reptiles.

6.2.13 Management will ensure overall habitat condition of high (all five parameters), moderate (three to four) or low (zero to two) better by achieving a number of the following parameters:

- Habitat is representative of UKHab description (where in its natural range).

There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover);

- There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs;
- There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and species indicative of sub-optimal condition make up less than 5% of ground cover;
- The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s); and
- There are clearings, glades or rides present within the scrub, providing sheltered edges.

6.2.14 The indicative species mix and habitat management proposed within the **Outline LEMP (Doc Ref. 7.10)** means that good condition should be achievable in most if not all locations.

### Lakes - Ponds (priority habitat)

6.2.15 New naturalised ponds with marginal wetland habitats are to be created to enhance Site ecology and form part of the BIAs located throughout the Site.

6.2.16 Management will ensure overall habitat condition of moderate or better by achieving a number of parameters including:

- A range of depths achieved through 'shelving' and with a basin component of ideally a depth of 0.5m or more;
- Ideally pond slopes are shallow, less than 1:5 (12°) and preferably less than 1:20 (3°);
- A diverse range of marginal, emergent and submerged plants;
- A diverse faunal community of invertebrates and other species (i.e. amphibians); and
- Such parameters will require review against the use of the ponds as part of the sustainable drainage system ('SuDS'), but noting that even small seasonally wet ponds are of value to a range of species.

6.2.17 Management may include occasional vegetation and sediment removal (including any invasive species).

### Native hedgerow

6.2.18 Existing and newly created native, species rich hedgerow (qualifying as a HPI) will both be subject to management and enhancement to maintain or improve their condition.

6.2.19 The condition criteria for hedgerows are summarised below, noting that generally;



- Good condition fails no more than two criteria;
- Moderate condition fails no more than four criteria; and
- Poor condition fails a total of more than four criteria.

6.2.20 Further detail is provided within '*Natural England Joint Publication JP039*<sup>2</sup> as further methodology for condition criteria but the above forms a useful guide.

- Criteria A1 Height - >1.5 m average along length
- Criteria A1 Width - >1.5 m average along length
- Criteria B1 Gap - hedge base. Gap between ground and base of canopy <0.5 m for >90% of length (unless 'line of trees')
- Criteria B2 Gap - hedge canopy continuity. Gaps make up <10% of total length and no canopy gaps >5 m
- Criteria C1 Undisturbed ground and perennial vegetation. 1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length:
  - measured from outer edge of hedgerow, and
  - is present on one side of the hedge (at least)
- Criteria C1 Undesirable perennial vegetation. Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.
- Criteria D Invasive and neophyte species. >90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species.
- Criteria E Current damage. >90% of the hedgerow or undisturbed ground is free of damage caused by human activities.

6.2.21 Assessment of the landscape plans indicates that moderate condition should be easily achievable and good condition achievable if management and establishment is successful in maintaining the Criteria A1 and A2 height and widths.

# Appendix 1: Figures

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## Contents:

Figure 1: Habitat Prior to Development Plan\*

Figure 2: Habitat Impacts Plan\*\*

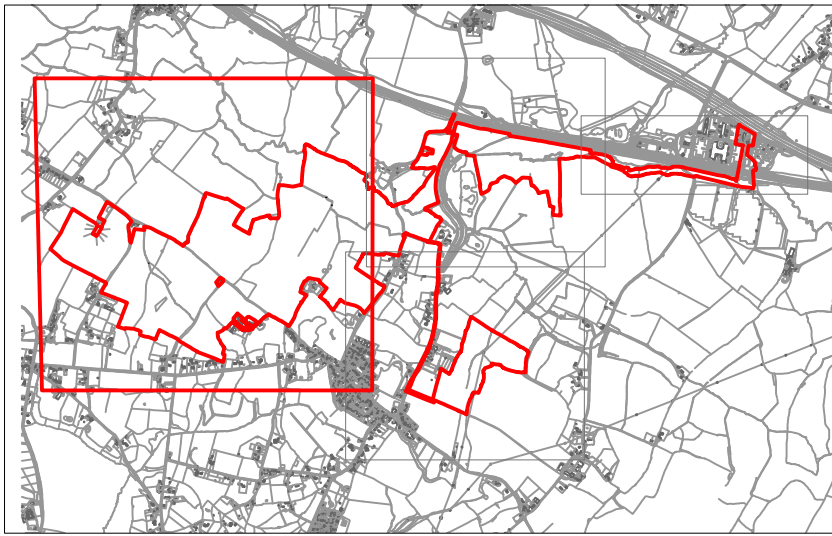
Figure 3: Proposed Post Development Habitat Plan\*\*\*

## Notes:

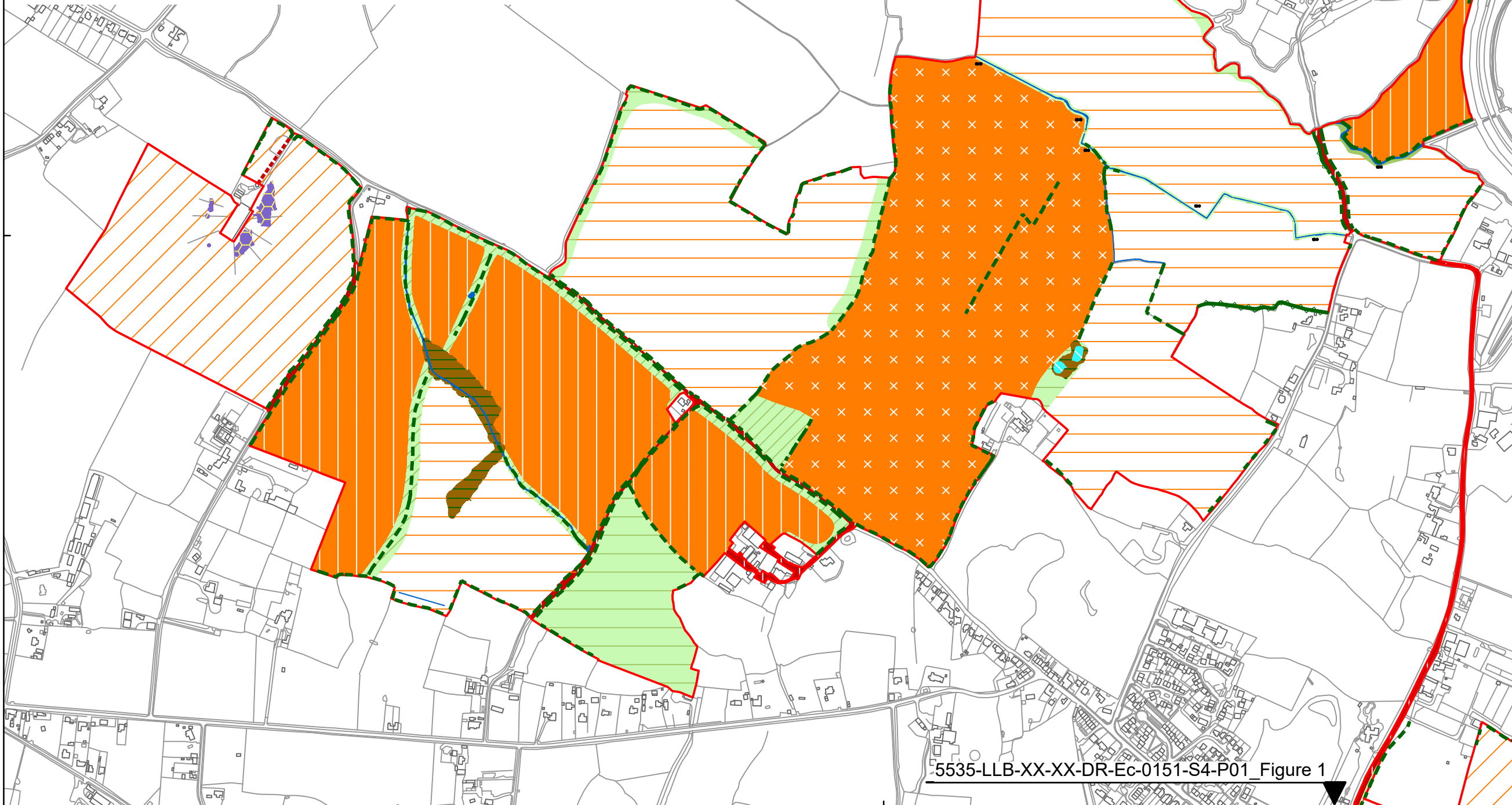
\* This figure is the same as **ES Volume 3, Figure 9.6: Habitat Prior to Development Plan (Doc Ref. 5.3)**.

\*\* This figure is the same as **ES Volume 3, Figure 9.10: Habitat Impacts Plan (Doc Ref. 5.3)**.

\*\*\* This figure is the same as **ES Volume 3, Figure 9.11: Habitat Prior to Development Plan (Doc Ref. 5.3)**.



5535-LLB-XX-XX-DR-Ec-0150-S4-P01\_Figure 1

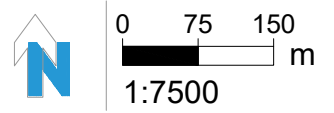


5535-LLB-XX-XX-DR-Ec-0151-S4-P01\_Figure 1

**LEGEND:**

	c1 - Arable and horticulture Total area approx: 29.230 ha.
	c1b - Temporary grass and clover ley Total area approx: 28.025 ha.
	c1c - Cereal crop Total area approx: 73.021 ha.
	c1d - Non-cereal crop Total area approx: 34.657 ha.
	g3 - Neutral grassland Total area approx: 4.844 ha.
	g3c - Other neutral grassland Total area approx: 13.330 ha.
	h2 - Hedgerow Total length approx: 11544.8 m.
	h3h - Mixed scrub Total area approx: 1.176 ha.
	r1a - Eutrophic standing water Total area approx: 0.083 ha.
	r2 - River and stream Total length approx: 3607.8 m.
	r2 - River and stream Total area approx: 1.073 ha.
	u1b - Developed land, sealed surface Total area approx: 2.247 ha.
	u1e - Built linear feature Total length approx: 104.4 m.
	w1f - Lowland mixed deciduous woodland Total area approx: 1.230 ha.
	w1g6 - Line of trees Total length approx: 704.3 m.
	Order limits Total area approx: 191.538 ha.

Areas refer to total habitat within Order limits.



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P01	06/06/24	MW	Initial issue.

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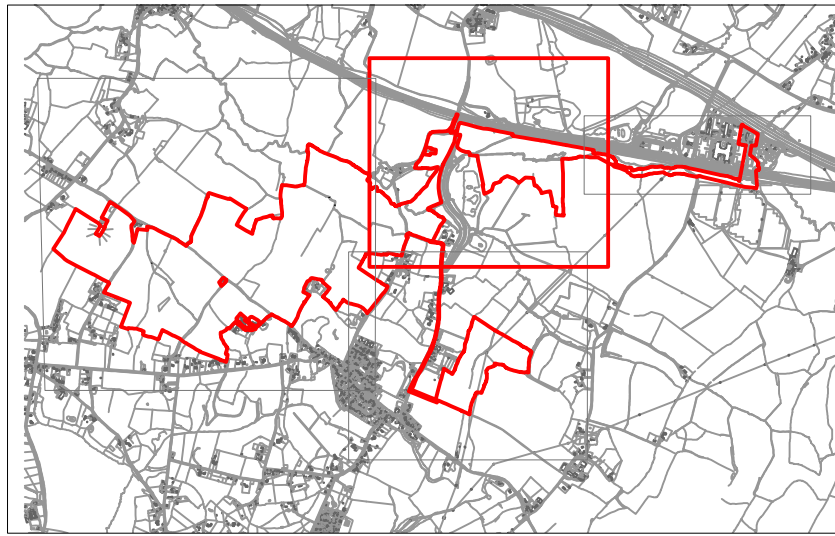
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 project **Stonestreet Green Solar**  
**Land North And West Of Aldington**  
 Kent

drawing no. **5535-LLB-XX-XX-DR-Ec-0149**  
 drawing title **Biodiversity Net Gain Assessment - Figure 1**  
**Habitat Prior to Development Plan**  
 Sheet 1 of 4

rev. **P01**  
 sub. **S4**  
 APPP **5(2)(f)(ii)**  
 rev. date **06/06/24**  
 scale **1:7500**  
 sheet **A3**  
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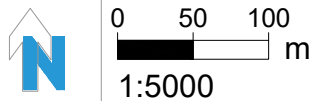
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5535-LLB-XX-XX-DR-Ec-0151-S4-P01\_Figure 1

**LEGEND:**

	c1b - Temporary grass and clover ley Total area approx: 28.025 ha.
	c1c - Cereal crop Total area approx: 73.021 ha.
	c1d - Non-cereal crop Total area approx: 34.657 ha.
	g3c - Other neutral grassland Total area approx: 13.330 ha.
	h2 - Hedgerow Total length approx: 11544.8 m.
	h3h - Mixed scrub Total area approx: 1.176 ha.
	r2 - River and stream Total length approx: 3607.8 m.
	r2 - River and stream Total area approx: 1.073 ha.
	u1b - Developed land, sealed surface Total area approx: 2.247 ha.
	w1d - Wet woodland Total area approx: 0.790 ha.
	w1g6 - Line of trees Total length approx: 704.3 m.
	Order limits Total area approx: 191.538 ha.

Areas refer to total habitat within Order limits.



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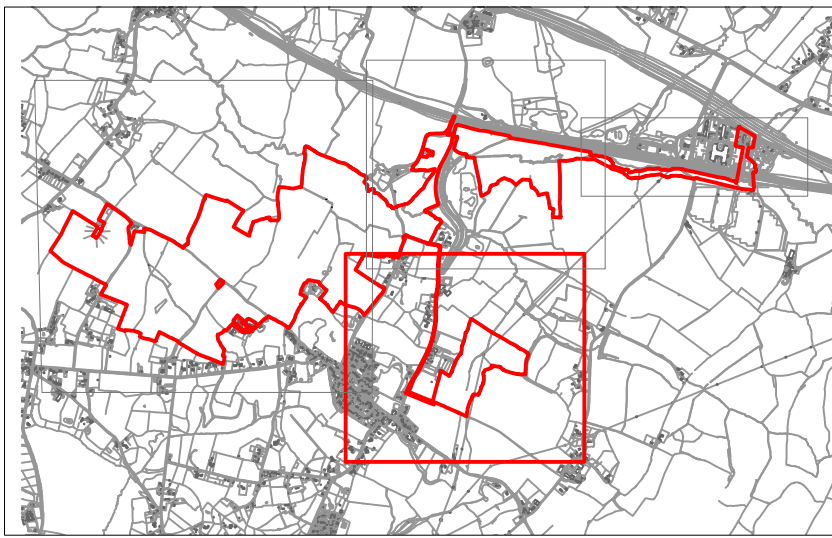
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project **Stonestreet Green Solar**  
**Land North And West Of Aldington**  
Kent

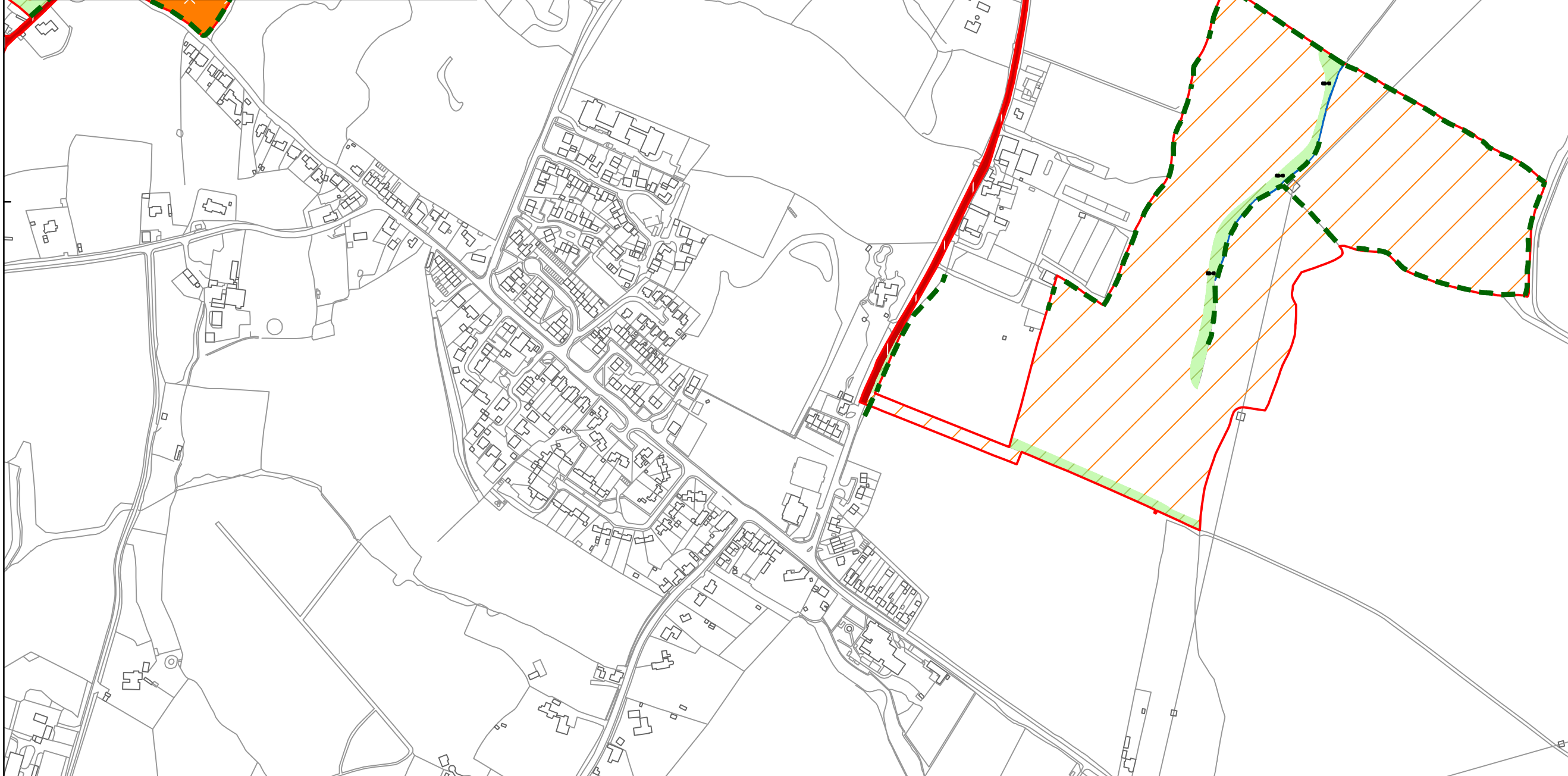
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Sheet 2 of 4

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sub. **S4**  
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rev. date **06/06/24**  
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sheet **A3**  
drawn **DM**  
checked **MW**

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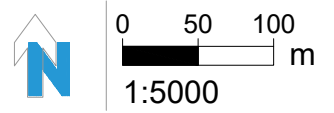
5535-LLB-XX-XX-DR-Ec-0149-S4-P01\_Figure 1



**LEGEND:**

	c1 - Arable and horticulture Total area approx: 29.230 ha.
	c1c - Cereal crop Total area approx: 73.021 ha.
	g3 - Neutral grassland Total area approx: 4.844 ha.
	h2 - Hedgerow Total length approx: 11544.8 m.
	r2 - River and stream Total length approx: 3607.8 m.
	r2 - River and stream Total area approx: 1.073 ha.
	u1b - Developed land, sealed surface Total area approx: 2.247 ha.
	w1g6 - Line of trees Total length approx: 704.3 m.
	Order limits Total area approx: 191.538 ha.

Areas refer to total habitat within Order limits.



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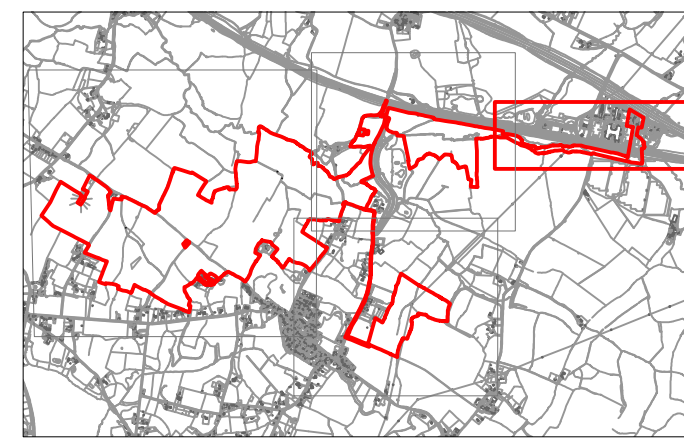
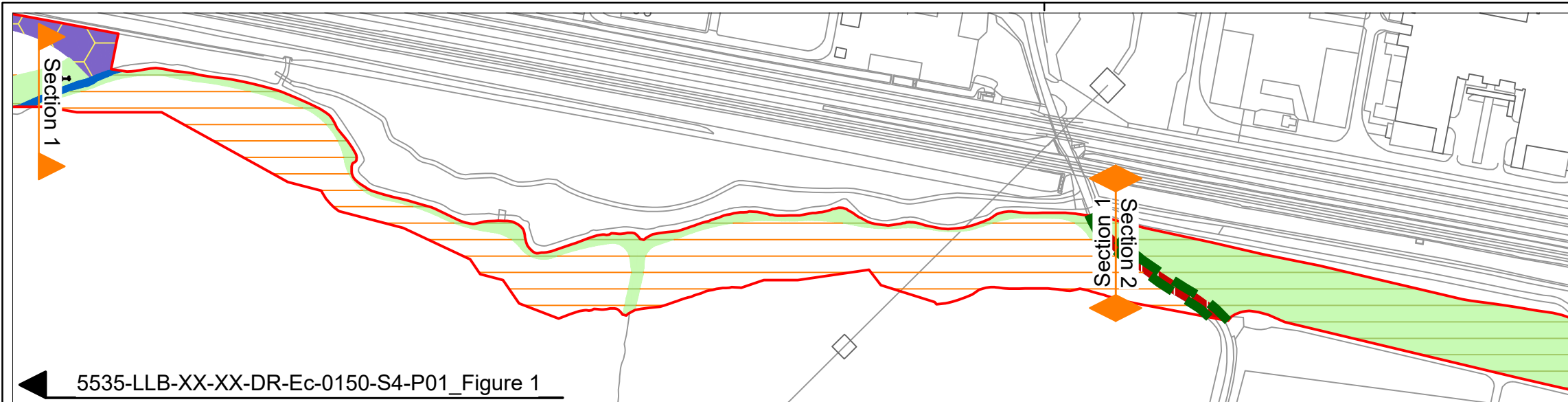
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project: **Stonestreet Green Solar**  
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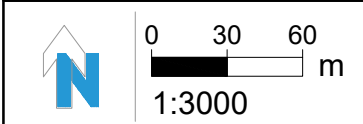
**LEGEND:**

	c1c - Cereal crop Total area approx: 73.021 ha.
	g3c - Other neutral grassland Total area approx: 13.330 ha.
	h3h - Mixed scrub Total area approx: 1.176 ha.
	r2 - River and stream Total length approx: 3607.8 m.
	r2 - River and stream Total area approx: 1.073 ha.
	u1b - Developed land, sealed surface Total area approx: 2.247 ha.
	u1b6 - Other developed land Total area approx: 1.818 ha.
	u1f - Sparsely vegetated urban land Total area approx: 0.092 ha.
	w1d - Wet woodland Total area approx: 0.790 ha.
	Order limits Total area approx: 191.538 ha.

**Note:**  
Habitat boundaries depicted may not accurately reflect the current conditions on the ground due to potential outdated aerial photography and the variable nature of seasonal vegetation.

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Areas refer to total habitat within Order limits.



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P01 06/06/24 MW Initial Issue.

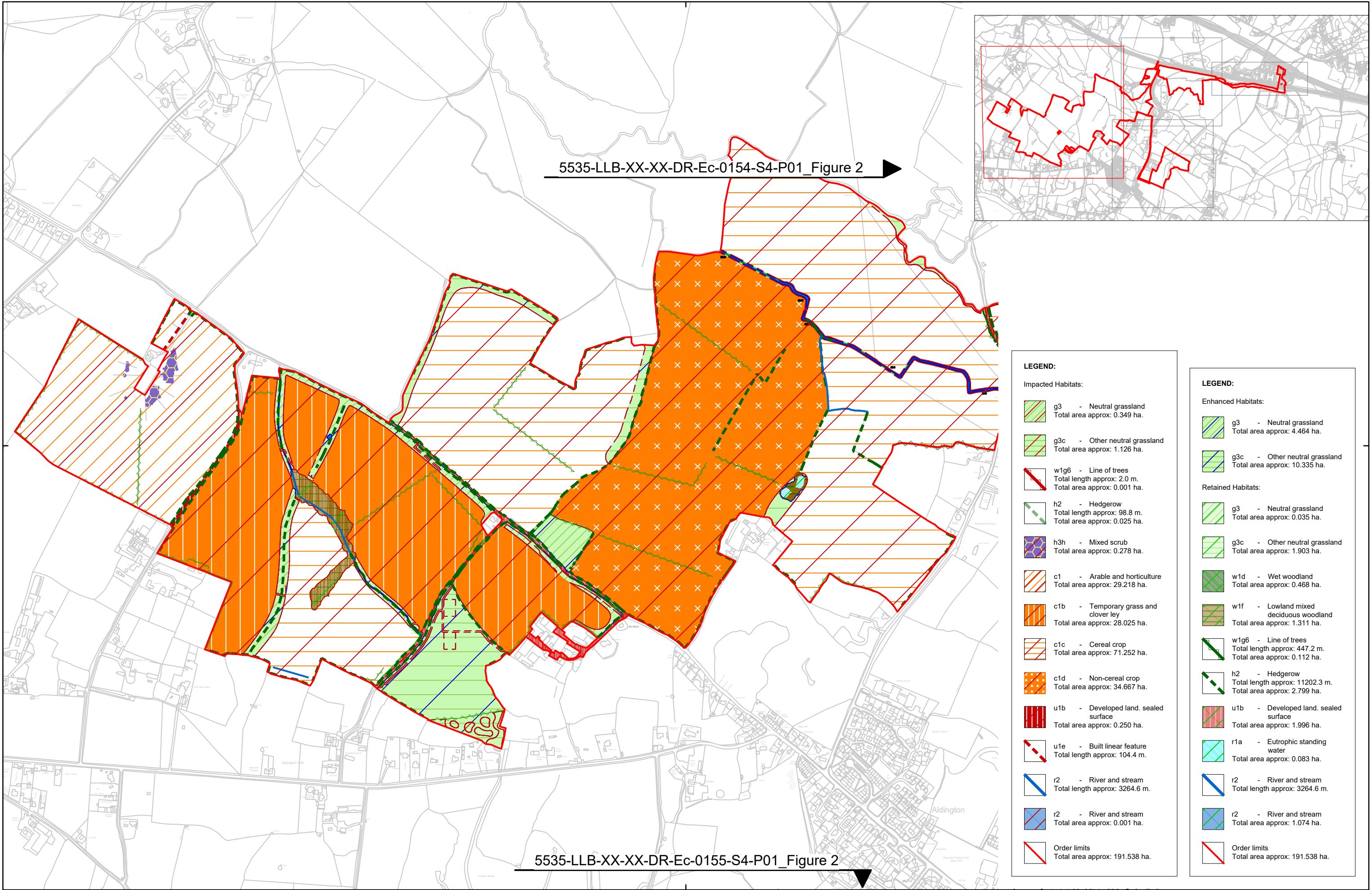
rev. rev. date. auth. rev. note

client: **EPL 001 Limited**  
project: **Stonestreet Green Solar**  
**Land North And West Of Aldington**  
Kent

drawing no. **5535-LLB-XX-XX-DR-Ec-0152**  
drawing title: **Biodiversity Net Gain Assessment - Figure 1**  
**Habitat Prior to Development Plan**  
Sheet 4 of 4

rev. **P01**  
suff. **S4**  
APFP **5(2)(f)(ii)**  
rev. date. **06/06/24**  
scale. **1:3000**  
sheet. **A3**  
drawn. **DM**  
checked. **MW**

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5535-LLB-XX-XX-DR-Ec-0154-S4-P01\_Figure 2

5535-LLB-XX-XX-DR-Ec-0155-S4-P01\_Figure 2

**LEGEND:**

Impacted Habitats:

	g3 - Neutral grassland Total area approx: 0.349 ha.
	g3c - Other neutral grassland Total area approx: 1.126 ha.
	w1g6 - Line of trees Total length approx: 2.0 m. Total area approx: 0.001 ha.
	h2 - Hedgerow Total length approx: 98.8 m. Total area approx: 0.025 ha.
	h3h - Mixed scrub Total area approx: 0.278 ha.
	c1 - Arable and horticulture Total area approx: 29.218 ha.
	c1b - Temporary grass and clover ley Total area approx: 28.025 ha.
	c1c - Cereal crop Total area approx: 71.252 ha.
	c1d - Non-cereal crop Total area approx: 34.667 ha.
	u1b - Developed land, sealed surface Total area approx: 0.250 ha.
	u1e - Built linear feature Total length approx: 104.4 m.
	r2 - River and stream Total length approx: 3264.6 m.
	r2 - River and stream Total area approx: 0.001 ha.
	Order limits Total area approx: 191.538 ha.

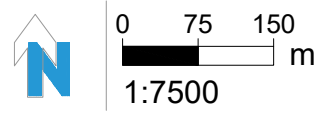
**LEGEND:**

Enhanced Habitats:

	g3 - Neutral grassland Total area approx: 4.464 ha.
	g3c - Other neutral grassland Total area approx: 10.335 ha.

Retained Habitats:

	g3 - Neutral grassland Total area approx: 0.035 ha.
	g3c - Other neutral grassland Total area approx: 1.903 ha.
	w1d - Wet woodland Total area approx: 0.468 ha.
	w1f - Lowland mixed deciduous woodland Total area approx: 1.311 ha.
	w1g6 - Line of trees Total length approx: 447.2 m. Total area approx: 0.112 ha.
	h2 - Hedgerow Total length approx: 11202.3 m. Total area approx: 2.799 ha.
	u1b - Developed land, sealed surface Total area approx: 1.996 ha.
	r1a - Eutrophic standing water Total area approx: 0.083 ha.
	r2 - River and stream Total length approx: 3264.6 m.
	r2 - River and stream Total area approx: 1.074 ha.
	Order limits Total area approx: 191.538 ha.



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P01 06/06/24 MW Initial Issue.

rev. rev. date auth. rev. note

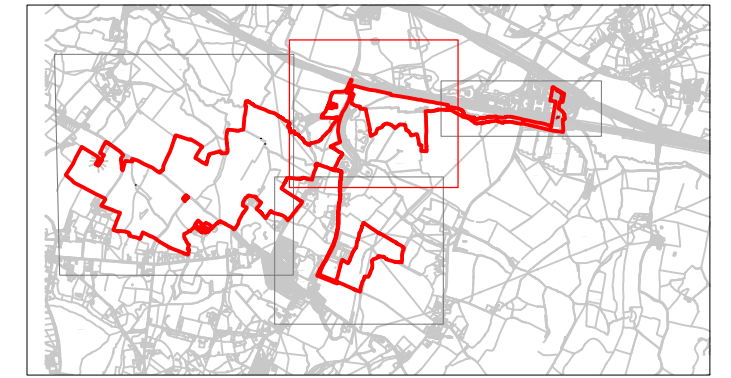
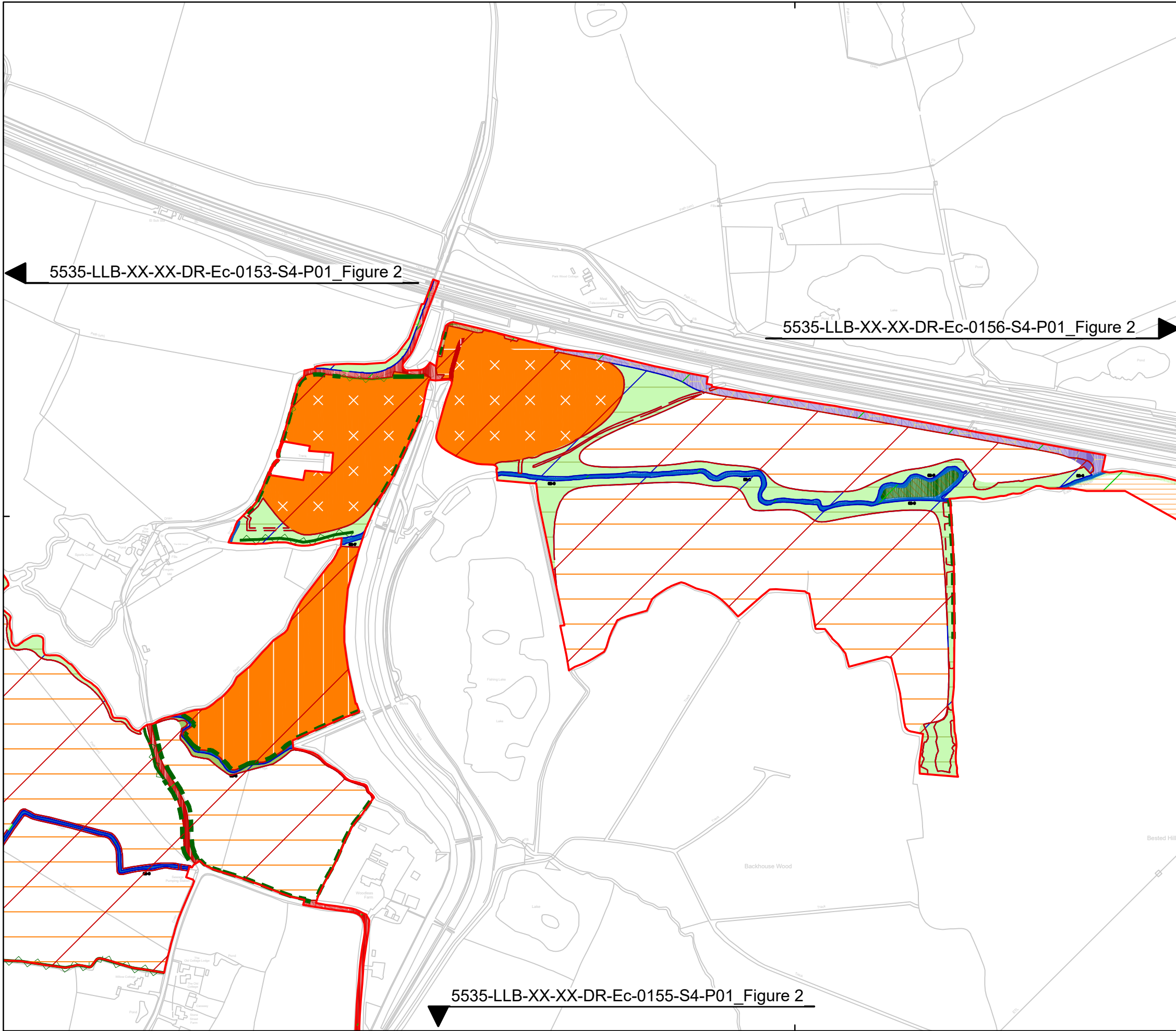
client: **EPL 001 Limited**  
project: **Stonestreet Green Solar**  
**Land North And West Of Aldington**  
**Kent**

drawing no. **5535-LLB-XX-XX-DR-Ec-0153**  
drawing title: **Biodiversity Net Gain Assessment - Figure 2**  
**Habitat Impacts Plan**  
Sheet 1 of 4

rev. **P01** rev. date: **06/06/24**  
suff. **S4** scale: **1:7500**  
APFP **5(2)(1)(ii)** sheet: **A3**  
drawn: **DM**  
checked: **MW**

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**LEGEND:**

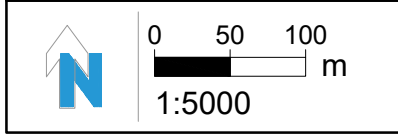
**Impacted Habitats:**

- g3c - Other neutral grassland  
Total area approx: 1.126 ha.
- w1g6 - Line of trees  
Total length approx: 2.0 m.  
Total area approx: 0.001 ha.
- h2 - Hedgerow  
Total length approx: 98.8 m.  
Total area approx: 0.025 ha.
- h3h - Mixed scrub  
Total area approx: 0.278 ha.
- c1b - Temporary grass and clover ley  
Total area approx: 28.025 ha.
- c1c - Cereal crop  
Total area approx: 71.252 ha.
- c1d - Non-cereal crop  
Total area approx: 34.667 ha.

**Retained Habitats:**

- g3c - Other neutral grassland  
Total area approx: 1.903 ha.
- w1d - Wet woodland  
Total area approx: 0.468 ha.
- w1g6 - Line of trees  
Total length approx: 447.2 m.  
Total area approx: 0.112 ha.
- h2 - Hedgerow  
Total length approx: 11202.3 m.  
Total area approx: 2.799 ha.
- h3h - Mixed scrub  
Total area approx: 0.901 ha.
- c1c - Cereal crop  
Total area approx: 1.962 ha.
- r2 - River and stream  
Total length approx: 3264.6 m.
- r2 - River and stream  
Total area approx: 1.074 ha.
- Order limits  
Total area approx: 191.538 ha.

Areas refer to total habitat within Order limits.



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P01	06/06/24	MW	Initial Issue.

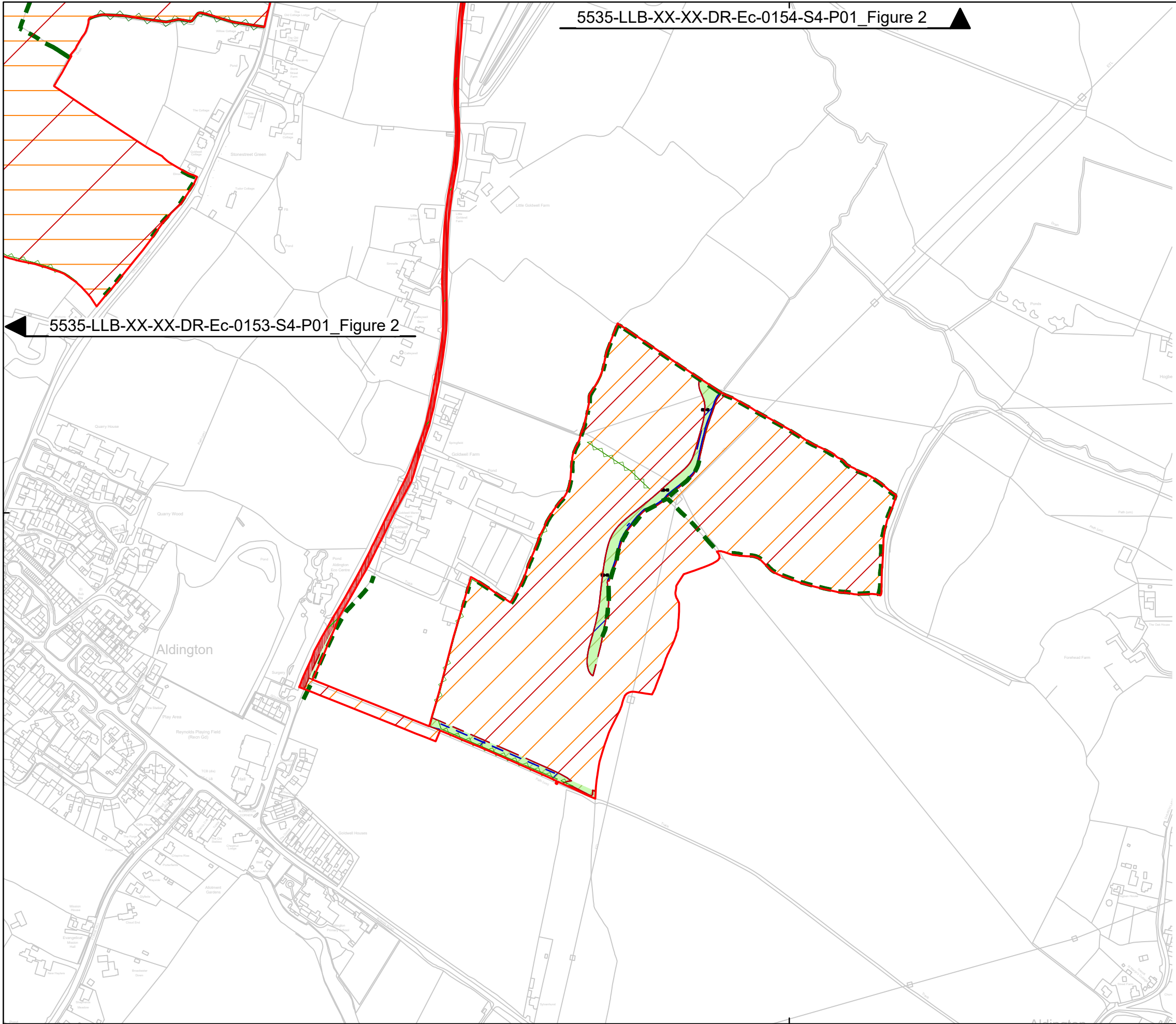
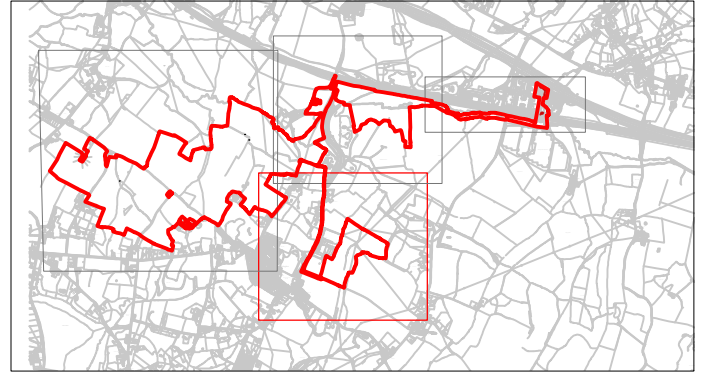
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 project: **Stonestreet Green Solar**  
**Land North And West Of Aldington**  
 Kent

drawing no. **5535-LLB-XX-XX-DR-Ec-0154**  
 drawing title: **Biodiversity Net Gain Assessment - Figure 2**  
**Habitat Impacts Plan**  
 Sheet 2 of 4

rev. **P01**  
 sub. **S4**  
 APPF **5(2)(f)(ii)**

rev. date: **06/06/24**  
 scale: **1:5000**  
 sheet: **A3**  
 drawn: **DM**  
 checked: **MW**

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**LEGEND:**

**Impacted Habitats:**

- c1 - Arable and horticulture  
Total area approx: 29.218 ha.
- c1c - Cereal crop  
Total area approx: 71.252 ha.

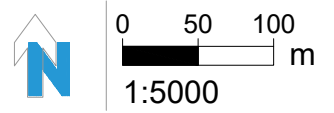
**Enhanced Habitats:**

- g3 - Neutral grassland  
Total area approx: 4.464 ha.

**Retained Habitats:**

- w1g6 - Line of trees  
Total length approx: 447.2 m.  
Total area approx: 0.112 ha.
- h2 - Hedgerow  
Total length approx: 11202.3 m.  
Total area approx: 2.799 ha.
- u1b - Developed land, sealed surface  
Total area approx: 1.996 ha.
- Order limits  
Total area approx: 191.538 ha.

Areas refer to total habitat within Order limits.



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P01	06/06/24	MW	Initial Issue.

rev.	rev date	auth.	rev note

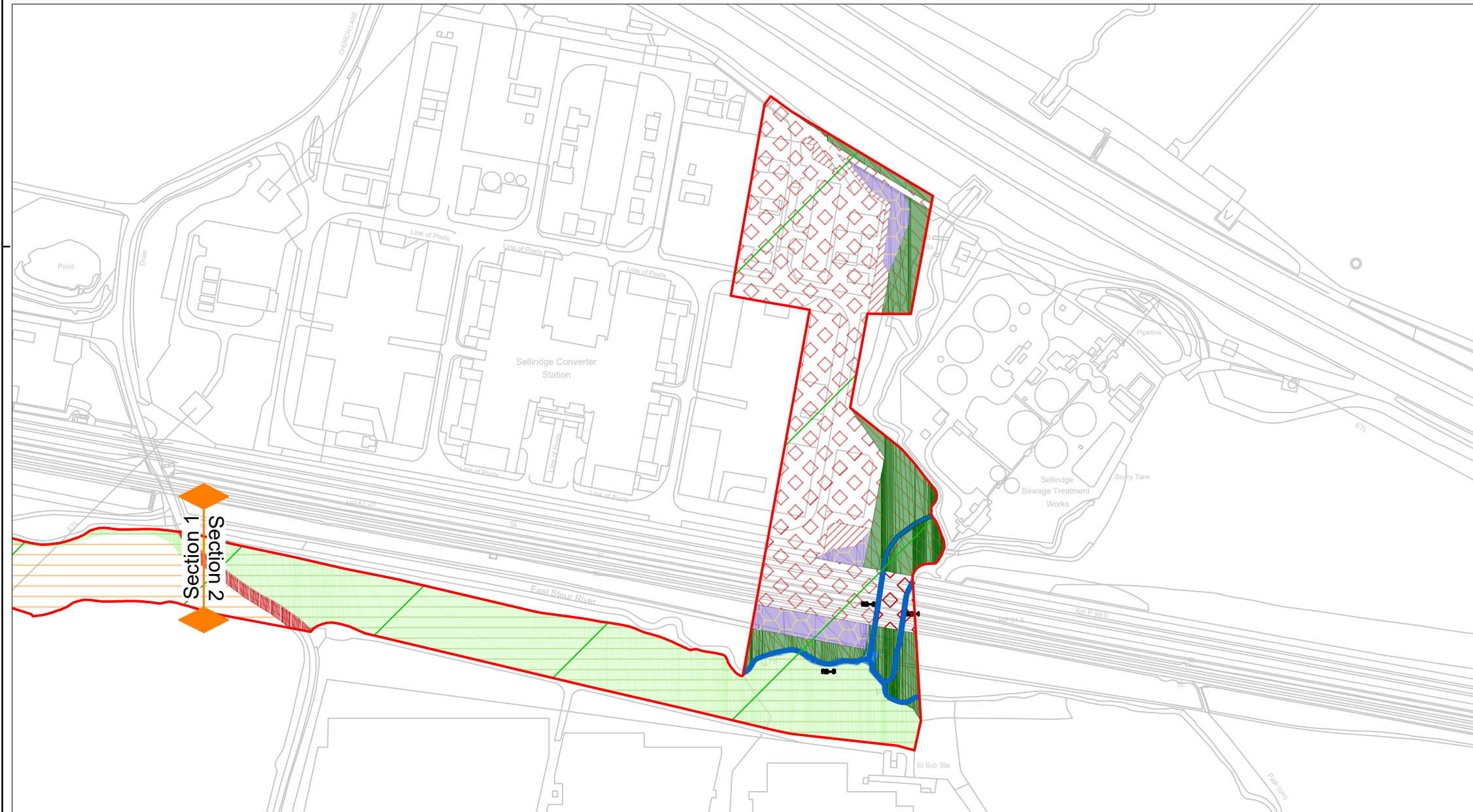
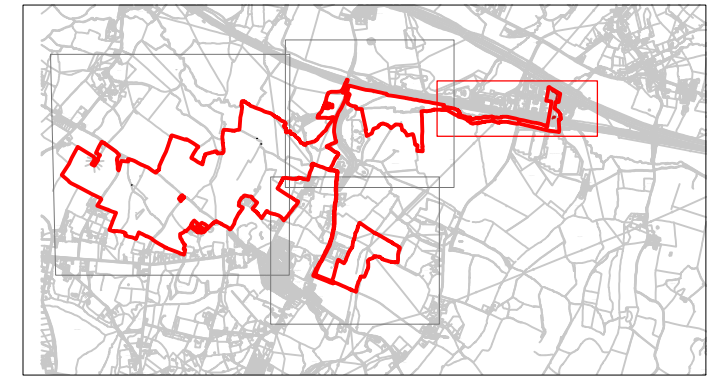
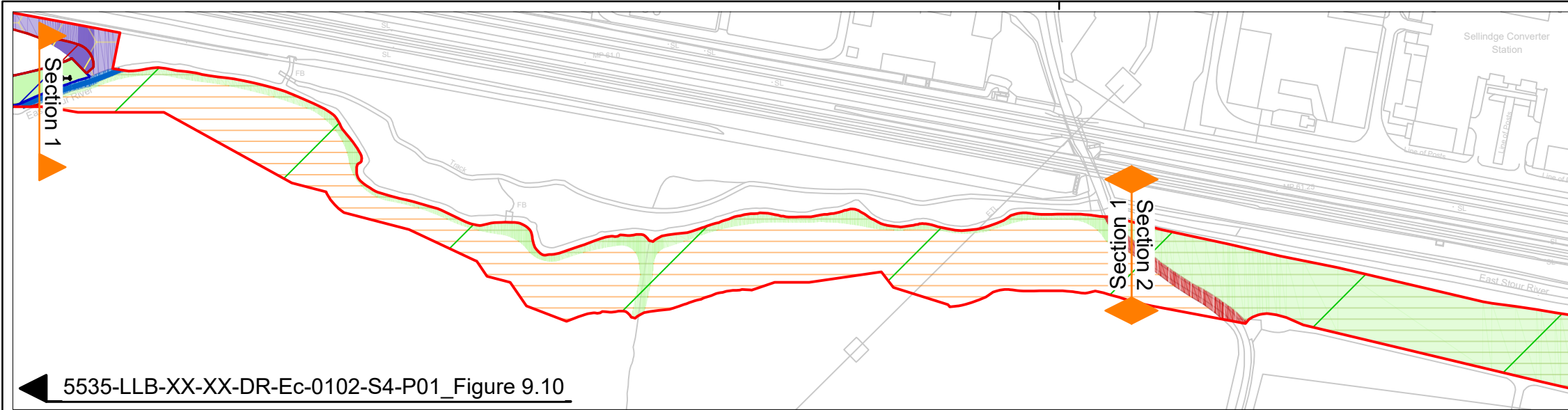
client: **EPL 001 Limited**  
 project: **Stonestreet Green Solar**  
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drawing no. **5535-LLB-XX-XX-DR-Ec-0155**  
 drawing title: **Biodiversity Net Gain Assessment - Figure 2**  
**Habitat Impacts Plan**  
 Sheet 3 of 4

rev. <b>P01</b>	rev date. <b>06/06/24</b>
suff. <b>S4</b>	scale. <b>1:5000</b>
APFP <b>5(2)(f)(ii)</b>	sheet. <b>A3</b>
	drawn. <b>DM</b>
	checked. <b>MW</b>

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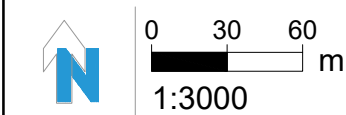
**LEGEND:**

Retained Habitats:

	g3c - Other neutral grassland Total area approx: 1.903 ha.
	w1d - Wet woodland Total area approx: 0.468 ha.
	h3h - Mixed scrub Total area approx: 0.901 ha.
	c1c - Cereal crop Total area approx: 1.962 ha.
	u1b - Developed land, sealed surface Total area approx: 1.996 ha.
	u1b6 - Other developed land Total area approx: 1.818 ha.
	u1f - Sparsely vegetated urban land Total area approx: 0.092 ha.
	r2 - River and stream Total length approx: 3264.6 m.
	r2 - River and stream Total area approx: 1.074 ha.
	Order limits Total area approx: 191.538 ha.

**Note:**  
Habitat boundaries depicted may not accurately reflect the current conditions on the ground due to potential outdated aerial photography and the variable nature of seasonal vegetation.

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project: **Stonestreet Green Solar**  
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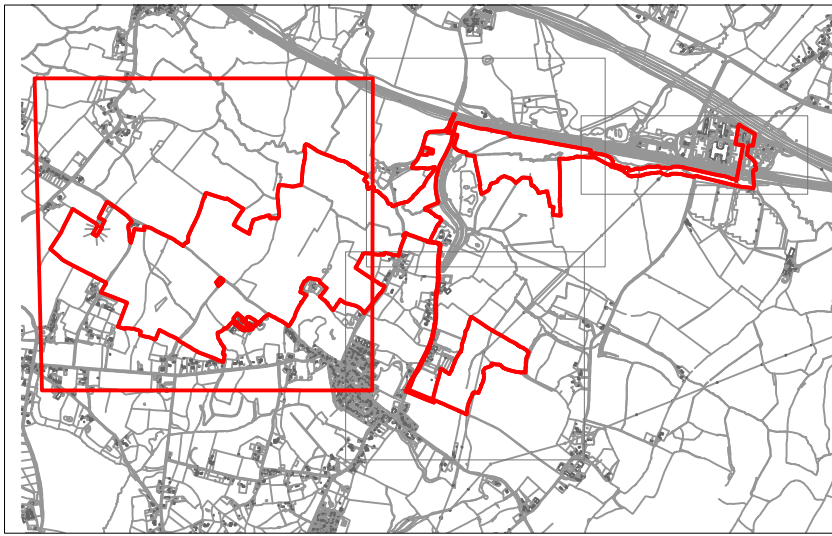
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drawing title: **Biodiversity Net Gain Assessment - Figure 2**  
**Habitat Impacts Plan**  
Sheet 4 of 4

rev. **P01** rev. date: **06/06/24**  
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APFP **5(2)(f)(ii)** sheet: **A3**  
drawn: **DM**  
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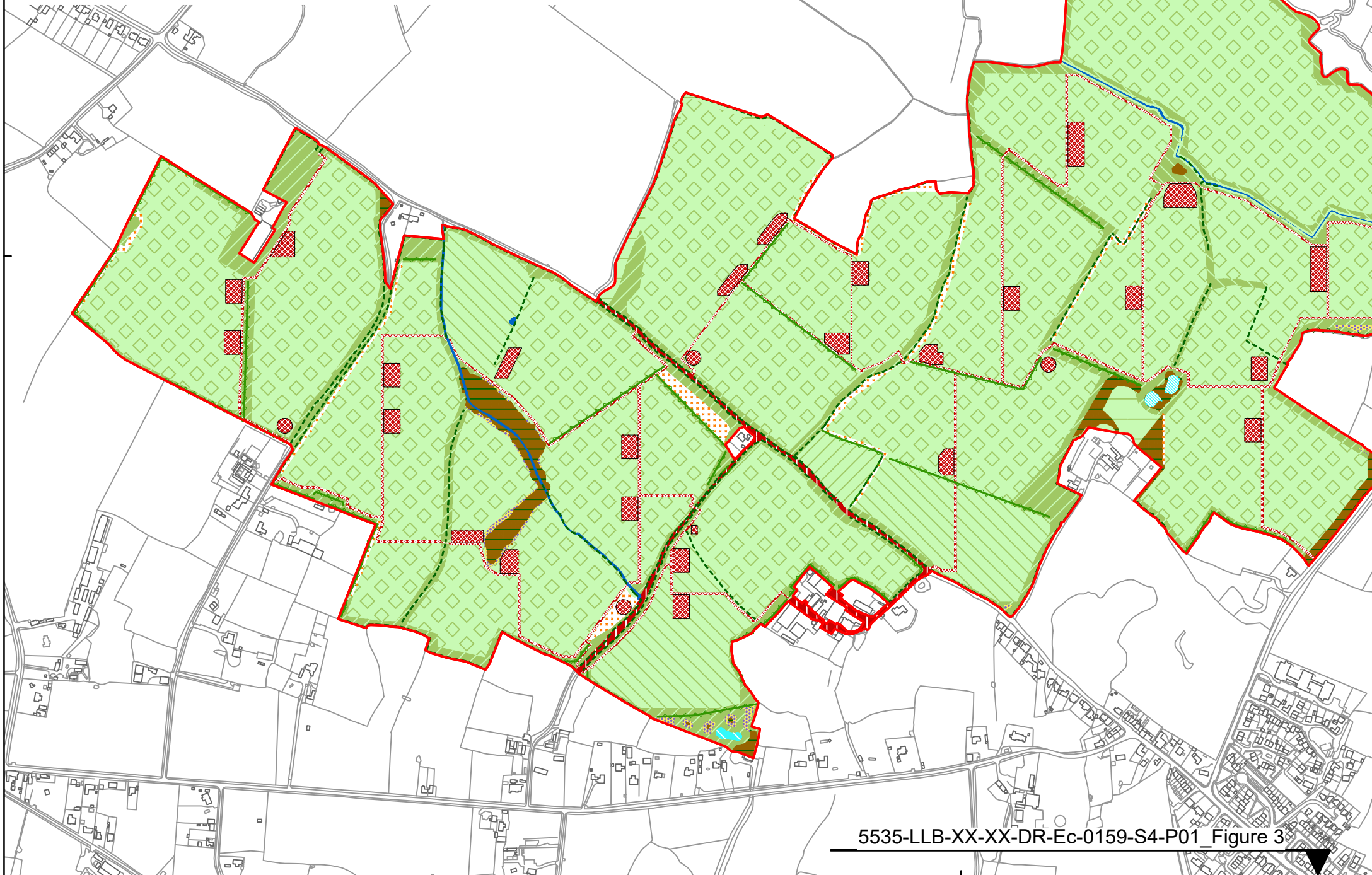
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Areas refer to total habitat within Order limits.





5535-LLB-XX-XX-DR-Ec-0158-S4-P01\_Figure 3

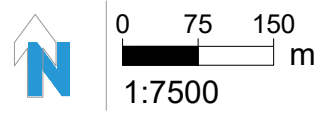


5535-LLB-XX-XX-DR-Ec-0159-S4-P01\_Figure 3

**LEGEND:**

	g3 - Neutral grassland Total area approx: 1.200 ha.
	g3c - Other neutral grassland Total area approx: 3.952 ha.
	g3c - Other neutral grassland (Within perimeter fence) Total area approx: 37.917 ha.
	g3c.161 - Other neutral grassland (Tussocky) Total area approx: 14.631 ha.
	g3c.161 & 119 - Other neutral grassland (seasonal wet, sward mosaic) Total area approx: 9.245 ha.
	g3c6 - Lolium-cynosurus neutral grassland Total area approx: 100.166 ha.
	w1d - Wet woodland Total area approx: 1.041 ha.
	w1f - Lowland mixed deciduous woodland Total area approx: 4.298 ha.
	w1g6 - Line of trees Total length approx: 447.2 m.
	h2 - Hedgerow Total length approx: 11202.3 m.
	h3h - Mixed scrub Total area approx: 1.667 ha.
	h2a - Hedgerow (priority habitat) Total length approx: 5226.9 m.
	c1a8 - Arable field margin Total area approx: 2.210 ha.
	u1b - Developed land, sealed surface Total area approx: 2.883 ha.
	u1b6 - Other developed land Total area approx: 4.778 ha.
	u1d.1210 - Suburban mosaic of developed / natural surface Total area approx: 2.738 ha.
	r1a.19 - Eutrophic standing water Total area approx: 0.171 ha.
	r2 - River and stream Total length approx: 3264.6 m.
	r2 - River and stream Total area approx: 1.135 ha.
	Order limits Total area approx: 191.538 ha.

Areas refer to total habitat within Order limits.



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client **EPL 001 Limited**  
project **Stonestreet Green Solar  
Land North And West Of Aldington  
Kent**

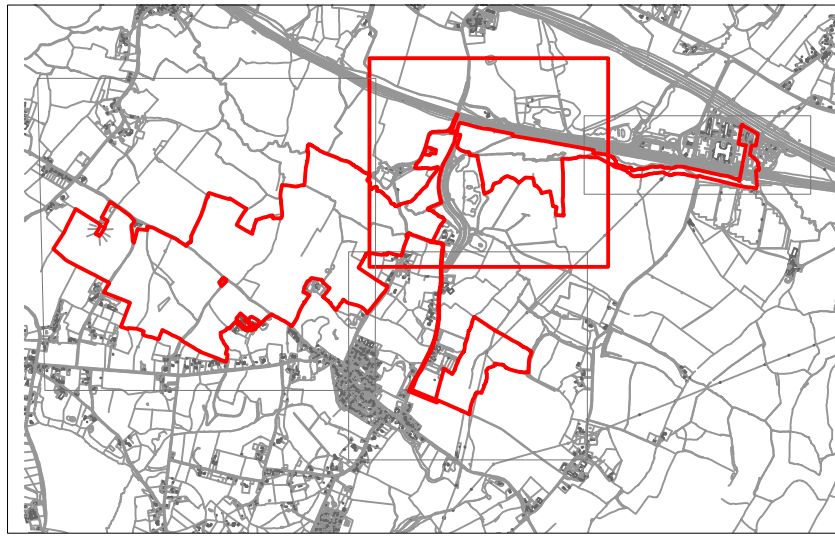
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drawing title **Biodiversity Net Gain Assessment - Figure 3  
Post-Development Habitat Plan**  
Sheet 1 of 4

rev. **P01**  
suff. **S4**  
APFP **5(2)(f)(ii)**

rev. date **06/06/24**  
scale **1:7500**  
sheet **A3**  
drawn **DM**  
checked **MW**

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5535-LLB-XX-XX-DR-Ec-0157-S4-P01\_Figure 3



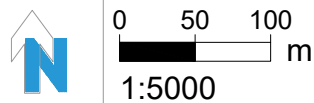
5535-LLB-XX-XX-DR-Ec-0160-S4-P01\_Figure 3

5535-LLB-XX-XX-DR-Ec-0159-S4-P01\_Figure 3

**LEGEND:**

	g3c - Other neutral grassland Total area approx: 3.952 ha.
	g3c - Other neutral grassland (Within perimeter fence) Total area approx: 37.917 ha.
	g3c.161 - Other neutral grassland (Tussocky) Total area approx: 14.631 ha.
	g3c.161 & 119 - Other neutral grassland (seasonal wet, sward mosaic) Total area approx: 9.245 ha.
	g3c6 - Lolium-cynosurus neutral grassland Total area approx: 100.166 ha.
	w1d - Wet woodland Total area approx: 1.041 ha.
	w1f - Lowland mixed deciduous woodland Total area approx: 4.298 ha.
	w1g6 - Line of trees Total length approx: 447.2 m.
	h2 - Hedgerow Total length approx: 11202.3 m.
	h3h - Mixed scrub Total area approx: 1.667 ha.
	h2a - Hedgerow (priority habitat) Total length approx: 5226.9 m.
	c1a8 - Arable field margin Total area approx: 2.210 ha.
	u1b - Developed land, sealed surface Total area approx: 2.883 ha.
	u1b6 - Other developed land Total area approx: 4.778 ha.
	u1d.1210 - Suburban mosaic of developed / natural surface Total area approx: 2.738 ha.
	r1a.19 - Eutrophic standing water Total area approx: 0.171 ha.
	r1a.1190 - Eutrophic standing water Total area approx: 0.443 ha.
	r1.162 - Standing open water and canal Total area approx: 0.254 ha.
	r2 - River and stream Total length approx: 3264.6 m.
	r2 - River and stream Total area approx: 1.135 ha.
	Order limits Total area approx: 191.538 ha.

Areas refer to total habitat within Order limits.



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P01 06/06/24 MW Initial Issue.

rev. rev. date auth. rev. note

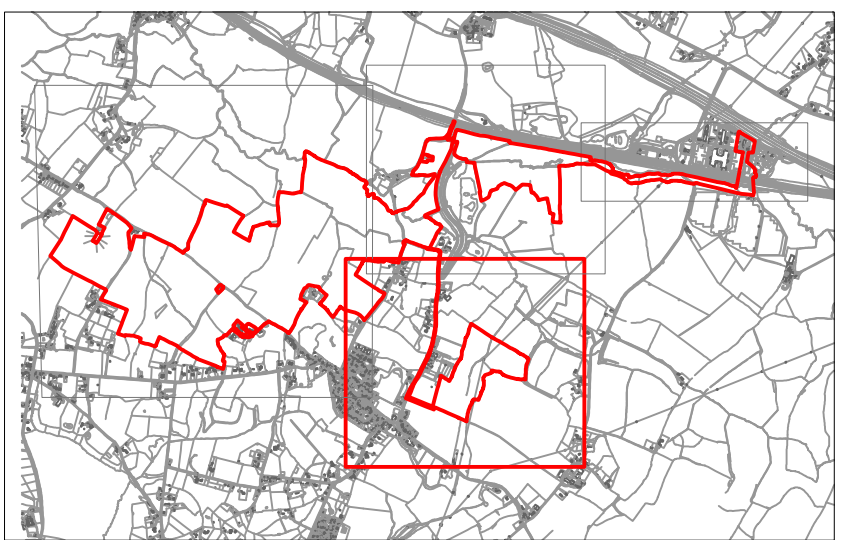
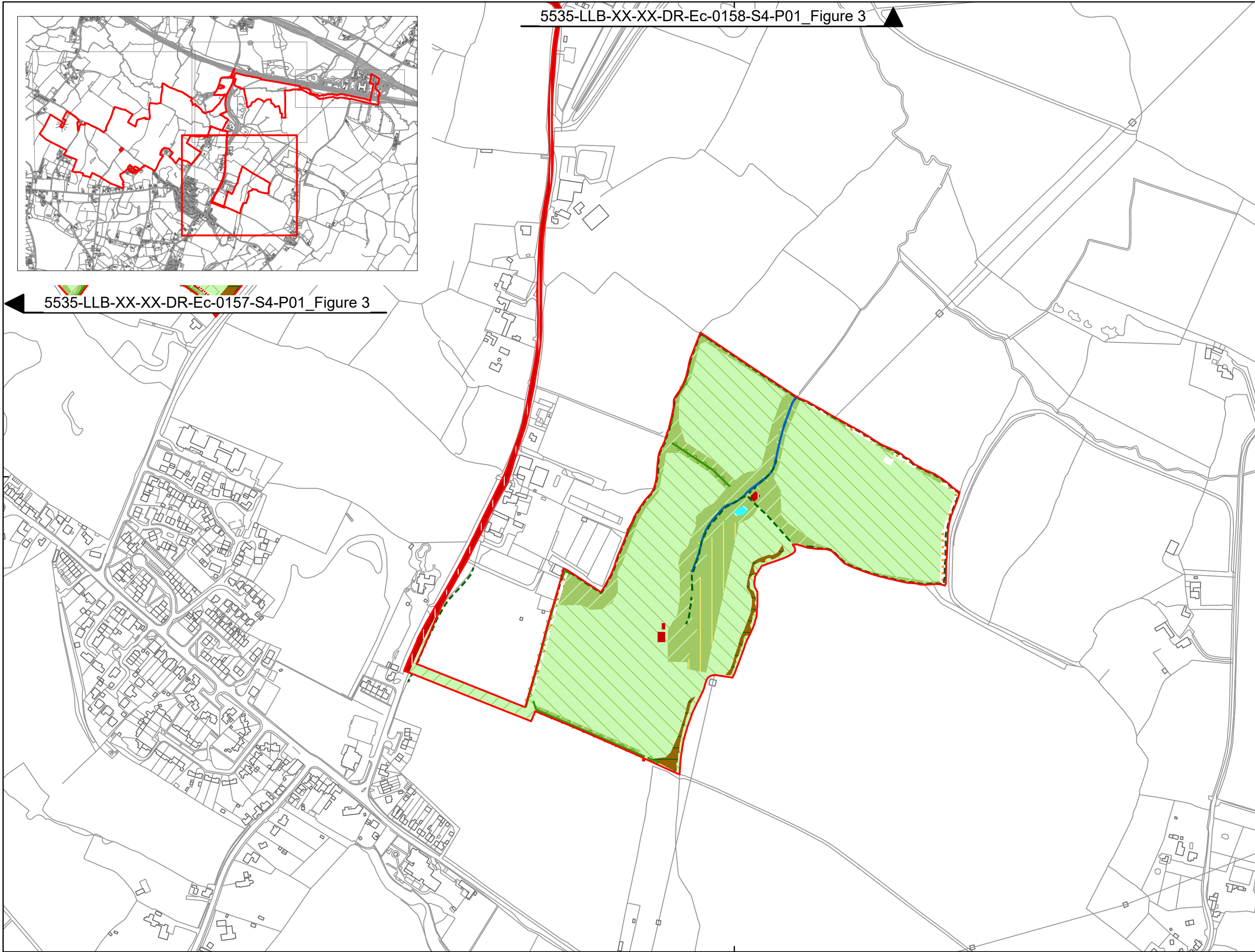
client **EPL 001 Limited**  
project **Stonestreet Green Solar**  
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Kent

drawing no. **5535-LLB-XX-XX-DR-Ec-0158**  
drawing title **Biodiversity Net Gain Assessment - Figure 3**  
**Post-Development Habitat Plan**  
Sheet 2 of 4

rev. **P01**  
suff. **S4**  
APFP **5(2)(f)(ii)**

rev. date **06/06/24**  
scale **1:5000**  
sheet **A3**  
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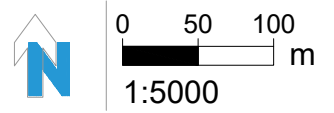


5535-LLB-XX-XX-DR-Ec-0157-S4-P01\_Figure 3

**LEGEND:**

	g21 - Traditional Orchard Total area approx: 0.656 ha.
	g3 - Neutral grassland Total area approx: 1.200 ha.
	g3c - Other neutral grassland Total area approx: 3.952 ha.
	g3c - Other neutral grassland (Within perimeter fence) Total area approx: 37.917 ha.
	g3c.161 - Other neutral grassland (Tussocky) Total area approx: 14.631 ha.
	g3c.161 & 119 - Other neutral grassland (seasonal wet, sward mosaic) Total area approx: 9.245 ha.
	g3c6 - Lolium-cynosurus neutral grassland Total area approx: 100.166 ha.
	w1f - Lowland mixed deciduous woodland Total area approx: 4.298 ha.
	w1g6 - Line of trees Total length approx: 447.2 m.
	h2 - Hedgerow Total length approx: 11202.3 m.
	h3h - Mixed scrub Total area approx: 1.667 ha.
	h2a - Hedgerow (priority habitat) Total length approx: 5226.9 m.
	c1a8 - Arable field margin Total area approx: 2.210 ha.
	u1b - Developed land, sealed surface Total area approx: 2.883 ha.
	u1b6 - Other developed land Total area approx: 4.778 ha.
	u1d.1210 - Suburban mosaic of developed / natural surface Total area approx: 2.738 ha.
	r1a.19 - Eutrophic standing water Total area approx: 0.171 ha.
	r2 - River and stream Total length approx: 3264.6 m.
	r2 - River and stream Total area approx: 1.135 ha.
	Order limits Total area approx: 191.538 ha.

Areas refer to total habitat within Order limits.



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P01 06/06/24 MW Initial Issue.

rev. rev date auth. rev note

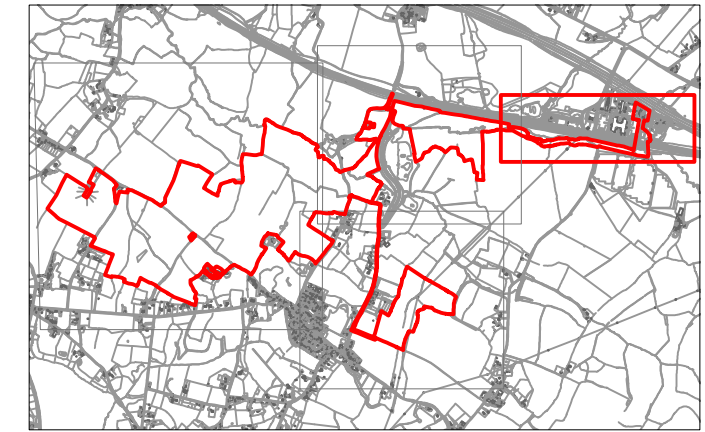
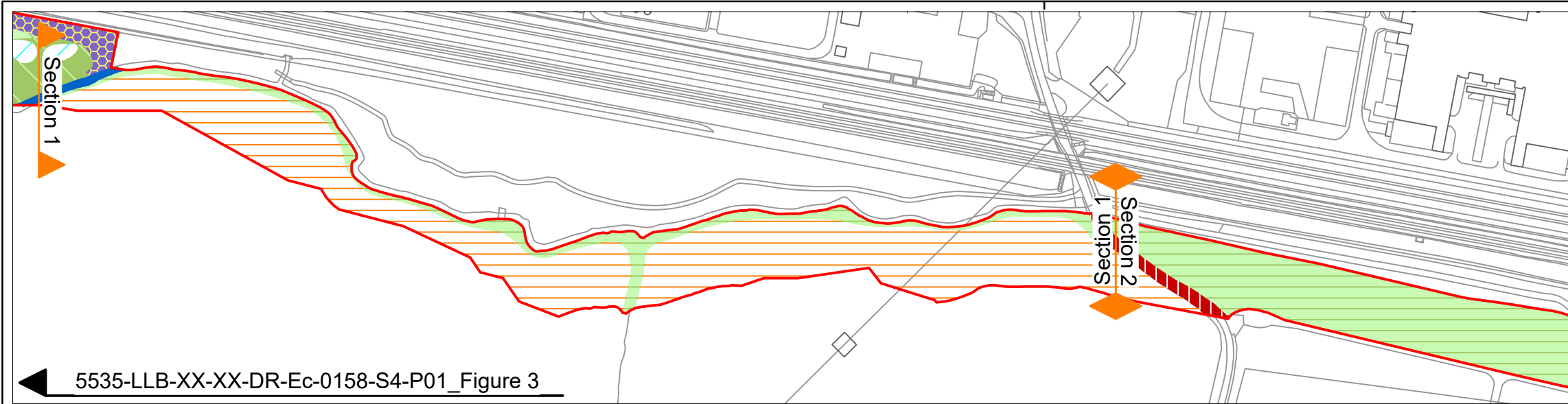
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project **Stonestreet Green Solar**  
**Land North And West Of Aldington**  
Kent

drawing no. **5535-LLB-XX-XX-DR-Ec-0159**  
drawing title **Biodiversity Net Gain Assessment - Figure 3**  
**Post-Development Habitat Plan**  
Sheet 3 of 4

rev. **P01**  
suff. **S4**  
APFP **5(2)(f)(ii)**  
rev date **06/06/24**  
scale **1:5000**  
sheet **A3**  
drawn **DM**  
checked **MW**

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5535-LLB-XX-XX-DR-Ec-0158-S4-P01\_Figure 3



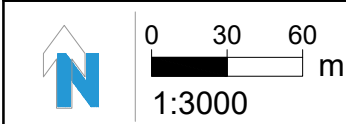
**LEGEND:**

	g3c - Other neutral grassland Total area approx: 3.952 ha.
	g3c - Other neutral grassland (Within perimeter fence) Total area approx: 37.917 ha.
	g3c.161 - Other neutral grassland (Tussocky) Total area approx: 14.631 ha.
	g3c.161 & 119 - Other neutral grassland (seasonal wet, sward mosaic) Total area approx: 9.245 ha.
	w1d - Wet woodland Total area approx: 1.041 ha.
	w1f - Lowland mixed deciduous woodland Total area approx: 4.298 ha.
	w1g6 - Line of trees Total length approx: 447.2 m.
	h3h - Mixed scrub Total area approx: 1.667 ha.
	c1c - Cereal crop Total area approx: 1.962 ha.
	u1b - Developed land, sealed surface Total area approx: 2.883 ha.
	u1b6 - Other developed land Total area approx: 4.778 ha.
	r2 - River and stream Total length approx: 3264.6 m.
	r2 - River and stream Total area approx: 1.135 ha.
	Order limits Total area approx: 191.538 ha.

**Note:**  
Habitat boundaries depicted may not accurately reflect the current conditions on the ground due to potential outdated aerial photography and the variable nature of seasonal vegetation.

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Areas refer to total habitat within Order limits.



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rev. rev. date. auth. rev. note  
P01 06/06/24 MW Initial Issue.

rev. rev. date. auth. rev. note

client **EPL 001 Limited**  
project **Stonestreet Green Solar  
Land North And West Of Aldington  
Kent**

drawing no. **5535-LLB-XX-XX-DR-Ec-0160**  
drawing title **Biodiversity Net Gain Assessment - Figure 3  
Post-Development Habitat Plan**  
Sheet 4 of 4

rev. **P01**  
suit. **S4**  
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# Appendix 2: Habitat Condition Assessment Results

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Condition Sheet: DITCH Habitat Type														
Habitat Type														
Watercourses - Ditches														
Habitat Description														
See the Biodiversity Metric 4.0 User Guide.														
WB1 - water filled ditch with less than 50cm water and generally lacking aquatic vegetation - encroaching bramble, ruderal and tussock grass on bankside. Connects to and includes pond WB1.														
WB12 / WB13 - both similar dry / almost dry hedgerow ditches at hedgerow base, Generally no emergent / marginal vegetation and encroaching bramble, ruderal and tussock grass on bankside														
Site name and location	5535 - Stonestreet Green Solar 24.10.23 Mark Wingrove BSc(Hons) CEnv MCIEEM				On-site or off-site									
Limitations (if applicable)	Survey outside key botanical season but all ditches containing water or damp vegetation characteristic of condition seen during summer season.				Survey reference (if relating to a wider survey)									
					Habitat parcel reference	WB1	WB12	WB13	R11 (south)					
					Grid reference									
Condition Assessment Criteria					Criterion passed (Yes or No)					Notes (such as justification)				
A	The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.	Y	N	N	Y									
B	A range of emergent, submerged and floating-leaved plants are present. As a guide >10 species of emergent, floating or submerged plants present in a 20 m ditch length.	N	N	N	N									
C	There is less than 10% cover of filamentous algae and or duckweed <i>Lemna</i> spp. (these are signs of eutrophication).	Y	Y	Y	Y									
D	A fringe of aquatic marginal vegetation is present along more than 75% of the ditch.	N	N	N	N									
E	Physical damage is evident along less than 5% of the ditch, with examples of damage including: excessive poaching, damage from machinery use or storage, or any other damaging management activities.	Y	Y	Y	Y									
F	Sufficient water levels are maintained - as a guide a minimum summer depth of approximately 50 cm in minor ditches and 1 m in main drains.	N	N	N	Y									
G	Less than 10% of the ditch is heavily shaded.	Y	N	Y	N									
H	There is an absence of non-native plant and animal species <sup>1</sup> .	Y	Y	Y	Y									
Number of criteria passed		5	3	4	5									
Condition Assessment Result (out of 8 criteria)	Condition Assessment Score	Score Achieved ✖/□												
Passes 8 criteria	Good (3)													
Passes 6 or 7 criteria	Moderate (2)													
Passes 5 or fewer criteria	Poor (1)	X	X	X	X									
Suggested enhancement interventions to improve condition score														

All = management of encroaching bramble and ruderal on bankside, if realistically possible. Proposed habitat enhancements and removal of arable land will increase riparian zone buffer and minimise nutrient / soil run off.  
WB12/WB13 would benefit from some dredging of base of ditch and management of bankside vegetation if feasible.  
R11 located within wooded / shaded corridor and so shading / limited aquatic veg interventions are likely limited

**Footnotes**

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)												
UK Habitat Classification (UKHab) Habitat Type(s)												
Grassland - Lowland calcareous grassland Grassland - Lowland dry acid grassland Grassland - Lowland meadows Grassland - Other lowland acid grassland Grassland - Other neutral grassland Grassland - Tall herb communities (H6430) [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.] Grassland - Upland acid grassland Grassland - Upland calcareous grassland Grassland - Upland hay meadows Sparsely vegetated land - Calaminarian grassland												
Habitat Description												
A. South West Margins (Fields 1, 10) - network of arable field fringes in south west of site. Good mix of grasses but overall limited forb diversity with many species being indicators of sub-optimal condition / common arable 'weeds' where present. Bare areas where mostly frequently used as an agricultural machine access, though extent of damage varies across area. Likely subject to nutrient run off from adjacent arable like most fringes on site. In some areas a notable damaged / bareground character adjacent to arable mainly comprised of perinneeal rye grass, pineapple mayweed, ribwort plantain and bareground as most abundant species. This however grounds into a more diverse undisturbed hedgerow / woodland edge margin consisting of bent grasses, , cocksfoot, couch grass, false oat, yorkshire fog, hogweed, <del>and many other species</del> <del>Timothy grass, fescue grasses, crested dog tail, bentgrass, creeping thistle, curled dog tail, among the more frequently occurring grasses and weeds and</del>												
UKHab – UK Habitat Classification												
Site name and location		5535 - Stonestreet Green Solar		On-site or off-site		On site						
Site name and location		23.06.23 and 26.07.23 Mark Wingrove BSc(Hons) Cenv MCIEEM		Survey reference (if relating to a wider survey)								
Limitations (if applicable)		N/A - assessed during June and July		Habitat parcel reference								
Limitations (if applicable)		A - Arable fringes south	B - Arable fields in south east of site	C - Arable fields in north	D - Central field grass	E. Grass paddock	F. Field 8.					
Grid reference												
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 - while some areas are damaged and track marked, continuous areas of diverse grassland sward are present in many areas	N - limited areas of continuous grass sward as arable extends almost up to hedgerow with some areas making to ruderal arable margin	Y - majority of extent has good grassland sward with relatively little tracking damage	Y - encroachment by arable plants but comprises large areas of continuous sward	Y - continuous variable sward as one of best examples on site	N - due to grazing pressure and short sward but higher quality than modified grassland			
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 - variation in sub areas across extent and also due to vehicle tracking	Y - variation in sub areas across extent and also due to vehicle tracking	Y - variation in sub areas across extent and also due to vehicle tracking	Y - encroachment by arable plants but comprises large areas of	Y	N			
C		Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens <sup>1</sup> .		N - bare ground above 5% due to vehicle tracking	N - bare ground above 5% due to vehicle tracking	N - bare ground above 5% due to vehicle tracking	Y - limited tracking damage	Y	N - generally uniform short sward			
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	Y	Y	Y	Y	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 - due to physical damage from agricultural tracking	N - due to physical damage from agricultural tracking	N - damage less than some other areas but still above	Y - avoids vehicle damage present in other margins	Y - appears well managed	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 - grass species diversity is reasonable but generally lacking	N - forbs are generally species indicative of sub-optimal condition	N - though some localised areas include a diverse grass sward with	N	Y - decent sward diversity	N				
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		Yes	No	Yes	Yes	Yes	No				
Number of criteria passed		3	2	3	5	6	1				
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)						Good			
Passes 3 - 5 criteria, including essential criterion A.		Moderate (2)		Mod		Mod	Mod				
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.		Poor (1)			Poor				Poor		
<b>Suggested enhancement interventions to improve condition score</b>											
A, B, C, D Overall limit agricultural tracking and fertilizer run off for all parcels. In many places sward height is reasonably tall and possibly preventing establishment of forbs - a limited grazing or cutting regime will help. Generally relaxing of arable management will benefit all areas.											
Parcel B South east areas may require more significant intervention to achieve good condition, as arable field character (soil, crop types and weeds) extent almost to hedgerow margin in many places											
<b>Notes</b>											
<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.											
<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.											
<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.											
<b>Footnote 4</b> – Wildlife and Countryside Act 1981 (as amended).											

Condition Sheet: POND Habitat Type												
Habitat Type(s)												
<b>Lakes - Ponds (priority habitat)</b> <b>Lakes - Ponds (non-priority habitat)</b> <b>Lakes - Temporary lakes ponds and pools (H3170)</b> [Use this condition sheet for Temporary ponds and pools, use Lake condition sheet for Temporary lakes] <b>Lakes - Ornamental lake or pond</b> [Use this condition sheet for Ornamental ponds, use Lake condition sheet for Ornamental lakes]												
Habitat Description												
WB2 / WB3 - Ponds within woodland and heavily shaded. Appear relatively shallow, without much aquatic vegetation, likely leaf litter in base WB11 - small depression along hedgerow dry ditch on slope, filled with aquatic grasses (primarily glyceria sp.). Dry at time of survey after wet autumn, so likely often dry WB25 - small pond at end of ditch, connecting two drainage ditches in corner of field. Typha encroached but with areas of open water Note WB1 has been included within ditch assessment												
<a href="#">ukhab – UK Habitat Classification</a>												
For ponds (non-priority) – see the Biodiversity Metric 4.0 Technical Annex 2.												
Site name and location		5535 - Stonestreet Green Solar 24.10.23 Mark Wingrove BSc(Hons) CEnv MCIEEM		On-site or off-site		On site						
Limitations (if applicable)		Survey outside key botanical season but all ponds containing water or damp vegetation characteristic of condition seen during summer season.		Habitat parcel reference								
				WB2	WB3	WB11	WB15					
Condition Assessment Criteria				Grid reference								
				Criterion passed (Yes or No)								Notes (such as justification)
Core Criteria - applicable to all ponds (woodland <sup>1</sup> and non-woodland):												
A	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	N	N	N (dry)	N							
B	There is semi-natural habitat (moderate distinctiveness or above) completely surrounding the pond, for at least 10 m from the pond edge for its entire perimeter.	N	N	N	N							
C	Less than 10% of the water surface is covered with duckweed <i>Lemna</i> spp. or filamentous algae.	Y	Y	Y	Y							
D	The pond is not artificially connected to other waterbodies, e.g. agricultural ditches or artificial pipework.	N	N	N	N							
E	Pond water levels can fluctuate naturally throughout the year. No obvious artificial dams <sup>2</sup> , pumps or pipework.	Y	Y	Y	Y							
F	There is an absence of listed non-native plant and animal species <sup>3</sup> .	Y	Y	Y	Y							
G	The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	Y	Y	Y	Y							
Additional Criteria - must be assessed for all non-woodland ponds:												
H	Emergent, submerged or floating plants (excluding duckweed) <sup>4</sup> cover at least 50% of the pond area which is less than 3 m deep.			Y	Y							
I	The pond surface is no more than 50% shaded by adjacent trees and scrub.			N	Y							
Number of criteria passed		4	4	5	6							
Condition Assessment Result		Condition Assessment Score		Score Achieved * / □								
Results for woodland ponds which require assessment of 7 core criteria												
Passes 7 criteria		Good (3)										
Passes 5 or 6 criteria		Moderate (2)										
Passes 4 or fewer criteria		Poor (1)		X	X							
Results for non-woodland ponds which require assessment of 9 criteria												
Passes 9 criteria		Good (3)										
Passes 6 to 8 criteria		Moderate (2)					Y					
Passes 5 or fewer criteria		Poor (1)				X						
Suggested enhancement interventions to improve condition score												

WB2 and WB3 - dredging and deepening will prevent pond infilling in the long term. WB3 in particular held little water at time of survey. Removal of adjacent arable habitats will create general benefits in more extensive local habitats and potentially less nutrient run off.

WB11 - general enlargement will assist water retention, vegetation management to maintain open water

WB25 - in reasonable condition, typha management would assist in maintaining open water areas

**Footnote 1** - A woodland pond will be surrounded on all sides by woodland habitat.

**Footnote 2** – This excludes natural dams such as those created by Eurasian beaver *Castor fiber*.

**Footnote 3** - Any species included on the Water Framework Directive (WFD) UKTAG GB High Impact Species List should be absent: WFD UKTAG (2021) *Classification of aquatic alien species according to their level of impact* [online]. Available from:



Condition Sheet: URBAN Habitat Type			
<b>Habitat Types</b>			
Sparsely vegetated land - Ruderal/Ephemeral Sparsely vegetated land - Tall forbs Urban - Allotments Urban - Biodiverse green roof Urban - Bioswale Urban - Cemeteries and churchyards Urban - Facade-bound green wall Urban - Ground based green wall Urban - Intensive green roof Urban - Open mosaic habitats on previously developed land Urban - Rain garden Urban - Sustainable drainage system (SuDS) Urban - Vacant or derelict land Urban - Bare ground			
<b>Habitat Description</b>			
Urban - Sparsely vegetated land - Ruderal / ephemeral - Mosses and ephemeral vegetation with some tall forbs present. Coverage by grass species is very sparse. Species include annual meadow grass ( <i>Poa annua</i> ), teasel ( <i>Dipsacus fullonum</i> ), willow-herb ( <i>Epilobium</i> sp.), common hogweed ( <i>Heracleum sphondylium</i> ), common nettle ( <i>Urtica dioica</i> ), Lords-and-ladies ( <i>Arum maculatum</i> ), ground ivy ( <i>Glechoma hederacea</i> ) and cow parsley ( <i>Anthriscus sylvestris</i> ).			
See the Statutory Biodiversity Metric User Guide for green roofs and UK Habitat Classification (UKHab) for other habitats:			<a href="#">UKHab – UK Habitat Classification</a>
<b>On-site or off-site, site name and location</b>	On-site	<b>Survey date and Surveyor name</b>	10th December 2023 James Madden BSc MSc ACIEEM
<b>Limitations (if applicable)</b>		<b>Survey reference (if relating to a wider survey)</b>	
<b>Grid reference</b>		<b>Habitat parcel reference</b>	2, 3 and 4
<b>Condition Assessment Criteria</b>		<b>Criterion passed (Yes or No)</b>	<b>Notes (such as justification)</b>
Core Criteria - must be assessed for <b>all urban habitat types</b> :			
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	No	
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	No	
C	Invasive non-native plant species (listed on Schedule 9 of WCA <sup>1</sup> ) and others which are to the detriment of native wildlife (using professional judgement) <sup>2</sup> cover less than 5% of the total vegetated area <sup>3</sup> .  <b>Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than &lt;5% cover).</b>	No	
Additional Criterion - must be assessed for <b>Open mosaic habitat on previously developed land</b> only:			
D	The parcel shows spatial variation and forms a mosaic of bare substrate PLUS:  - At least four early successional communities (a) to (i);  Communities: (a) annuals; (b) mosses/liverworts; (c) lichens; (d) ruderals; (e) inundation species; (f) open grassland; (g) flower-rich grassland; (h) heathland, (i) pools.		
Additional Criteria - must be assessed for <b>Bioswale and SuDS</b> habitat types only:			
E1	Plant species are mostly native. If non-native species are present, they should not be detrimental to the habitat or native wildlife <sup>4</sup> .		
E2	The vegetation is comprised of plant species suited to wetland or riparian situations.		
Additional Criterion - must be assessed for <b>Intensive green roofs</b> only:			

F	The roof has a minimum of 50% native and non-native wildflowers. 70% of the roof area is soil and vegetation (including water features).		
Additional Criterion - must be assessed for <b>Biodiverse green roofs</b> only:			
G	The roof has a varied depth of 80 – 150 mm; at least 50% is at 150 mm and is planted and seeded with wildflowers and sedums or is pre-prepared with sedums and wildflowers.  <b>Note – to achieve Good condition some additional habitat, such as sand piles, stones, logs etc. are present.</b>		
Essential criteria relevant for habitat type achieved (Yes or No)			No
Number of criteria passed			0
<b>Condition Assessment Result</b>		<b>Condition Assessment Score</b>	<b>Score Achieved */√</b>
<b>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):</b>			
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C.		Good (3)	
• Passes 2 of 3 core criteria; OR • Passes 3 of 3 core criteria but does not meet the requirements for Good condition within criterion C.		Moderate (2)	
• Passes 0 or 1 of 3 core criteria.		Poor (1)	x
<b>Results for Green roofs and Open mosaic habitat on previously developed land (requiring assessment of 4 criteria only - core criteria plus additional criterion specified for habitat type):</b>			
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C; AND • Passes additional criterion relevant to specific habitat type (D, F or G).		Good (3)	
• Passes 2 or 3 of 4 criteria; OR • Passes 4 of 4 criteria but does not meet the requirements for Good condition within criterion C.		Moderate (2)	
• Passes 0 or 1 of 4 criteria.		Poor (1)	
<b>Results for Bioswale or SuDS (requiring assessment of 5 criteria - core criteria plus additional criteria specified for habitat type):</b>			
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C; AND • Passes all additional criteria relevant to specific habitat type (Group E)		Good (3)	
• Passes 3 or 4 of 5 criteria; OR • Passes 5 of 5 criteria but does not meet the requirements for Good condition within criterion C.		Moderate (2)	
• Passes 2 or fewer of 5 criteria.		Poor (1)	
<b>Suggested enhancement interventions to improve condition score</b>			
<b>Footnotes</b>			



Landscape buffer improvements within site will provide improvement to habitat edge. Habitat works on railway embankment likely outside scope of Project

Condition Sheet: WOODLAND Habitat Type														
UK Habitat Classification (UKHab) Habitat Type(s)														
Woodland and forest - Lowland beech and yew woodland Woodland and forest - Lowland mixed deciduous woodland Woodland and forest - Native pine woodlands Woodland and forest - Other coniferous woodland Woodland and forest - Other Scot's pine woodland Woodland and forest - Other woodland; broadleaved Woodland and forest - Other woodland; mixed Woodland and forest - Upland birchwoods Woodland and forest - Upland mixed ashwoods Woodland and forest - Upland oakwood Woodland and forest - Wet woodland														
Habitat Description														
Parcel A - Field 26 Northern site boundary consisting of railway fringe and small connected areas along access tracks. Lacks the most mature or veteran trees with relatively dense shrub understorey and limited ground flora visible for Site side but a good mi of native tree and shrub species including hazel, alder, hawthorn and field maple with scattered larger ash and sycamore trees.														
<a href="#">ukhab – UK Habitat Classification</a> This condition sheet is based on the England Woodland Biodiversity Group (EWBG) Woodland Condition Survey Method, available here: <a href="#">Woodland Wildlife Toolkit (sylva.org.uk)</a>														
IMPORTANT: This biodiversity metric woodland condition assessment must be used to assess woodland being input into the biodiversity metric. The outputs of this condition assessment are not equivalent to, nor are they comparable with the scores from the EWBG condition assessment, because the EWBG assessment has been adapted for the biodiversity metric, including the removal of EWBG Indicator 7 (Proportion of favourable land cover around woodland) and Indicator 14 (Size of woodland), and minor changes to other indicators.														
Site name and location	5535 - Stonestreet Green Solar 23.06.23 and	On-site or off-site	On- site	Habitat parcel reference										
Limitations (if applicable)	No access to parcel C - understorey viewed at distance. Survey in June/July may miss early	Survey reference (if relating to a wider survey)	Grid reference											
Condition Assessment Criteria														
Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per indicator					Notes (such as justification)					
<b>A</b>	<b>Age distribution of trees</b>	Three age-classes <sup>1</sup> present.	Two age-classes <sup>1</sup> present.	One age-class <sup>1</sup> present.	2	3	2	2	3					
<b>B</b>	<b>Wild, domestic and feral herbivore damage</b>	No significant browsing damage evident in woodland <sup>2</sup> .	Evidence of significant browsing pressure is present in 40% or less of whole woodland <sup>2</sup> .	Evidence of significant browsing pressure is present in 40% or more of whole woodland <sup>2</sup> .	3	3	3	3	3					No browsing pressure (i.e. deer) observed in site
<b>C</b>	<b>Invasive plant species</b>	No invasive species <sup>3</sup> present in woodland.	Rhododendron <i>Rhododendron ponticum</i> or cherry laurel <i>Prunus laurocerasus</i> not present, other invasive species <sup>3</sup> <10% cover.	Rhododendron or cherry laurel present, or other invasive species <sup>3</sup> >10% cover.	3	3	3	3	3					No invasive species observed across site
<b>D</b>	<b>Number of native tree species</b>	Five or more native tree or shrub species <sup>4</sup> found across woodland parcel.	Three to four native tree or shrub species <sup>4</sup> found across woodland parcel.	Two or less native tree or shrub species <sup>4</sup> across woodland parcel.	3	3	2	3	2					
<b>E</b>	<b>Cover of native tree and shrub species</b>	>80% of canopy trees and >80% of understorey shrubs are native <sup>5</sup> .	50 - 80% of canopy trees and 50 - 80% of understorey shrubs are native <sup>5</sup> .	<50% of canopy trees and <50% of understorey shrubs are native <sup>5</sup> .	3	3	3	3	3					Woodlands generally entirely native
<b>F</b>	<b>Open space within woodland</b>	10 - 20% of woodland has areas of temporary open space <sup>6</sup> . Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted <sup>7</sup> .	21 - 40% of woodland has areas of temporary open space <sup>6</sup> .	<10% or >40% of woodland has areas of temporary open space <sup>6</sup> . But if woodland <10ha has <10% temporary open space, please see Good category <sup>7</sup> .	1	1	3	2	2					Lack of open space generally in woodland A and B.
<b>G</b>	<b>Woodland regeneration</b>	All three classes present in woodland <sup>8</sup> ; trees 4 - 7 cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth.	One or two classes only present in woodland <sup>8</sup> .	No classes or coppice regrowth present in woodland <sup>8</sup> .	2	3	2	2	2					

H	Tree health	Tree mortality less than 10%, no pests or diseases and no crown dieback <sup>9</sup> .	11% to 25% tree mortality and or crown dieback or low-risk pest or disease present <sup>9</sup> .	Greater than 25% tree mortality and or any high-risk pest or disease present <sup>9</sup> .	3	3	3	3	3							
I	Vegetation and ground flora	Recognisable NVC plant community <sup>10</sup> at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community <sup>10</sup> at ground layer present.	No recognisable woodland NVC plant community <sup>10</sup> at ground layer present.	2	2	2	1	1							Bramble encroachment in some areas along with other dense shrub areas reduces areas of ground flora.
J	Woodland vertical structure	Three or more storeys across all survey plots, or a complex woodland <sup>11</sup> .	Two storeys across all survey plots <sup>11</sup> .	One or less storey across all survey plots <sup>11</sup> .	2	3	2	1	2							
K	Veteran trees	Two or more veteran trees <sup>12</sup> per hectare.	One veteran tree <sup>12</sup> per hectare.	No veteran trees <sup>12</sup> present in woodland.	1	2	1	1	1							Limited veteran trees within on-Site woodlands
L	Amount of deadwood	50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities <sup>13</sup> .	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities <sup>13</sup> .	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities <sup>13</sup> .	1	2	1	1	2							
M	Woodland disturbance	No nutrient enrichment or damaged ground evident <sup>14</sup> .	Less than 1 hectare in total of nutrient enrichment across woodland area and or less than 20% of woodland area has damaged ground <sup>14</sup> .	More than 1 hectare of nutrient enrichment and or more than 20% of woodland area has damaged ground <sup>14</sup> .	2	2	2	2	1							
<b>Total Score (out of a possible 39)</b>					28	33	29	27	28							
<b>Condition Assessment Result</b>		<b>Condition Assessment Score</b>			<b>Result Achieved</b>											
Total score >32 (33 to 39)		Good (3)				Good										
Total score 26 to 32		Moderate (2)			Mod		Mod	Mod	Mod							
Total score <26 (13 to 25)		Poor (1)														
<b>Suggested enhancement interventions to improve condition score</b>																
Parcel A - Field 26 northern edge Some opening of shrub layer may be beneficial to allow better establishment of ground flora, otherwise requires time for more mature trees to become established to provide greater age and structure diversity.																
Parcel B - management of scrub layer key to further increase woodland understorey																

**GENERAL INFORMATION**

ID	Workspace	Project	Team	Recorded: Date	Recorded: Time
92a80607-7923-409c-97d0- $\epsilon$	Lloyd Bore	River Condition Assessment		23/05/2023	14:00
6b4844a0-ced7-4360-b388- $\xi$	Lloyd Bore	River Condition Assessment		23/05/2023	13:30
e8780b08-f90a-44e9-ac17-b	Lloyd Bore	River Condition Assessment		23/05/2023	13:00
fb69521-350e-471d-919d-c	Lloyd Bore	River Condition Assessment		23/05/2023	12:30
aba712f2-95b7-451e-86bd-b	Lloyd Bore	River Condition Assessment		23/05/2023	12:00

**GENERAL INFORMATION**

Surveyor: ID	Surveyor: Screen Name	Status	River	Reach	Subreach
f9895298-05dc-41fe-b393-6:	Philip Ames	Draft	Great Stour	River East Stour	East Stour
f9895298-05dc-41fe-b393-6:	Philip Ames	Draft	Great Stour	River East Stour	East Stour
f9895298-05dc-41fe-b393-6:	Philip Ames	Draft	Great Stour	River East Stour	East Stour
f9895298-05dc-41fe-b393-6:	Philip Ames	Draft	Great Stour	River East Stour	East Stour
f9895298-05dc-41fe-b393-6:	Philip Ames	Draft	Great Stour	River East Stour	East Stour

**GENERAL INFORMATION**

Module	Project Name	MoRPh Correlation Code	WFD Waterbody ID	SurveyType	Riverfly Site?
5	5535	Bank Farm		Pre-project	FALSE
4	5535	Bank Farm		Pre-project	FALSE
3	5535	Bank Farm		Pre-project	FALSE
2	5535	Bank Farm		Pre-project	FALSE
1	5535	Bank Farm		Pre-project	FALSE

**GENERAL INFORMATION**

Riverfly Site ID	Module Length	Midpoint Location: Latitude	Midpoint Location: Longitude	Midpoint Location: Easting	Midpoint Location: Northing
	20	51.10610709	0.940375465	605937	138202
	20	51.10431749	0.944781507	606254	138015
	20	51.10514616	0.9485231	606512	138118
	20	51.10579511	0.954278138	606912	138206
	20	51.10538845	0.958610418	607217	138173



**GENERAL INFORMATION**

Midpoint Location: NGR	Survey Bank	Bed Visible	Adverse Conditions?
TR 05937 38201	Both banks	TRUE	FALSE
TR 06253 38014	Both banks	TRUE	FALSE
TR 06512 38117	Both banks	TRUE	FALSE
TR 06911 38205	Right bank	TRUE	FALSE
TR 07216 38172	Both banks	TRUE	FALSE

**GENERAL INFORMATION**

MoRPh River Width	Left Bank Height	Right Bank Height	Bankfull Width	Water Width	Water Depth	
	3	1.5	1.5	4	3	0.8
	3	1.5	2.5	5	4.5	1.2
	3	1	1.5	5	4.5	1.2
	5	0.5	0.3	5	4	1
	5	0.5	0.5	5	5	1.5

**CALCULATIONS**

ID	Workspace	Project	Team	Recorded: Date	Recorded: Time	Surveyor: ID	Surveyor: Screen Name
92a80607-	Lloyd Bore	River Condition Assessment		23/05/2023	14:00	f9895298-05dc-41f	Philip Ames
6b4844a0-	Lloyd Bore	River Condition Assessment		23/05/2023	13:30	f9895298-05dc-41f	Philip Ames
e8780b08-	Lloyd Bore	River Condition Assessment		23/05/2023	13:00	f9895298-05dc-41f	Philip Ames
fb69521-	Lloyd Bore	River Condition Assessment		23/05/2023	12:30	f9895298-05dc-41f	Philip Ames
aba712f2-9	Lloyd Bore	River Condition Assessment		23/05/2023	12:00	f9895298-05dc-41f	Philip Ames

**CALCULATIONS**

Module	Status	River	Reach	Subreach	Module	INDEX 1: Number of flow types	INDEX 2: Highest energy flow type
5	Draft	Great Stour	River East Stour	East Stour	5	5	1 Rippled
4	Draft	Great Stour	River East Stour	East Stour	4	4	1 Rippled
3	Draft	Great Stour	River East Stour	East Stour	3	3	1 Smooth
2	Draft	Great Stour	River East Stour	East Stour	2	2	1 Smooth
1	Draft	Great Stour	River East Stour	East Stour	1	1	1 Smooth

**CALCULATIONS**

Module	INDEX 3: Number of bed material types	INDEX 4: Coarsest present/extensive bed material type	INDEX 5: Average alluvial bed material size (phi units)	INDEX 6: Average alluvial bed material size class	INDEX 7: Extent of superficial bed siltation	INDEX 8: Channel physical habitat complexity	INDEX 9: Number of aquatic vegetation morphotypes
5	1	Gravel-Pebble	-3.5	Gravel-Pebble	0	0.833333333	3
4	3	Cobble	-0.166666667	Sand	0	1.666666667	0
3	2	Sand	3.377906977	Sand	0	1.25	2
2	2	Clay	10	Clay	0	1.666666667	4
1	2	Clay	10	Clay	0	1.25	3

**CALCULATIONS**

<b>Module</b>	INDEX 10: Riparian physical habitat complexity	INDEX 11: Riparian vegetation structural complexity	INDEX 12: Human pressure imposed by bank top land cover	INDEX 13: Channel reinforcement	INDEX 14: Non- native invasive plant extent
<b>5</b>	1.66666667		2	0	0
<b>4</b>	1.83333333		2.5	6	0
<b>3</b>	2.5		4.5	6	0
<b>2</b>	2.08333333		3	0	0
<b>1</b>	2.91666667		3	0	0



**BANK TOP**

	Terrestrial Vegetation: Unvegetated: Abundance: Right	Terrestrial Vegetation: Mosses / lichens: Abundance: Left Bank	Terrestrial Vegetation: Mosses / lichens: Abundance: Right	Terrestrial Vegetation: Short Herbs / Grasses: Abundance: Left	Terrestrial Vegetation: Short Herbs / Grasses: Abundance: Right	Terrestrial Vegetation: Tall Herbs / Grasses: Abundance: Left	Terrestrial Vegetation: Tall Herbs / Grasses: Abundance: Right
<b>Module</b>	Bank	Bank	Bank	Bank	Bank	Bank	Bank
<b>5</b>	Absent	Absent	Absent	Trace	Absent	Extensive	Extensive
<b>4</b>	Trace	Absent	Absent	Trace	Trace	Extensive	Extensive
<b>3</b>	Absent	Absent	Absent	Absent	Absent	Extensive	Extensive
<b>2</b>	Trace	Absent	Absent	Present	Present	Extensive	Present
<b>1</b>	Trace	Absent	Absent	Present	Present	Extensive	Extensive

**BANK TOP**

	Terrestrial Vegetation: Scrub / Shrubs: Abundance:	Terrestrial Vegetation: Scrub / Shrubs: Abundance: Right Bank	Terrestrial Vegetation: Saplings / Trees: Abundance: Left	Terrestrial Vegetation: Saplings / Trees: Abundance:	Terrestrial Vegetation: Leaning Trees: Abundance:	Terrestrial Vegetation: Leaning Trees: Abundance: Right	Terrestrial Vegetation: Fallen Trees: Abundance:
<b>Module</b>	Left Bank	Bank	Bank	Right Bank	Left Bank	Bank	Left Bank
<b>5</b>	Absent	Absent	Absent	Absent	Absent	Absent	Absent
<b>4</b>	Absent	Absent	Absent	Absent	Absent	Absent	Absent
<b>3</b>	Present	Absent	Present	Trace	Absent	Absent	Absent
<b>2</b>	Absent	Absent	Absent	Absent	Absent	Absent	Absent
<b>1</b>	Trace	Absent	Absent	Trace	Absent	Absent	Absent

**BANK TOP**

	Terrestrial Vegetation: Fallen Trees: Abundance:	Terrestrial Vegetation: J-Shaped Trees: Abundance: Left Bank	Terrestrial Vegetation: J- Shaped Trees: Abundance: Right	Terrestrial Vegetation: Trailing Tree / Shrub Branches: Abundance: Left	Terrestrial Vegetation: Trailing Tree / Shrub Branches: Abundance: Right	Terrestrial Vegetation: Large Wood: Abundance:	Terrestrial Vegetation: Large Wood: Abundance:
<b>Module</b>	Right Bank	Bank	Bank	Bank	Bank	Left Bank	Right Bank
<b>5</b>	Absent	Absent	Absent	Absent	Absent	Absent	Absent
<b>4</b>	Absent	Absent	Absent	Absent	Absent	Absent	Absent
<b>3</b>	Absent	Absent	Absent	Absent	Trace	Absent	Absent



5	Absent	Absent	Absent	Absent	Absent
4	Absent	Absent	Absent	Absent	Absent
3	Absent	Absent	Absent	Absent	Absent
2	Absent	Absent	Absent	Absent	Absent
1	Absent	Absent	Absent	Absent	Absent

**BANK TOP**

	Water Related		Water Related		Water Related	Water Related	
	Features:	Water Related	Features: Side	Water Related	Features: Short Non	Features: Short	Water Related
	Connected Pond:	Features: Connected	Channel:	Features: Side	Woody Wetland:	Non Woody	Features: Tall Non
	Abundance: Left	Pond: Abundance:	Abundance: Left	Channel: Abundance:	Abundance: Left	Wetland:	Woody Wetland:
<b>Module</b>	Bank	Right Bank	Bank	Right Bank	Bank	Bank	Bank
5	Absent	Absent	Absent	Absent	Absent	Absent	Absent
4	Absent	Absent	Absent	Absent	Absent	Absent	Absent
3	Absent	Absent	Absent	Absent	Absent	Absent	Absent
2	Absent	Absent	Absent	Absent	Absent	Absent	Trace
1	Absent	Absent	Absent	Absent	Absent	Absent	Present

**BANK TOP**

	Water Related		Water Related
	Features: Tall Non	Water Related	Features: Wetland
	Woody Wetland:	Features: Wetland	Shrubs and Trees:
	Abundance: Right	Shrubs and Trees:	Abundance: Right
<b>Module</b>	Bank	Abundance: Left Bank	Bank
5	Absent	Absent	Absent
4	Absent	Absent	Absent
3	Absent	Present	Present
2	Trace	Absent	Present
1	Present	Absent	Present

**BANK FACE**

ID	Workspace	Project	Team	Recorded:		Surveyor:			River
				Date	Time	Screen	ID	Name	
92a80607-	Lloyd Bore	River Condition Assessment		23/05/2023	14:00	f9895298-05dc-	Philip Ames	Draft	Great Stour
6b4844a0-	Lloyd Bore	River Condition Assessment		23/05/2023	13:30	f9895298-05dc-	Philip Ames	Draft	Great Stour
e8780b08-	Lloyd Bore	River Condition Assessment		23/05/2023	13:00	f9895298-05dc-	Philip Ames	Draft	Great Stour
fb69521-	Lloyd Bore	River Condition Assessment		23/05/2023	12:30	f9895298-05dc-	Philip Ames	Draft	Great Stour
aba712f2-	Lloyd Bore	River Condition Assessment		23/05/2023	12:00	f9895298-05dc-	Philip Ames	Draft	Great Stour

**BANK FACE**

Module	Reach	Subreach	Module	Profile:		Profile:			Profile:
				Dominant Bank Profile: Abundance:	Profile: Abundance:	Dominant Bank Profile: Abundance:	Dominant Bank Profile: Abundance:	Subdominant Bank Profile: Abundance:	
5	River East Stour	East Stour	5	Extensive	Extensive	Steep (> 45 deg)	Steep (> 45 deg)	Absent	Absent
4	River East Stour	East Stour	4	Extensive	Extensive	Vertical	Steep (> 45 deg)	Absent	Absent
3	River East Stour	East Stour	3	Extensive	Extensive	Gentle (< 45 deg)	Gentle (< 45 deg)	Absent	Absent
2	River East Stour	East Stour	2	Extensive	Extensive	Gentle (< 45 deg)	Gentle (< 45 deg)	Absent	Absent
1	River East Stour	East Stour	1	Extensive	Extensive	Gentle (< 45 deg)	Gentle (< 45 deg)	Absent	Absent

**BANK FACE**

Module	Abundance: Left Bank	Right Bank	Code: Left Bank	Profile:		Natural		Natural		Reinforcement: Vertical Extent: Abundance: Left Bank
				Subdominant Bank Profile: Abundance:	Subdominant Bank Profile: Abundance:	Dominant Upper Bank	Dominant Upper Bank	Dominant Lower Bank	Dominant Lower Bank	
5	Absent	Absent		Profile: Subdominant Bank Profile: Abundance: Left Bank	Profile: Subdominant Bank Profile: Abundance: Left Bank	Natural Materials: Dominant Upper Bank	Natural Materials: Dominant Upper Bank	Natural Materials: Dominant Lower Bank	Natural Materials: Dominant Lower Bank	Absent





2	Earth (i.e. mixed, main Earth (i.e. mixed, Absent	Absent	Absent	Absent	Absent	Absent
1	Earth (i.e. mixed, main Earth (i.e. mixed, Absent	Absent	Absent	Absent	Absent	Absent

**BANK FACE**

				Natural					
		Natural Physical	Natural Physical	Physical	Natural	Natural	Natural	Natural	Natural
	Natural Physical	Features:	Features:	Features:	Physical	Physical	Physical	Physical	Physical
	Features:	Vegetated Side	Vegetated Side	Vegetated Side Bar:	Features:	Features:	Features:	Features:	Features:
	Unvegetated Side	Bar: Abundance:	Bar: Abundance:	Code: Left	Bar: Code:	Abundance:	Abundance:	Abundance:	Abundance:
<b>Module</b>	Bar: Code: Right Bank	Left Bank	Right Bank	Bank	Right Bank	Left Bank	Right Bank	Left Bank	Right Bank
5		Absent	Absent			Absent	Absent	Absent	Absent
4		Absent	Absent			Absent	Absent	Absent	Absent
3		Absent	Absent			Absent	Absent	Absent	Absent
2		Absent	Absent			Absent	Absent	Absent	Absent
1		Absent	Absent			Absent	Absent	Absent	Absent

**BANK FACE**

				Natural	Natural	Natural	Natural	Natural	Natural
		Natural Physical	Natural Physical	Physical	Physical	Physical	Physical	Physical	Physical
	Natural Physical	Features:	Features:	Features:	Features:	Features:	Features:	Features:	Features:
	Features: Vegetated	Vegetated Side	Vegetated Side	Berm:	Berm:	Bench:	Bench:	Stable Cliff:	Stable Cliff:
	Side Bar: Abundance:	Bar: Code: Left	Bar: Code: Right	Abundance:	Abundance:	Abundance:	Abundance:	Abundance:	Abundance:
<b>Module</b>	Right Bank	Bank	Bank	Left Bank	Right Bank	Left Bank	Right Bank	Left Bank	Right Bank
5	Absent			Absent	Absent	Absent	Absent	Absent	Absent
4	Absent			Absent	Absent	Absent	Absent	Present	Absent
3	Absent			Absent	Absent	Absent	Absent	Absent	Absent
2	Absent			Absent	Absent	Absent	Absent	Absent	Absent
1	Absent			Absent	Absent	Absent	Absent	Absent	Absent

**BANK FACE**

	Natural Physical	Natural Physical	Natural Physical	Natural Physical	Natural Physical	Natural Physical	Natural Physical	Natural Physical	Natural Physical
	Features: Eroding Cliff: Abundance: Left Bank	Features: Eroding Cliff: Abundance: Right Bank	Features: Toe: Abundance: Left Bank	Features: Toe: Abundance: Right Bank	Features: Burrows: Abundance: Left Bank	Features: Burrows: Abundance: Right Bank	Features: Backwater: Abundance: Left Bank	Features: Backwater: Abundance: Right Bank	Features: Tributary: Confluence: Abundance: Left Bank
<b>Module</b>									
5	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	0
4	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	0
3	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	0
2	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	0
1	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	0

**BANK FACE**

	Natural Physical	Artificial	Artificial	Artificial	Artificial	Artificial	Artificial	Artificial	Artificial
	Features: Tributary Confluence: Abundance: Right Bank	Features: Pipes / Outfalls: Abundance: Left Bank	Features: Pipes / Outfalls: Abundance: Right Bank	Features: Jetty: Abundance: Left Bank	Features: Jetty: Abundance: Right Bank	Features: Deflector: Abundance: Left Bank	Features: Deflector: Abundance: Right Bank	Features: Other: Abundance: Left Bank	Features: Other: Abundance: Right Bank
<b>Module</b>									
5	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0

**BANK FACE**

Module	Artificial Features:			Artificial Features:	Terrestrial Vegetation:	Terrestrial Vegetation:	Terrestrial Vegetation:	Terrestrial Vegetation:	Terrestrial Vegetation:
	Other: Abundance:	Other: Abundance:	Other: Abundance:	Other: Abundance:	Unvegetated: Abundance:	Unvegetated: Abundance:	Mosses / lichens: Abundance:	Mosses / lichens: Abundance:	Short Herbs / Grasses: Abundance:
	Left Bank	Right Bank	Code: Left Bank	Code: Right Bank	Left Bank	Right Bank	Left Bank	Right Bank	Left Bank
5					Absent	Absent	Absent	Absent	Absent
4					Present	Present	Absent	Present	Absent
3					Absent	Absent	Absent	Absent	Absent
2					Absent	Absent	Absent	Absent	Trace
1					Absent	Absent	Absent	Absent	Absent
<b>BANK FACE</b>									

Module	Terrestrial Vegetation:			Terrestrial Vegetation:	Terrestrial Vegetation:	Terrestrial Vegetation:	Terrestrial Vegetation:	Terrestrial Vegetation:	Terrestrial Vegetation:
	Short Herbs / Grasses: Abundance:	Tall Herbs / Grasses: Abundance:	Tall Herbs / Grasses: Abundance:	Scrub / Shrubs: Abundance:	Scrub / Shrubs: Abundance:	Saplings / Trees: Abundance:	Saplings / Trees: Abundance:	Large Wood: Abundance:	Large Wood: Abundance:
	Bank	Bank	Right Bank	Left Bank	Right Bank	Left Bank	Right Bank	Left Bank	Right Bank
5	Absent	Extensive	Extensive	Trace	Absent	Absent	Absent	Absent	Absent
4	Absent	Extensive	Extensive	Absent	Absent	Trace	Trace	Absent	Absent
3	Absent	Extensive	Extensive	Present	Absent	Present	Present	Absent	Absent
2	Trace	Extensive	Extensive	Absent	Absent	Absent	Absent	Absent	Absent
1	Absent	Extensive	Extensive	Absent	Absent	Absent	Trace	Absent	Absent
<b>BANK FACE</b>									

		Terrestrial				Terrestrial			
		Vegetation:		Vegetation:		Vegetation:		Vegetation:	
		Terrestrial	Terrestrial	Leaning	JShaped	JShaped	Trailing	Trailing	Terrestrial
		Trees:	Trees:	Trees:	Trees:	Trees:	Tree /	Tree /	Vegetation:
		Abundance:	Abundance:	Abundance:	Abundance:	Abundance:	Branches:	Branches:	Exposed
		Left Bank	Right Bank	Left Bank	Right Bank	Left Bank	Right Bank	Left Bank	Tree Roots:
		Bank	Bank	Bank	Bank	Bank	Bank	Bank	Abundance:
<b>Module</b>									
	5	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
	4	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
	3	Absent	Absent	Trace	Trace	Trace	Absent	Trace	Absent
	2	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
	1	Absent	Absent	Absent	Trace	Absent	Trace	Absent	Absent

**BANK FACE**

		Vegetation at Water				Vegetation at Water			
		Vegetation:		Vegetation:		Vegetation:		Vegetation:	
		Terrestrial	Terrestrial	Margin:	Water Margin:	Water Margin:	Water Margin:	Water Margin:	Margin:
		Vegetation:	Vegetation:	Liverworts /	Liverworts /	Liverworts /	Liverworts /	Liverworts /	Emergent
		Discrete Organic	Discrete Organic	Mosses /	Mosses /	Mosses /	Mosses /	Mosses /	Reeds /
		Accumulations:	Accumulations:	Lichens:	Lichens:	Lichens:	Lichens:	Lichens:	Linear
		Abundance:	Abundance:	Abundance:	Abundance:	Abundance:	Abundance:	Abundance:	Leaved:
		Right Bank	Left Bank	Right Bank	Left Bank	Right Bank	Left Bank	Right Bank	Leaved:
		Bank	Bank	Bank	Bank	Bank	Bank	Bank	Abundance:
<b>Module</b>									
	5	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
	4	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Trace
	3	Absent	Absent	Absent	Absent	Absent	Absent	Extensive	Trace
	2	Absent	Absent	Absent	Absent	Absent	Absent	Present	Present
	1	Absent	Absent	Absent	Absent	Absent	Trace	Present	Present

**BANK FACE**

Module	Vegetation at Water Margin:		Vegetation at Water Margin:		Nuisance Plant		Nuisance Plant	
	Amphibious: Abundance: Left Bank	Amphibious: Abundance: Right Bank	Filamentous Algae: Abundance: Left Bank	Filamentous Algae: Abundance: Right Bank	Himalayan Balsam: Abundance: Left Bank	Himalayan Balsam: Abundance: Right Bank	Japanese Knotweed: Abundance: Left Bank	Japanese Knotweed: Abundance: Right Bank
5	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
4	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
3	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
2	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
1	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent

**BANK FACE**

Module	Nuisance Plant		Nuisance Plant		Nuisance Plant		Nuisance Plant	
	Species: Floating Pennywort: Abundance: Right Bank	Species: Floating Pennywort: Abundance: Left Bank	Species: Floating Pennywort: Abundance: Right Bank	Species: Floating Pennywort: Abundance: Left Bank	Species: Other: Species 1: Abundance: Right Bank	Species: Other: Species 1: Abundance: Left Bank	Species: Other: Species 1: Abundance: Right Bank	Species: Other: Species 2: Abundance: Right Bank
5	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
4	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
3	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
2	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
1	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent

**BANK FACE**

<b>Module</b>	Nuisance Plant Species: Other Species 2: Code: Left Bank	Nuisance Plant Species: Other Species 2: Code: Right Bank
5		
4		
3		
2		
1		

**CHANNEL BED**

Module	Workspace	Project	Team	Recorded: Date	Recorded: Time	Surveyor: ID
5	Lloyd Bore	River Condition Assessment		23/05/2023	14:00	f9895298-05dc-41fe-b393
4	Lloyd Bore	River Condition Assessment		23/05/2023	13:30	f9895298-05dc-41fe-b393
3	Lloyd Bore	River Condition Assessment		23/05/2023	13:00	f9895298-05dc-41fe-b393
2	Lloyd Bore	River Condition Assessment		23/05/2023	12:30	f9895298-05dc-41fe-b393
1	Lloyd Bore	River Condition Assessment		23/05/2023	12:00	f9895298-05dc-41fe-b393

**CHANNEL BED**

ID	Surveyor: Screen Name	Status	River	Reach	Subreach	Module
Module	Philip Ames	Draft	Great Stour	River East Stour	East Stour	5
5	Philip Ames	Draft	Great Stour	River East Stour	East Stour	4
4	Philip Ames	Draft	Great Stour	River East Stour	East Stour	3
3	Philip Ames	Draft	Great Stour	River East Stour	East Stour	2
2	Philip Ames	Draft	Great Stour	River East Stour	East Stour	1
1						

Module	Natural Materials: Bedrock: Abundance	Natural Materials: Boulder: Abundance	Natural Materials: Cobble: Abundance	Natural Materials: Gravel-Pebble: Abundance	Natural Materials: Sand: Abundance	Surface Flow Type: Rippled: Abundance
5	Absent	Absent	Absent	Extensive	Absent	Extensive
4	Absent	Absent	Present	Present	Absent	Extensive
3	Absent	Absent	Absent	Absent	Extensive	Absent
2	Absent	Absent	Absent	Absent	Absent	Absent
1	Absent	Absent	Absent	Absent	Absent	Absent

**CHANNEL BED**

Module	Surface Flow Type: Smooth: Abundance	Surface Flow Type: No Perceptible Flow: Abundance	Surface Flow Type: Dry: Abundance	Natural Physical Features: Exposed Bedrock: Abundance	Natural Physical Features: Exposed Unvegetated Rocks: Abundance	Natural Physical Features: Pool: Abundance



5 Absent	Absent	Absent	Absent	Absent	0
4 Absent	Absent	Absent	Absent	Absent	0
3 Extensive	Absent	Absent	Absent	Absent	0
2 Extensive	Absent	Absent	Absent	Absent	0
1 Extensive	Absent	Absent	Absent	Absent	0

**CHANNEL BED**

	Natural Physical Features: Exposed Vegetated Rocks: Abundance	Natural Physical Features: Unvegetated Mid-Channel Bar: Abundance	Natural Physical Features: Unvegetated Mid- Channel Bar: Code	Natural Physical Features: Vegetated Mid- Channel Bar: Abundance	Natural Physical Features: Vegetated Mid-Channel Bar: Code	Natural Physical Features: Island: Abundance
<b>Module</b>						
5 Absent	Absent	Absent		Absent		Absent
4 Absent	Absent	Absent		Absent		Absent
3 Absent	Absent	Absent		Absent		Absent
2 Absent	Absent	Absent		Absent		Absent
1 Absent	Absent	Absent		Absent		Absent

**CHANNEL BED**

	Natural Physical Features: Cascade: Abundance	Natural Physical Features: Pool: Abundance	Natural Physical Features: Riffle: Abundance	Natural Physical Features: Step: Abundance	Natural Physical Features: Waterfall: Abundance	Artificial Features: Large Trash: Abundance
<b>Module</b>						
5 Absent			0	0	0	0 Absent
4 Absent			0	0	0	0 Absent
3 Absent			0	0	0	0 Absent
2 Absent			0	1	0	0 Absent
1 Absent			0	0	0	0 Absent

**CHANNEL BED**

Module	Artificial Features:	Artificial Features:	Artificial Features:	Artificial Features:	Artificial Features:
	Major Weir:	Intermediate Weir:	Minor Weir:	Bridge Piers in River Bed:	Bridge Shadow:
	Abundance	Abundance	Abundance	Abundance	Abundance
5	0	0	0	0	0
4	0	0	0	0	0
3	0	0	0	0	0
2	0	0	0	0	0
1	0	0	0	0	0 Narrow

**CHANNEL BED**

Module	Artificial Features:	InChannel Vegetation:	InChannel Vegetation:	InChannel Vegetation:	InChannel Vegetation:	InChannel Vegetation:
	Culvert:	Unvegetated (bare river bed):	Liverworts / Mosses / Lichens (Terrestrial & Aquatic):	Emergent Broad Leaved:	Emergent Broad Leaved:	Reeds / Linear Floating Leaved:
	Abundance	Abundance	Abundance	Abundance	Abundance	Abundance
5	0	Absent	Absent	Absent	Present	Absent
4	0	Absent	Absent	Absent	Absent	Absent
3	0	Extensive	Absent	Absent	Extensive	Absent
2	0	Present	Absent	Absent	Present	Trace
1	0	Present	Absent	Absent	Absent	Trace

**CHANNEL BED**

Module	InChannel Vegetation:	InChannel Vegetation:	InChannel Vegetation:	InChannel Vegetation:	InChannel Vegetation:
	Free Floating:	Amphibious:	Submerged Broad Leaved:	Submerged Linear Leaved:	Fine Leaved:
	Abundance	Abundance	Abundance	Abundance	Abundance
5	Absent	Absent	Absent	Present	Absent
4	Absent	Absent	Absent	Absent	Absent
3	Absent	Absent	Absent	Trace	Absent

2	Absent	Absent	Present	Present	Absent	Present
1	Absent	Absent	Trace	Present	Absent	Present

**CHANNEL BED**

	InChannel				Interacting	
	Vegetation:		Interacting	Interacting	Vegetation:	
	Channel Choked	Interacting Vegetation: Short	Vegetation: Tall	Vegetation: Scrub	Saplings /	Interacting Vegetation:
	with Aquatic	/ Creeping Herbs / Grasses:	Herbs / Grasses:	/ Shrubs:	Trees:	Vegetation Shading
<b>Module</b>	Plants?: Abundance	Abundance	Abundance	Abundance	Abundance	Channel: Abundance
5	FALSE	Absent	Absent	Absent	Absent	Absent
4	FALSE	Absent	Absent	Absent	Absent	Absent
3	FALSE	Absent	Absent	Absent	Absent	Absent
2	FALSE	Absent	Absent	Absent	Absent	Absent
1	FALSE	Absent	Absent	Absent	Absent	Trace

**CHANNEL BED**

					Interacting	
					Vegetation:	
	Interacting	Interacting Vegetation: Trees		Interacting	Large Wood	
	Vegetation:	/ Shrubs / Saplings Growing	Interacting	Vegetation:	Dam (Crosses	
	Submerged Tree	from Submerged River Bed:	Vegetation: Large	Discrete Organic	Entire Width	
<b>Module</b>	Roots: Abundance	Abundance	Wood: Abundance	Material:	of Channel):	Interacting Vegetation:
5	Absent	Absent	Absent	Abundance	Abundance	Fallen Tree: Abundance
4	Absent	Absent	Absent	Absent	0	0
3	Absent	Absent	Absent	Trace	0	0
2	Absent	Absent	Absent	Trace	0	0
1	Trace	Absent	Absent	Trace	0	0

**CHANNEL BED**

<b>Module</b>	Fallen Tree: Abundant	Nuisance Plant Species: Himalayan Balsam:	Nuisance Plant Species: Japanese Knotweed:	Nuisance Plant Species: Giant Hogweed:	Nuisance Plant Species: Floating Pennywort:	Nuisance Plant Species: Other Species 1:
<b>5</b>	Abundance	Absent	Absent	Absent	Absent	Absent
<b>4</b>	Abundance	Absent	Absent	Absent	Absent	Absent
<b>3</b>	Abundance	Absent	Absent	Absent	Absent	Absent
<b>2</b>	Abundance	Absent	Absent	Absent	Absent	Absent
<b>1</b>	Abundance	Absent	Absent	Absent	Absent	Absent

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# Appendix 3: Detailed Results of Statutory Biodiversity Metric Calculations

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# The Statutory Biodiversity Metric

Auditing and accounting for biodiversity

## Calculation Tool

[Open Tool](#)





# The Statutory Biodiversity Metric Start page

Project details			
Planning authority:	Planning Inspectorate / Ashford Borough Council		
Project name:	Stonestreet Green Solar Farm		
Applicant:	EPL 01 Limited		
Application type:	NSIP		
Planning application reference:			
Completed by:	Lloydibore, Principal Ecologist (BSc (Hons), CEnv, MCIEEM)		
Date of metric completion:	21 May 2024		
Reviewer:	Lloydibore, Director (BSc (Hons), MCIEEM)		
Calculation iteration:	P01 (Version 1, excluding internal working drafts)		
Planning authority reviewer:			
Date of planning authority review:			
Target % net gain:	10%		
Irreplaceable habitat present at baseline:	No ✓		
Total site area - including irreplaceable habitat area (hectares):	191.68	Irreplaceable habitat site area (hectares):	0.00
Total off-site area - including irreplaceable habitat area (hectares):	N/A	Irreplaceable habitat area off-site (hectares):	N/A

Main menu

Results

Cell style conventions	
	Attention required
	Input error/rules and principles not met
	Use of this cell is not appropriate
	Enter data
	Automatic lookup
	Result

View all

Reset view

On-site baseline map Insert

On-site post intervention map Insert

On-site baseline map reference number

On-site post-intervention map reference number

Off-site baseline map Insert

Off-site post intervention map Insert

Off-site baseline map reference number

Off-site post-intervention reference number

**Key**

- Area habitats
- Hedgerows and lines of trees
- Watercourses

# The Statutory Biodiversity Metric Main menu

Start page      Technical data      Results

Tree helper						
Tree size	Number of trees and area (ha) for each condition state					
	Poor	Area	Moderate	Area	Good	Area
Small		0.0000		0.0000		0.0000
Medium		0.0000		0.0000		0.0000
Large		0.0000		0.0000		0.0000
Vary large		0.0000		0.0000		0.0000
<b>Total</b>	0	0.0000	0	0.0000	0	0.0000



**On-site baseline**

- A-1 On-site Area Habitat Baseline
- B-1 On-site Hedge Baseline
- C-1 On-site Watercourse Baseline

**On-site post development**

- A-2 On-site Area Habitat Creation
- A-3 On-site Area Habitat Enhancement
- B-2 On-site Hedge Creation
- B-3 On-site Hedge Enhancement
- C-2 On-site Watercourse Creation
- C-3 On-site Watercourse Enhancement

**Off-site baseline**

- D-1 Off-site Area Habitat Baseline
- E-1 Off-site Hedge Baseline
- F-1 Off-site Watercourse Baseline

**Off-site post development**

- D-2 Off-site Area Habitat Creation
- D-3 Off-site Area Habitat Enhancement
- E-2 Off-site Hedge Creation
- E-3 Off-site Hedge Enhancement
- F-2 Off-site Watercourse Creation
- F-3 Off-site Watercourse Enhancement

	Target	Budgeted Units	Received Units	Unit Cost
Very High	10.00%	877.11	897.89	0.00
Medium	10.00%	190.00	173.10	0.00
Watercourse	10.00%	88.88	87.47	0.00

Year	Unit Available for Year	Unit Available by Year (BIM Solution)
A1	0.00	0.00
A2	0.00	0.00
A3	0.00	0.00
A4	0.00	0.00
A5	0.00	0.00
A6	0.00	0.00
A7	0.00	0.00
A8	0.00	0.00
A9	0.00	0.00
A10	0.00	0.00

Year	Habitat	Habitat Group	Unit Change	Losses in Year
A1	Channel - 10m wide, 1m deep	Channel	0.00	0.00
	Channel - 10m wide, 2m deep	Channel	0.00	
	Channel - 10m wide, 3m deep	Channel	0.00	
	Channel - 10m wide, 4m deep	Channel	0.00	
A2	Channel - 10m wide, 1m deep	Channel	0.00	0.00
	Channel - 10m wide, 2m deep	Channel	0.00	
	Channel - 10m wide, 3m deep	Channel	0.00	
	Channel - 10m wide, 4m deep	Channel	0.00	
	Channel - 10m wide, 5m deep	Channel	0.00	
	Channel - 10m wide, 6m deep	Channel	0.00	
	Channel - 10m wide, 7m deep	Channel	0.00	
	Channel - 10m wide, 8m deep	Channel	0.00	
	Channel - 10m wide, 9m deep	Channel	0.00	
	Channel - 10m wide, 10m deep	Channel	0.00	
A3	Channel - 10m wide, 1m deep	Channel	0.00	12.48
	Channel - 10m wide, 2m deep	Channel	0.00	
	Channel - 10m wide, 3m deep	Channel	0.00	
	Channel - 10m wide, 4m deep	Channel	0.00	
	Channel - 10m wide, 5m deep	Channel	0.00	
	Channel - 10m wide, 6m deep	Channel	0.00	
	Channel - 10m wide, 7m deep	Channel	0.00	
	Channel - 10m wide, 8m deep	Channel	0.00	
	Channel - 10m wide, 9m deep	Channel	0.00	
	Channel - 10m wide, 10m deep	Channel	0.00	
A4	Channel - 10m wide, 1m deep	Channel	0.00	0.00
	Channel - 10m wide, 2m deep	Channel	0.00	
	Channel - 10m wide, 3m deep	Channel	0.00	
	Channel - 10m wide, 4m deep	Channel	0.00	
A5	Channel - 10m wide, 1m deep	Channel	0.00	0.00
	Channel - 10m wide, 2m deep	Channel	0.00	

<b>Rule 1</b>	Higher surplus is used to offset loss of medium disturbance of the same broad habitat category.
<b>Rule 2</b>	Remaining higher surplus is used to offset the loss of the most expensive medium credit tier of A1.
<b>Rule 3</b>	Remaining higher surplus is used to offset the loss of the second most expensive medium credit tier of A2.
<b>Rule 4</b>	Remaining higher surplus is used to offset the loss of the third most expensive medium credit tier of A3.
<b>Rule 5</b>	Remaining higher surplus is used to offset losses from low disturbance habitats.

Habitat Group	Very High + High Disturbance Surplus Availability		Medium Disturbance Losses		Rule 1		Rule 2		Rule 3		Rule 4		Final Losses in Year
	Habitat Group	Unit Available in Broad Habitat Group	Habitat Group	Losses Requiring Offset	Remaining Available After Rule 1	Remaining Available After Rule 2	Remaining Available After Rule 3	Remaining Available After Rule 4	Remaining Available After Rule 5	Remaining Available After Rule 6			
A1	Channel	0.00	Channel	0.00	0.00	0.00	0.00	0.00	12.81	A1	0.00		
	Woodland and scrub	0.00	Woodland and scrub	0.00	0.00								
	Heath	0.00	Heath	0.00	0.00								
	Woodland grass	0.00	Woodland grass	0.00	0.00								
A2	Woodland scrub	0.00	Woodland scrub	0.00	0.00	0.00	0.00	12.81	0.00	A2	0.00		
	Woodland grass	0.00	Woodland grass	0.00	0.00								
A3	Lakes	0.00	Lakes	0.00	0.00	0.00	0.00	0.00	0.00	A3	0.00		
	Priority riparian zone	0.00	Priority riparian zone	0.00	0.00								
	Woodland	0.00	Woodland	0.00	0.00								
Total Surplus Availability					0.00	0.00	0.00	0.00	0.00	0.00			

Year	Net Unit Change for Low Disturbance Habitats	Total Unit Change for Low Disturbance Habitats Following Offset from Higher Disturbance Habitats	Units Remaining Available After Rule 5	Final Losses in Year
A1	-222.88	0.00	0.00	0.00

Habitat Group	Losses	Final Losses
A1	0.00	0.00
A2	0.00	0.00
A3	0.00	0.00
A4	0.00	0.00
A5	0.00	0.00

Habitat Group	Losses	Final Losses
A6	0.00	0.00
A7	0.00	0.00
A8	0.00	0.00
A9	0.00	0.00
A10	0.00	0.00

Unit Shortfall by Year/Module	
Year	Unit Shortfall
A1	0.00
A2	0.00
A3	4.88 ▲
A4	0.00
A5	0.00
H	0.10 ▲
W	0.00

\*The spatial risk multiplier has been applied to all unit shortfall values.

## The Statutory Biodiversity Metric Results

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page](#)

[Headline results](#)

[Detailed results](#)

[Habitat trading  
summaries](#)

[Off-site  
summary](#)

[Irreplaceable  
habitats summary](#)

[Unit shortfall  
summary](#)

Stonestreet Green Solar Farm
<b>Headline Results</b>
Scroll down for final results ▲

Return to results menu

On-site baseline	Habitat units	507.21	
	Hedgerow units	160.09	
	Watercourse units	25.33	
On-site post-intervention <small>(Including habitat retention, creation &amp; enhancement)</small>	Habitat units	1453.91	
	Hedgerow units	218.17	
	Watercourse units	29.20	
On-site net change <small>(units &amp; percentage)</small>	Habitat units	946.70	186.65%
	Hedgerow units	58.08	36.28%
	Watercourse units	3.86	15.24%

Off-site baseline	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site post-intervention <small>(Including habitat retention, creation &amp; enhancement)</small>	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site net change <small>(units &amp; percentage)</small>	Habitat units	0.00	0.00%
	Hedgerow units	0.00	0.00%
	Watercourse units	0.00	0.00%

Combined net unit change <small>(Including all on-site &amp; off-site habitat retention, creation &amp; enhancement)</small>	Habitat units	946.70	
	Hedgerow units	58.08	
	Watercourse units	3.86	
Spatial risk multiplier (SRM) deductions	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	

**FINAL RESULTS**

Total net unit change <small>(Including all on-site &amp; off-site habitat retention, creation &amp; enhancement)</small>	Habitat units	946.70
	Hedgerow units	58.08
	Watercourse units	3.86

Total net % change <small>(Including all on-site &amp; off-site habitat retention, creation &amp; enhancement)</small>	Habitat units	186.65%
	Hedgerow units	36.28%
	Watercourse units	15.24%

Trading rules satisfied? **No - Check Trading Summaries ▲**

Unit Type	Target	Baseline Units	Units Required	Unit Deficit
Habitat units	10.00%	507.21	557.93	0.00
Hedgerow units	10.00%	160.09	176.10	0.00
Watercourse units	10.00%	25.33	27.87	0.00

No additional area habitat units required to meet target ✓  
 No additional hedgerow units required to meet target ✓  
 No additional watercourse units required to meet target ✓

**Input errors/rule breaks present in metric ▲**



Return to results menu

Trading summary area habitats

Trading summary watercourses

### Trading Summary

Distinctiveness Group	Trading Rule	Trading Satisfied?
Very High	Some habitat required =	Yes ✓
High	Like for like or better	No ▲
Medium	Some distinctiveness or better habitat required	Yes ✓
Low	Some distinctiveness or better habitat required	Yes ✓
Very Low	Some distinctiveness or better habitat required	Yes ✓

#### Very High Distinctiveness

Habitat group	On-site unit change	Off-site unit change	Project wide unit change
Species-rich native hedgerow with trees - associated with bank or ditch	0.35	0.00	0.35 ✓
<b>Total</b>	<b>0.35</b>	<b>0.00</b>	<b>0.35</b>

#### Very High Distinctiveness Summary

Very High Distinctiveness Units available to offset lower distinctiveness deficit	0.35	✓
Remaining balance: Like for like not satisfied	0.00	

#### High Distinctiveness

Habitat group	On-site unit change	Off-site unit change	Project wide unit change
Species-rich native hedgerow with trees	0.43	0.00	0.43 ✓
Species-rich native hedgerow - associated with bank or ditch	-0.38	0.00	-0.38 ▲
Native hedgerow with trees - associated with bank or ditch	1.00	0.00	1.00 ✓
<b>Total</b>	<b>1.05</b>	<b>0.00</b>	<b>1.05</b>

#### High Distinctiveness Summary

High Distinctiveness Units available to offset lower distinctiveness deficit	1.00	✓
High Distinctiveness balance to be offset by watercourse	-0.38	▲
Higher Distinctiveness surplus units minus any high distinctiveness deficit	-0.05	▲

#### Medium Distinctiveness

Habitat group	On-site unit change	Off-site unit change	Project wide unit change
Species-rich native hedgerow	50.74	0.00	50.74 ✓
Native hedgerow - associated with bank or ditch	0.62	0.00	0.62 ✓
Native hedgerow with trees	0.00	0.00	0.00 ✓
Ecologically variable line of trees	0.00	0.00	0.00 ✓
Ecologically variable line of trees - associated with bank or ditch	0.00	0.00	0.00 ✓
<b>Total</b>	<b>51.36</b>	<b>0.00</b>	<b>51.36</b>

#### Medium Distinctiveness Summary

Units available from highest distinctiveness habitats	1.00	✓
Medium Distinctiveness net change in units	50.36	✓
Cumulative availability of units	51.36	✓

#### Low Distinctiveness

Habitat group	On-site unit change	Off-site unit change	Project wide unit change
Native hedgerow	0.64	0.00	0.64 ✓
Line of trees - associated with bank or ditch	0.00	0.00	0.00 ✓
<b>Total</b>	<b>0.64</b>	<b>0.00</b>	<b>0.64</b>

#### Low Distinctiveness Summary

Low Distinctiveness net change in units	0.64	✓
Cumulative availability of units	52.00	✓

#### Very Low Distinctiveness

Habitat group	On-site unit change	Off-site unit change	Project wide unit change
Non-native and ornamental hedgerow	0.00	0.00	0.00
<b>Total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

#### Very Low Distinctiveness Summary

Very Low Distinctiveness net change in units	0.00	
Cumulative availability of units	52.00	✓



- Return to results menu
- Trading summary area habitats
- Trading summary hedgerows

Trading Summary		
Distinctiveness Group	Trading Rule	Trading Satisfied?
Very High	Same habitat required - bespoke compensation option A	Yes ✓
High	Same habitat required =	Yes ✓
Medium	Same habitat required =	Yes ✓
Low	Better distinctiveness habitat required	Yes ✓

Very High Distinctiveness			
Habitat group	On-site unit change	Off-site unit change	Project-wide unit change
Priority habitat	0.00	0.00	0.00
	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Very High Distinctiveness Summary	
Very High Distinctiveness Units available to offset lower distinctiveness deficit	0.00
Remaining losses: Like for like not satisfied	0.00

High Distinctiveness			
Habitat group	On-site unit change	Off-site unit change	Project-wide unit change
Other rivers and streams	1.89	0.00	1.89 ✓
	<b>1.89</b>	<b>0.00</b>	<b>1.89</b>

High Distinctiveness Summary	
High Distinctiveness Units available to offset lower distinctiveness deficit	1.89 ✓
Remaining losses: Like for like not satisfied	0.00

Medium Distinctiveness			
Habitat group	On-site unit change	Off-site unit change	Project-wide unit change
Ditches	1.97	0.00	1.97 ✓
Canals	0.00	0.00	0.00
	<b>1.97</b>	<b>0.00</b>	<b>1.97</b>

Medium Distinctiveness Summary	
Medium Distinctiveness Units available to offset Lower Distinctiveness Deficit	1.97 ✓
Remaining losses: Like for like not satisfied	0.00

Low Distinctiveness			
Habitat group	On-site unit change	Off-site unit change	Project-wide unit change
Culvert	0.00	0.00	0.00
	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Low Distinctiveness Summary	
Low Distinctiveness not change in units	0.00
Cumulative availability of units	3.86 ✓

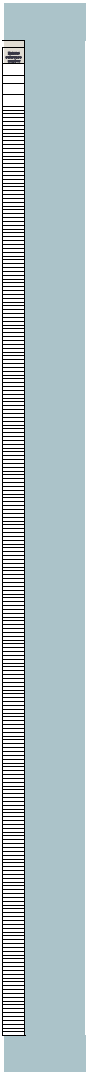






















Seq	Seq No	Activity Name	Start	End	Duration	Status	Priority	Responsible	Notes	Budget	Actual	Variance	Sched. Lag	Sched. Lead	Performance				Quality	Safety	Environment		
															Cost	Time	Material	Energy					
1	10000	Site Preparation	2024-01-01	2024-01-31	31	Completed	High	John	Site cleared and prep work done.	10000	10000	0	0	0	100%	0	0	0	0	0	0	0	
2	10001	Foundation Work	2024-02-01	2024-02-28	28	In Progress	High	John	Excavation and foundation pouring.	20000	15000	-5000	0	0	90%	0	0	0	0	0	0	0	
3	10002	Structural Steel Erection	2024-03-01	2024-03-31	31	Not Started	High	John	Ordering and delivery of steel beams.	30000	0	-30000	0	0	0%	0	0	0	0	0	0	0	
4	10003	Roofing Installation	2024-04-01	2024-04-30	30	Not Started	Medium	John	Procurement of roofing materials.	15000	0	-15000	0	0	0%	0	0	0	0	0	0	0	
5	10004	Interior Framing	2024-05-01	2024-05-31	31	Not Started	Medium	John	Ordering of wall studs and joists.	25000	0	-25000	0	0	0%	0	0	0	0	0	0	0	
6	10005	Plumbing Rough-in	2024-06-01	2024-06-30	30	Not Started	Medium	John	Layout and installation of plumbing lines.	18000	0	-18000	0	0	0%	0	0	0	0	0	0	0	
7	10006	Electrical Rough-in	2024-06-01	2024-06-30	30	Not Started	Medium	John	Layout and installation of electrical conduits.	12000	0	-12000	0	0	0%	0	0	0	0	0	0	0	
8	10007	HVAC Installation	2024-07-01	2024-07-31	31	Not Started	Medium	John	Ordering and delivery of HVAC units.	22000	0	-22000	0	0	0%	0	0	0	0	0	0	0	
9	10008	Insulation	2024-08-01	2024-08-31	31	Not Started	Medium	John	Ordering of insulation materials.	10000	0	-10000	0	0	0%	0	0	0	0	0	0	0	
10	10009	Drywall Installation	2024-09-01	2024-09-30	30	Not Started	Medium	John	Ordering and delivery of drywall sheets.	15000	0	-15000	0	0	0%	0	0	0	0	0	0	0	
11	10010	Painting	2024-10-01	2024-10-31	31	Not Started	Low	John	Ordering of paint and primers.	8000	0	-8000	0	0	0%	0	0	0	0	0	0	0	0
12	10011	Final Inspection	2024-11-01	2024-11-30	30	Not Started	Low	John	Scheduling and conducting final inspection.	5000	0	-5000	0	0	0%	0	0	0	0	0	0	0	0
13	10012	Project Closeout	2024-12-01	2024-12-31	31	Not Started	Low	John	Final documentation and site handover.	3000	0	-3000	0	0	0%	0	0	0	0	0	0	0	0
14	10013	Site Cleanup	2024-01-01	2024-01-31	31	Not Started	Low	John	Removal of construction debris.	2000	0	-2000	0	0	0%	0	0	0	0	0	0	0	0
15	10014	Permitting	2024-01-01	2024-01-31	31	Not Started	Low	John	Obtaining necessary permits.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
16	10015	Material Procurement	2024-01-01	2024-01-31	31	Not Started	Low	John	Ordering and delivery of materials.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
17	10016	Site Access	2024-01-01	2024-01-31	31	Not Started	Low	John	Establishing access to the site.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
18	10017	Site Survey	2024-01-01	2024-01-31	31	Not Started	Low	John	Conducting a site survey.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
19	10018	Design	2024-01-01	2024-01-31	31	Not Started	Low	John	Architectural and engineering design.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
20	10019	Contracting	2024-01-01	2024-01-31	31	Not Started	Low	John	Procurement of contractors.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
21	10020	Construction	2024-01-01	2024-01-31	31	Not Started	Low	John	Actual construction work.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
22	10021	Quality Control	2024-01-01	2024-01-31	31	Not Started	Low	John	Implementing quality control measures.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
23	10022	Safety	2024-01-01	2024-01-31	31	Not Started	Low	John	Implementing safety protocols.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
24	10023	Environmental	2024-01-01	2024-01-31	31	Not Started	Low	John	Implementing environmental measures.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
25	10024	Communication	2024-01-01	2024-01-31	31	Not Started	Low	John	Stakeholder communication.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
26	10025	Reporting	2024-01-01	2024-01-31	31	Not Started	Low	John	Regular project reporting.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
27	10026	Documentation	2024-01-01	2024-01-31	31	Not Started	Low	John	Maintaining project documentation.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
28	10027	Procurement	2024-01-01	2024-01-31	31	Not Started	Low	John	Procurement of equipment.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
29	10028	Logistics	2024-01-01	2024-01-31	31	Not Started	Low	John	Managing project logistics.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
30	10029	Legal	2024-01-01	2024-01-31	31	Not Started	Low	John	Legal review of contracts.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
31	10030	Insurance	2024-01-01	2024-01-31	31	Not Started	Low	John	Obtaining project insurance.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
32	10031	Training	2024-01-01	2024-01-31	31	Not Started	Low	John	Training workers on site.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
33	10032	Storage	2024-01-01	2024-01-31	31	Not Started	Low	John	Setting up material storage.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
34	10033	Transportation	2024-01-01	2024-01-31	31	Not Started	Low	John	Managing material transport.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
35	10034	Waste Management	2024-01-01	2024-01-31	31	Not Started	Low	John	Managing construction waste.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
36	10035	Water Management	2024-01-01	2024-01-31	31	Not Started	Low	John	Managing site water.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
37	10036	Air Quality	2024-01-01	2024-01-31	31	Not Started	Low	John	Managing site air quality.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
38	10037	Soil Quality	2024-01-01	2024-01-31	31	Not Started	Low	John	Managing site soil quality.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
39	10038	Noise	2024-01-01	2024-01-31	31	Not Started	Low	John	Managing site noise.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
40	10039	Light	2024-01-01	2024-01-31	31	Not Started	Low	John	Managing site lighting.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
41	10040	Security	2024-01-01	2024-01-31	31	Not Started	Low	John	Managing site security.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
42	10041	Health	2024-01-01	2024-01-31	31	Not Started	Low	John	Managing site health.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
43	10042	Fire	2024-01-01	2024-01-31	31	Not Started	Low	John	Managing site fire safety.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
44	10043	Earthquake	2024-01-01	2024-01-31	31	Not Started	Low	John	Managing site earthquake safety.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
45	10044	Other	2024-01-01	2024-01-31	31	Not Started	Low	John	Other safety measures.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
46	10045	Site Preparation	2024-01-01	2024-01-31	31	Not Started	Low	John	Site preparation work.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
47	10046	Foundation Work	2024-01-01	2024-01-31	31	Not Started	Low	John	Foundation work.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
48	10047	Structural Steel Erection	2024-01-01	2024-01-31	31	Not Started	Low	John	Structural steel erection.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
49	10048	Roofing Installation	2024-01-01	2024-01-31	31	Not Started	Low	John	Roofing installation.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
50	10049	Interior Framing	2024-01-01	2024-01-31	31	Not Started	Low	John	Interior framing.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
51	10050	Plumbing Rough-in	2024-01-01	2024-01-31	31	Not Started	Low	John	Plumbing rough-in.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
52	10051	Electrical Rough-in	2024-01-01	2024-01-31	31	Not Started	Low	John	Electrical rough-in.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
53	10052	HVAC Installation	2024-01-01	2024-01-31	31	Not Started	Low	John	HVAC installation.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
54	10053	Insulation	2024-01-01	2024-01-31	31	Not Started	Low	John	Insulation work.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
55	10054	Drywall Installation	2024-01-01	2024-01-31	31	Not Started	Low	John	Drywall installation.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
56	10055	Painting	2024-01-01	2024-01-31	31	Not Started	Low	John	Painting work.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
57	10056	Final Inspection	2024-01-01	2024-01-31	31	Not Started	Low	John	Final inspection.	1000	0	-1000	0	0	0%	0	0	0	0	0	0	0	0
58	10057	Project Closeout	20																				



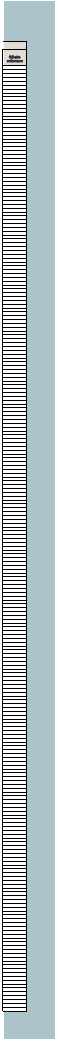














Watercourse summary	
Total flow rate (m³/s)	0.00
Total flow rate (L/s)	0.00
Total flow rate (m³/d)	0.00

ID#	Proposed features		Disturbance		Condition		Storage capabilities			Infiltration capabilities			Sedimentation			Watercourse characteristics			Regulation characteristics		Watercourse water delivered	Comments		Other reference number		
	Watercourse type	Length (m)	Disturbance	Flow	Condition	Flow	Storage capabilities	Infiltration capabilities	Retention time to largest available capacity	Volume retained in storage capacity	Volume to infiltrate (m³)	Volume to infiltrate (m³/d)	Volume to infiltrate (m³/d)	Volume to infiltrate (m³/d)	Volume to infiltrate (m³/d)	Volume to infiltrate (m³/d)	Volume to infiltrate (m³/d)	Volume to infiltrate (m³/d)	Volume to infiltrate (m³/d)	Volume to infiltrate (m³/d)		Volume to infiltrate (m³/d)	Volume to infiltrate (m³/d)		Volume to infiltrate (m³/d)	Volume to infiltrate (m³/d)
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Return to start

Creation

Habitat Description	Good	Fairly Good	Moderate	Fairly Poor	Poor	Condition Assessment N/A	N/A - Other
Cropland - Arable field maize cultivated annually	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲
Cropland - Arable field maize game land mix	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲
Cropland - Arable field maize pollen and nectar	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲
Cropland - Arable field maize tussocky	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲
Cropland - Cereal crops	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲
Cropland - Winter stubble	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲
Cropland - Horticulture	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲
Cropland - Intensive orchards	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲
Cropland - Non-cereal crops	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲
Cropland - Temporary grass and clover leys	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲
Grassland - Traditional orchards	30	25	20	10	5	Not Possible ▲	Not Possible ▲
Grassland - Bracken	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲
Grassland - Floodplain wetland mosaic and CFCM	20	15	10	5	5	Not Possible ▲	Not Possible ▲
Grassland - Lowland calcareous grassland	30	15	10	5	5	Not Possible ▲	Not Possible ▲
Grassland - Lowland dry acid grassland	30+	25	20	15	10	Not Possible ▲	Not Possible ▲
Grassland - Lowland meadows	15	12	10	5	5	Not Possible ▲	Not Possible ▲
Grassland - Modified grassland	7	5	4	2	1	Not Possible ▲	Not Possible ▲
Grassland - Other lowland acid grassland	15	12	10	5	1	Not Possible ▲	Not Possible ▲
Grassland - Other neutral grassland	10	7	5	3	2	Not Possible ▲	Not Possible ▲
Grassland - Tall herb communities (H6430)	30	25	20	15	10	Not Possible ▲	Not Possible ▲
Grassland - Upland acid grassland	15	12	10	5	1	Not Possible ▲	Not Possible ▲
Grassland - Upland calcareous grassland	25	20	15	12	10	Not Possible ▲	Not Possible ▲
Grassland - Upland hay meadows	20	18	15	12	10	Not Possible ▲	Not Possible ▲
Heathland and shrub - Blackthorn scrub	10	7	5	3	1	Not Possible ▲	Not Possible ▲
Heathland and shrub - Bramble scrub	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲
Heathland and shrub - Cotone scrub	10	7	5	3	1	Not Possible ▲	Not Possible ▲
Heathland and shrub - Hawthorn scrub	10	7	5	3	1	Not Possible ▲	Not Possible ▲
Heathland and shrub - Hazel scrub	15	12	10	7	5	Not Possible ▲	Not Possible ▲
Heathland and shrub - Willow scrub	15	12	10	7	5	Not Possible ▲	Not Possible ▲
Heathland and shrub - Lowland heathland	30+	25	20	15	10	Not Possible ▲	Not Possible ▲
Heathland and shrub - Mixed scrub	10	7	5	3	1	Not Possible ▲	Not Possible ▲
Heathland and shrub - Mountain heath and willow scrub	30+	30+	25	23	15	Not Possible ▲	Not Possible ▲
Heathland and shrub - Rhododendron scrub	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲
Heathland and shrub - Dunes with sea buckthorn (H2160)	10	7	5	3	1	Not Possible ▲	Not Possible ▲
Heathland and shrub - Other sea buckthorn scrub	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲
Heathland and shrub - Upland heathland	20	25	20	15	10	Not Possible ▲	Not Possible ▲
Lakes - Aquifer fed naturally fluctuating water bodies	30	20	15	10	1	Not Possible ▲	Not Possible ▲
Lakes - High alkalinity lakes	30	20	10	7	5	Not Possible ▲	Not Possible ▲
Lakes - Low alkalinity lakes	30	20	10	7	5	Not Possible ▲	Not Possible ▲
Lakes - Marl lakes	30	20	10	7	5	Not Possible ▲	Not Possible ▲
Lakes - Moderate alkalinity lakes	30	20	10	7	5	Not Possible ▲	Not Possible ▲
Lakes - Peat lakes	30	20	10	7	5	Not Possible ▲	Not Possible ▲
Lakes - Ponds (priority habitat)	5	4	3	2	1	Not Possible ▲	Not Possible ▲
Lakes - Ponds (non-priority habitat)	10	7	5	3	1	Not Possible ▲	Not Possible ▲
Lakes - Reservoirs	10	7	5	3	1	Not Possible ▲	Not Possible ▲
Lakes - Temporary lakes ponds and pools (H3170)	5	4	3	2	1	Not Possible ▲	Not Possible ▲
Sparsely vegetated land - Calamagrostis grasslands	10	7	5	3	2	Not Possible ▲	Not Possible ▲
Sparsely vegetated land - Coastal sand dunes	20	15	10	7	5	Not Possible ▲	Not Possible ▲
Sparsely vegetated land - Coastal vegetated shingle	30	15	10	7	5	Not Possible ▲	Not Possible ▲
Sparsely vegetated land - Ruderal/Ephemeral	5	4	3	2	1	Not Possible ▲	Not Possible ▲
Sparsely vegetated land - Tall forbs	5	4	3	2	1	Not Possible ▲	Not Possible ▲
Sparsely vegetated land - Inland rock outcrop and scree habitats	30+	25	20	15	10	Not Possible ▲	Not Possible ▲
Sparsely vegetated land - Limestone pavement	30+	30+	30+	30+	30+	Not Possible ▲	Not Possible ▲
Sparsely vegetated land - Maritime cliff and slopes	30	15	10	7	5	Not Possible ▲	Not Possible ▲
Sparsely vegetated land - Other inland rock and scree	30	15	10	7	5	Not Possible ▲	Not Possible ▲
Urban - Allotments	1	1	1	1	1	Not Possible ▲	Not Possible ▲
Lakes - Ornamental lake or pond	5	4	3	2	1	Not Possible ▲	Not Possible ▲
Urban - Artificial unvegetated, unsealed surface	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	0	Not Possible ▲
Urban - Beeswax	5	4	3	2	1	Not Possible ▲	Not Possible ▲
Urban - Intensive green roof	5	4	3	2	1	Not Possible ▲	Not Possible ▲
Urban - Built linear features	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	0	Not Possible ▲
Urban - Cemeteries and churchyards	20	17	15	12	10	Not Possible ▲	Not Possible ▲
Urban - Developed land sealed surface	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	0	Not Possible ▲
Urban - Other green roof	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲
Urban - Facade-bound green wall	5	4	3	2	1	Not Possible ▲	Not Possible ▲
Urban - Ground based green wall	5	4	3	2	1	Not Possible ▲	Not Possible ▲
Urban - Ground level planters	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲
Urban - Biodiverse green roof	10	5	3	2	1	Not Possible ▲	Not Possible ▲
Urban - Intended shrub	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲
Urban - Open mosaic habitats on previously developed land	10	7	5	4	2	Not Possible ▲	Not Possible ▲
Urban - Rain garden	5	4	3	2	1	Not Possible ▲	Not Possible ▲
Urban - Actively worked sand pit quarry or open cast mine	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲
Individual trees - Urban trees	30+	30+	27	19	10	Not Possible ▲	Not Possible ▲
Urban - Sustainable drainage system	5	4	3	2	1	Not Possible ▲	Not Possible ▲
Urban - Unvegetated garden	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	0	Not Possible ▲
Urban - Vacant or derelict land	5	4	3	2	1	Not Possible ▲	Not Possible ▲
Urban - Bare ground	5	4	3	2	1	Not Possible ▲	Not Possible ▲
Urban - Vegetated garden	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲
Wetland - Basher bog	30+	30+	30+	30+	30+	Not Possible ▲	Not Possible ▲
Wetland - Depressions on peat substrates (H150)	30+	30+	30	25	15	Not Possible ▲	Not Possible ▲
Wetland - Fens (upland and lowland)	30	25	20	15	10	Not Possible ▲	Not Possible ▲
Wetland - Lowland raised bog	30+	30+	30	20	15	Not Possible ▲	Not Possible ▲
Wetland - Oceanic valley mire 1 (D2.1)	30+	30+	30	20	15	Not Possible ▲	Not Possible ▲
Wetland - Purple moor grass and rush pastures	30	25	20	15	10	Not Possible ▲	Not Possible ▲
Wetland - Reedbeds	12	10	7	5	3	Not Possible ▲	Not Possible ▲
Wetland - Transition mire and quaking bogs (H7140)	30+	30+	30	25	15	Not Possible ▲	Not Possible ▲
Woodland and forest - Felled	30+	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲
Woodland and forest - Lowland beech and yew woodland	30+	30+	30+	25	10	Not Possible ▲	Not Possible ▲
Woodland and forest - Lowland mixed deciduous woodland	30+	30+	30+	25	10	Not Possible ▲	Not Possible ▲
Woodland and forest - Native pine woodlands	30+	30+	30+	25	10	Not Possible ▲	Not Possible ▲
Woodland and forest - Other coniferous woodland	30+	30+	30	10	5	Not Possible ▲	Not Possible ▲
Woodland and forest - Other Scots pine woodland	30+	30+	30+	25	10	Not Possible ▲	Not Possible ▲
Woodland and forest - Other woodland: broadleaved	30+	25	15	7	5	Not Possible ▲	Not Possible ▲
Woodland and forest - Other woodland: mixed	30+	30+	30	10	5	Not Possible ▲	Not Possible ▲
Woodland and forest - Upland birchwoods	30+	30	25	20	10	Not Possible ▲	Not Possible ▲
Woodland and forest - Upland mixed ashwoods	30+	30+	30+	25	10	Not Possible ▲	Not Possible ▲
Woodland and forest - Upland oakwood	30+	30+	30+	25	10	Not Possible ▲	Not Possible ▲
Woodland and forest - Wet woodland	30+	30	15	10	5	Not Possible ▲	Not Possible ▲
Woodland and forest - Wood pasture and parkland	30+	30+	30+	25	10	Not Possible ▲	Not Possible ▲
Coastal lagoons - Coastal lagoons	10	8	5	3	1	Not Possible ▲	Not Possible ▲
Rocky shores - High energy littoral rock	10	7	4	2	1	Not Possible ▲	Not Possible ▲
Rocky shores - High energy littoral rock - on peat, clay or chalk	30+	30+	30+	30+	30+	Not Possible ▲	Not Possible ▲
Rocky shores - Moderate energy littoral rock	13	8	4	2	1	Not Possible ▲	Not Possible ▲
Rocky shores - Moderate energy littoral rock - on peat, clay or chalk	30+	30+	30+	30+	30+	Not Possible ▲	Not Possible ▲
Rocky shores - Moderate energy littoral rock - on peat, clay or chalk	30+	30+	30+	30+	30+	Not Possible ▲	Not Possible ▲
Rocky shores - Low energy littoral rock	15	10	5	1	1	Not Possible ▲	Not Possible ▲
Rocky shores - Low energy littoral rock - on peat, clay or chalk	30+	30+	30+	30+	30+	Not Possible ▲	Not Possible ▲
Rocky shores - Features of littoral rock	13	8	4	2	1	Not Possible ▲	Not Possible ▲
Rocky shores - Features of littoral rock - on peat, clay or chalk	30+	30+	30+	30+	30+	Not Possible ▲	Not Possible ▲
Intertidal sediment - Littoral coarse sediment	3	2	1	1	1	Not Possible ▲	Not Possible ▲
Intertidal sediment - Littoral mud	6	4	3	2	1	Not Possible ▲	Not Possible ▲
Intertidal sediment - Littoral mixed sediments	5	4	3	2	1	Not Possible ▲	Not Possible ▲
Coastal saltmarsh - Saltmarshes and saline reedbeds	15	10	7	3	1	Not Possible ▲	Not Possible ▲
Coastal saltmarsh - Artificial saltmarshes and saline reedbeds	15	10	7	3	1	Not Possible ▲	Not Possible ▲
Intertidal sediment - Littoral seagrass	30	15	10	5	2	Not Possible ▲	Not Possible ▲
Intertidal sediment - Littoral seagrass on peat, clay or chalk	30+	30+	30+	30+	30+	Not Possible ▲	Not Possible ▲
Intertidal sediment - Littoral biogenic reefs - Muscled	15	10	5	3	3	Not Possible ▲	Not Possible ▲
Intertidal sediment - Littoral biogenic reefs - Sabellaria	15	10	5	3	3	Not Possible ▲	Not Possible ▲
Intertidal sediment - Features of littoral sediment	10	7	5	3	3	Not Possible ▲	Not Possible ▲
Intertidal sediment - Artificial littoral coarse sediment	3	2	1	1	1	Not Possible ▲	Not Possible ▲
Intertidal sediment - Artificial littoral mud	6	4	3	2	1	Not Possible ▲	Not Possible ▲
Intertidal sediment - Artificial littoral sand	4	2	1	1	1	Not Possible ▲	Not Possible ▲
Intertidal sediment - Artificial littoral muddy sand	5	4	3	2	1	Not Possible ▲	Not Possible ▲
Intertidal sediment - Artificial littoral mixed sediments	5	4	3	2	1	Not Possible ▲	Not Possible ▲
Intertidal sediment - Artificial littoral seagrass	15	10	5	3	3	Not Possible ▲	Not Possible ▲
Intertidal sediment - Artificial littoral biogenic reefs	15	10	5	3	3	Not Possible ▲	Not Possible ▲
Intertidal sediment - Littoral sand	4	2	1	1	1	Not Possible ▲	Not Possible ▲
Intertidal sediment - Littoral muddy sand	5	4	3	2	1	Not Possible ▲	Not Possible ▲
Intertidal hard structures - Artificial hard structures	15	10	5	2	1	Not Possible ▲	Not Possible ▲
Intertidal hard structures - Artificial features of hard structures	13	8	4	2	1	Not Possible ▲	Not Possible ▲
Intertidal hard structures - Artificial hard structures with integrated greening of grey infrastructure (IGGI)	15	8	4	2	1	Not Possible ▲	Not Possible ▲
Watercourse footprint - Watercourse footprint	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	0	Not Possible ▲
Individual trees - Rural tree	30+	30+	27	19	10	Not Possible ▲	Not Possible ▲









Habitat Description	Condition						Condition Assessment	N/A - Other
	Good	Fairly Good	Moderate	Fairly Poor	Poor	N/A		
Cropland - Arable field margins cultivated annually	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲	
Cropland - Arable field margins game bird mix	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲	
Cropland - Arable field margins pollen and nectar	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲	
Cropland - Arable field margins tussocky	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲	
Cropland - Cereal cross	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲	
Cropland - Winter stubble	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲	
Cropland - Horticulture	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲	
Cropland - Intensive orchards	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲	
Cropland - Non-cereal crops	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲	
Cropland - Temporary grass and clover leys	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲	
Grassland - Traditional orchards	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Grassland - Bracken	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲	
Grassland - Floodplain wetland mosaic and CFGM	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Grassland - Lowland calcareous grassland	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Grassland - Lowland dry acid grassland	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Grassland - Lowland meadows	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Grassland - Modified grassland	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Grassland - Other lowland acid grassland	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Grassland - Other neutral grassland	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Grassland - Tall herb communities (H643)	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Grassland - Upland acid grassland	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Grassland - Upland calcareous grassland	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Grassland - Upland hay meadows	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Heathland and shrub - Blackthorn scrub	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Heathland and shrub - Bramble scrub	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲	
Heathland and shrub - Coarse scrub	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Heathland and shrub - Hawthorn scrub	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Heathland and shrub - Hazel scrub	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Heathland and shrub - Lowland heathland	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Heathland and shrub - Mixed scrub	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Heathland and shrub - Mountain heaths and willow scrub	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Heathland and shrub - Rhododendron scrub	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲	
Heathland and shrub - Cunes with oak hutchinson (H216)	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Heathland and shrub - Other sea hutchinson	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲	
Heathland and shrub - Willow scrub	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Heathland and shrub - Upland heathland	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Lakes - Aquifer fed naturally fluctuating water bodies	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Lakes - High alkalinity lakes	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Lakes - Low alkalinity lakes	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Lakes - Marl lakes	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Lakes - Moderate alkalinity lakes	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Lakes - Peat lakes	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Lakes - Ponds (priority habitat)	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Lakes - Ponds (non-priority habitat)	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Lakes - Reservoirs	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Lakes - Temporary lakes ponds and pools (H17)	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Sparsely vegetated land - Calaminarian grasslands	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Sparsely vegetated land - Coastal sand dunes	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Sparsely vegetated land - Coastal vegetated shingle	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Sparsely vegetated land - Bunkers/Dykes	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Sparsely vegetated land - Tall forbs	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Sparsely vegetated land - Inland rock outcrop and scree habitats	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Sparsely vegetated land - Limestone pavement	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Sparsely vegetated land - Maritime cliff and slopes	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Sparsely vegetated land - Other inland rock and scree	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Urban - Allotments	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Lakes - Ornamental lakes or ponds	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Urban - Artificial unvegetated, unsealed surface	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	0	Not Possible ▲	
Urban - Barways	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Urban - Intensive green roof	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Urban - Both linear features	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	0	Not Possible ▲	
Urban - Cemeteries and churchyards	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Urban - Developed land, sealed surface	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	0	Not Possible ▲	
Urban - Other green roof	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲	
Urban - Facade-bound green wall	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Urban - Ground based green wall	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Urban - Ground level planters	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲	
Urban - Biodiverse green roof	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Urban - Introduced shrub	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲	
Urban - Open mosaic habitats on previously developed land	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Urban - Rain garden	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Urban - Actively worked sand pit quarry or open cast mine	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲	
Individual trees - Urban tree	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Urban - Sustainable drainage system	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Urban - Unvegetated garden	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	0	Not Possible ▲	
Urban - Vacant or derelict land	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Urban - Bare ground	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Urban - Vegetated garden	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	1	Not Possible ▲	
Wetland - Blanket bog	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Wetland - Depressions on peat substrates (H15)	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Wetland - Fens (upland and lowland)	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Wetland - Lowland raised bog	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Wetland - Oceanic valley mire(1) (D2.1)	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Wetland - Purple moor grass and rush pastures	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Wetland - Reedbeds	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Wetland - Transition mires and quaking bogs (H14)	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Woodland and forest - Field	3	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	
Woodland and forest - Lowland beech and yew woodland	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Woodland and forest - Lowland mixed deciduous woodland	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Woodland and forest - Native pine woodlands	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Woodland and forest - Other coniferous woodland	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Woodland and forest - Other Scots pine woodland	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Woodland and forest - Other woodland, broadleaved	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Woodland and forest - Other woodland, mixed	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Woodland and forest - Upland birchwoods	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Woodland and forest - Upland mixed ashwoods	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Woodland and forest - Upland oakwood	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Woodland and forest - Wet woodland	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Woodland and forest - Wood pasture and parkland	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Coastal lagoons - Coastal lagoons	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Rocky shore - High energy littoral rock	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Rocky shore - High energy littoral rock - on peat, clay or chalk	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Rocky shore - Moderate energy littoral rock	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Rocky shore - Moderate energy littoral rock - on peat, clay or chalk	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Rocky shore - Low energy littoral rock	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Rocky shore - Low energy littoral rock - on peat, clay or chalk	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Rocky shore - Features of littoral rock	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Rocky shore - Features of littoral rock - on peat, clay or chalk	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Intertidal sediment - Littoral coarse sediment	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Intertidal sediment - Littoral mud	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Intertidal sediment - Littoral mixed sediments	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Coastal saltmarsh - Saltmarshes and saline reedbeds	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Coastal saltmarsh - Artificial saltmarshes and saline reedbeds	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Intertidal sediment - Littoral seagrass	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Intertidal sediment - Littoral seagrass on peat, clay or chalk	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Intertidal sediment - Littoral biogenic reefs - Mussels	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Intertidal sediment - Littoral biogenic reefs - Sabellaria	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Intertidal sediment - Features of littoral sediment	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Intertidal sediment - Artificial littoral coarse sediment	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Intertidal sediment - Artificial littoral mud	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Intertidal sediment - Artificial littoral sand	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Intertidal sediment - Artificial littoral muddy sand	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Intertidal sediment - Artificial littoral mixed sediments	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Intertidal sediment - Artificial littoral seagrass	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Intertidal sediment - Artificial littoral biogenic reefs	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Intertidal sediment - Littoral sand	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Intertidal sediment - Littoral muddy sand	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Intertidal hard structures - Artificial hard structures	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Intertidal hard structures - Artificial features of hard structures	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Intertidal hard structures - Artificial hard structures with integrated greening of grey infrastructure (GGGI)	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	
Watercourse footprint - Watercourse footprint	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	Not Possible ▲	0	Not Possible ▲	
Individual trees - Rural tree	3	2.5	2	1.5	1	Not Possible ▲	Not Possible ▲	



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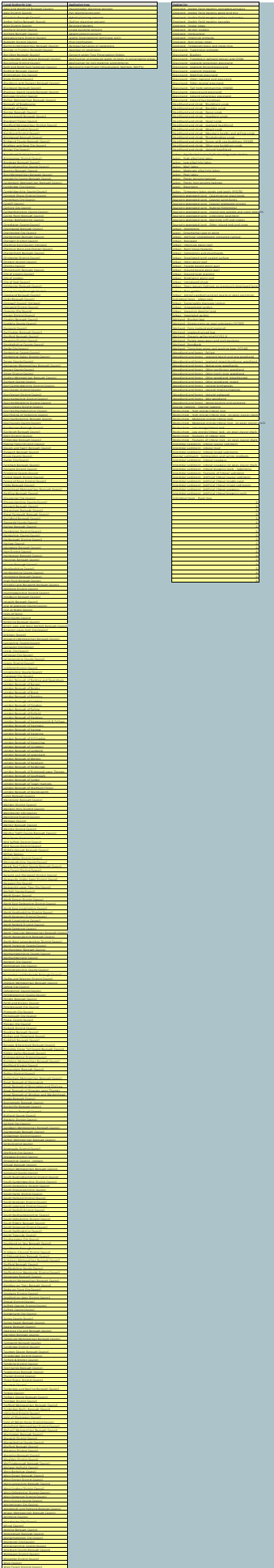
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# Appendix 4: Principles of Biodiversity Net Gain

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## 6.3 Summary

- 6.3.1 BNG is a process that works in line with local and district biodiversity strategies and priorities to ensure that developments provide an overall enhancement in biodiversity; firstly, through employing the ecological mitigation hierarchy during project design to avoid and minimise biodiversity loss in the first instance, and where habitat loss is unavoidable, ensuring suitable that a measurable BNG is delivered through an on and/or off-site habitat scheme.
- 6.3.2 BNG uses set parameters to assess the level of habitat loss, creation and enhancement within a development site. These parameters include habitat size, condition, distinctiveness, and strategic significance and are used to quantify habitat loss into biodiversity units using Defra's 'Statutory Biodiversity Metric' calculation tool.
- 6.3.3 Enhancement measures can include the provision of new habitats, provision of new habitat features and the improved management of existing habitats which will result in a measurable (in unit and functional ecological terms) net benefit to biodiversity, over and above the measures required to mitigate and compensate for the impacts of a Project scheme.
- 6.3.4 In line with the 2023 NPPF<sup>4</sup>, opportunities to increase the ecological importance of the Project Site for Species of Principal Importance and deliver a biodiversity net gain have been maximised.

## 6.4 Good practice principles for development

- 6.4.1 CIEEM's Good Practice Principles for Development (2016<sup>7</sup>) set out ten guiding principles that should be considered and factored into the application of biodiversity net gain to development. These are:

### Principle 1: Apply the Mitigation Hierarchy

- 6.4.2 Do everything possible to first avoid and then minimise impacts on biodiversity. Only as a last resort, and in agreement with external decision-makers where possible, compensate for losses that cannot be avoided. If compensating for losses within the development footprint is not possible or does not generate the most benefits for nature conservation, then offset biodiversity losses by gains elsewhere.

### Principle 2: Avoid losing biodiversity that cannot be offset by gains elsewhere

- 6.4.3 Avoid impacts on irreplaceable biodiversity - these impacts cannot be offset to achieve No Net Loss or Net Gain.



### **Principle 3: Be inclusive and equitable**

- 6.4.4 Engage stakeholders early, and involve them in designing, implementing, monitoring and evaluating the approach to Net Gain. Achieve Net Gain in partnership with stakeholders where possible and share the benefits fairly among stakeholders.

### **Principle 4: Address risks**

- 6.4.5 Mitigate difficulty, uncertainty and other risks to achieving Net Gain. Apply well-accepted ways to add contingency when calculating biodiversity losses and gains in order to account for any remaining risks, as well as to compensate for the time between the losses occurring and the gains being fully realised.

### **Principle 5: Make a measurable Net Gain contribution**

- 6.4.6 Achieve a measurable, overall gain for biodiversity and the services ecosystems provide while directly contributing towards nature conservation priorities.

### **Principle 6: Achieve the best outcomes for biodiversity.**

- 6.4.7 Achieve the best outcomes for biodiversity by using robust, credible evidence and local knowledge to make clearly justified choices when:
- Delivering compensation that is ecologically equivalent in type, amount and condition, and that accounts for the location and timing of biodiversity losses.
  - Compensating for losses of one type of biodiversity by providing a different type that delivers greater benefits for nature conservation.
  - Achieving Net Gain locally to the development while also contributing towards nature conservation priorities at local, regional and national levels.
  - Enhancing existing or creating new habitat.
  - Enhancing ecological connectivity by creating more, bigger, better and joined areas for biodiversity.

### **Principle 7: Be additional**

- 6.4.8 Achieve nature conservation outcomes that demonstrably exceed existing obligations (i.e. do not deliver something that would occur anyway).

### **Principle 8: Create a Net Gain legacy**

- 6.4.9 Ensure Net Gain generates long-term benefits by:
- Engaging stakeholders and jointly agreeing practical solutions that secure Net Gain in perpetuity.
  - Planning for adaptive management and securing dedicated funding for long-term management.
  - Designing Net Gain for biodiversity to be resilient to external factors, especially climate change.

- Mitigating risks from other land uses.
- Avoiding displacing harmful activities from one location to another.
- Supporting local-level management of Net Gain activities.

### Principle 9: Optimise sustainability

6.4.10 Prioritise Biodiversity Net Gain and, where possible, optimise the wider environmental benefits for a sustainable society and economy.

### Principle 10: Be transparent

6.4.11 Communicate all Net Gain activities in a transparent and timely manner, sharing the learning with all stakeholders.

## 6.5 Principles for Use of the Defra Biodiversity Metric

6.5.1 As stated within previous iterations of the BNG metric<sup>13,16</sup> (and remaining relevant to Defra's 'Statutory Biodiversity Metric'), net gain calculations and assessments for projects should factor in and adhere to a set of key principles, which are:

6.5.2 Principle 1: The metric does not change the protection afforded to biodiversity. Existing levels of protection afforded to protected species and habitats are not changed by use of this or any other metric. Statutory obligations will still need to be satisfied.

6.5.3 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.

6.5.4 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.

6.5.5 Principle 4: The metric focuses on typical habitats and widespread species; important or protected habitats and features should be given broader consideration.

- Protected and locally important species needs are not considered through the metric, they should be addressed through existing policy and legislation.
- Impacts on protected sites and irreplaceable habitats are not adequately measured by this metric. They will require separate consideration which must comply with existing national and local policy and legislation. Data relating to these can be entered into the metric, to give an indicative picture of the biodiversity value of the habitats present on a site, but this should be supported by bespoke advice.

6.5.6 Principle 5: The metric design aims to encourage enhancement, not transformation, of the natural environment. Proper consideration should be given to the habitats being lost in favour of higher-scoring habitats, and whether the retention of less

distinctive but well-established habitats may sometimes be a better option for local biodiversity.

- Habitat created to compensate for loss of natural or semi-natural habitat should be of the same broad habitat type (e.g. new woodland to replace lost woodland) unless there is a good ecological reason to do otherwise (e.g. to restore a heathland habitat that was converted to woodland for timber in the past).
- Although the metric does not explicitly consider the biodiversity value provided by individual species, consideration should be given to locally relevant species interests when creating or enhancing habitats.

6.5.7 Principle 6: The metric is designed to inform decisions, not to override expert opinion. Management interventions should be guided by appropriate expert ecological advice and not just the biodiversity unit outputs of the metric. Ecological principles still need to be applied to ensure that what is being proposed is realistic and deliverable based on local conditions such as geology, hydrology, nutrient levels, etc. and the complexity of future management requirements.

6.5.8 Principle 7: Compensation habitats should seek, where practical, to be local to the impact. They should aim to replicate the characteristics of the habitats that have been lost, taking account of the structure and species composition that give habitats their local distinctiveness.

- Where possible compensation habitats should contribute towards nature recovery in England by creating 'more, bigger, better and joined up' areas for biodiversity (CIEEM, 2021a<sup>7</sup>).
- Through the strategic significance and spatial risk factors the biodiversity metric 4.0 places greater reward for habitat creation where it is strategically important and locally relevant.

6.5.9 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. A difference can occur because of a difference in quality between the habitat impacted and the compensation provided. For example, if a habitat of low distinctiveness is impacted and is compensated for by the creation of habitat of higher distinctiveness or better condition, the area needed to compensate for losses can potentially be less than the area impacted. The metric calculates losses and gains by size as well as by biodiversity unit value or percentage. Note: consideration should be given to whether reducing the area or length of habitat provided as compensation is an appropriate outcome.

## 6.6 The ecological mitigation hierarchy

6.6.1 The ecological mitigation hierarchy comprises a staged process that starts with the avoidance of ecological impacts. The ecological mitigation hierarchy be summarised as follows:

- Step 1: Avoidance: Significant ecological impacts should be avoided in the first instance - through prioritising the development of sites of low ecological importance and/or through careful design work at the site level to avoid impacts to the most important habitats;
- Step 2: Mitigation: Where significant ecological impacts cannot be totally avoided, measures should be introduced to reduce the significance of these predicted impacts; and
- Step 3: Compensation: Where significant ecological impacts cannot be avoided or adequately mitigated, as a last resort, compensatory habitats should be delivered.
- The design proposals have incorporated ecological advice in order to avoid and minimise habitat loss and impacts to biodiversity wherever feasible prior to developing compensation measures.

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