



# **Lime Down**

## Solar Park

# **Biodiversity Net Gain Assessment Report (Clean)**

**May 2026**

**Revision 2**

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## Schedule of Changes

Revision	Section Reference	Description of Changes	Reason for Revision
2	Paragraph 1.2.18 and Paragraph 1.2.19	Update in relation to methodology limitations.	Updated in response to Relevant Representations for Deadline 1 of Examination
	Paragraph 1.3.18	Updates in relation to baseline survey information for the Cable Route Corridor.	Updated in response to Relevant Representations for Deadline 1 of Examination
	Paragraph 1.3.29 and paragraph 1.3.30	Updates in relation to baseline survey information for Grassland Habitats in the Cable Route Corridor.	Updated in response to Relevant Representations for Deadline 1 of Examination
	Paragraph 1.3.34	Updates in relation to baseline survey information for Heathland and Shrub habitats in the Cable Route Corridor.	Updated in response to Relevant Representations for Deadline 1 of Examination
	Paragraph 1.3.39 to paragraph 1.3.45	Updates in relation to baseline survey information for Lake Habitats in the Cable Route Corridor.	Updated in response to Relevant Representations for Deadline 1 of Examination
	Paragraph 1.3.55	Updates in relation to baseline survey information for Urban Habitats in the Cable Route Corridor.	Updated in response to Relevant Representations for Deadline 1 of Examination
	Paragraph 1.4.10	Updates in relation to baseline survey information for hedgerows in the Cable Route Corridor.	Updated in response to Relevant Representations for Deadline 1 of Examination
	Paragraph 1.5.15 and paragraph 1.5.17	Updates in relation to baseline survey information for watercourses in the Cable Route Corridor	Updated in response to Relevant Representations for Deadline 1 of Examination
	Table 2	Updates to watercourse conditions and river types in the Cable Route Corridor.	Updated in response to Relevant Representations for Deadline 1 of Examination
	Table 4	Updates to Cable Route Corridor baseline habitats.	Updated in response to Relevant Representations for Deadline 1 of Examination
	Paragraph 1.11.7	Updates in relation to overall net gain biodiversity percentages for the Scheme	Updated in response to Relevant Representations for Deadline 1 of Examination
	Plate 13 to Plate 24	Updates in relation to baseline habitats in the Cable Route Corridor	Updated in response to Relevant Representations for Deadline 1 of Examination

## List of Contents

1	Biodiversity Net Gain Assessment Report .....	1
1.1	Introduction .....	1
1.2	Methodology .....	6
1.3	Baseline Habitats .....	10
1.4	Baseline Hedgerows .....	20
1.5	Baseline Watercourses .....	22
1.6	Baseline Summary .....	27
1.7	Proposed Habitats .....	35
1.8	Proposed Hedgerows.....	45
1.9	Proposed Watercourses.....	48
1.10	BNG Good Practice Principles for Development.....	50
1.11	BNG Metric .....	54
1.12	References.....	58
Annex A	Botanical Quadrat Data .....	61

## List of Tables

Table 1: Watercourse Conditions and River Types – Solar PV Sites (including Works No. 9)	25
Table 2: Watercourse Conditions and River Types – Cable Route Corridor.....	25
Table 3: Summary of Baseline Habitats – Solar PV Sites .....	27
Table 4: Summary of Baseline Habitats – Cable Route Corridor .....	30
Table 5: BNG Good Practice Principles and Justification.....	50
Table 6: Statutory Biodiversity Metric Trading Rules .....	56

## List of Plates

Plate 1: Headline Results (taken from Statutory Biodiversity Metric) – Solar PV Sites (including Works No. 9) only .....	54
Plate 2: Headline Results (taken from Statutory Biodiversity Metric) – The Scheme.....	55
Plate 3: Biodiversity Net Gain Baseline (Lime Down A) .....	128
Plate 4: Biodiversity Net Gain Baseline (Lime Down B).....	129
Plate 5: Biodiversity Net Gain Baseline (Lime Down C including additional land within Works No. 9);.....	130
Plate 6: Biodiversity Net Gain Baseline (Lime Down D).....	131
Plate 7: Biodiversity Net Gain Baseline (Lime Down E).....	132
Plate 8: Biodiversity Net Gain Proposed (Lime Down A).....	133
Plate 9: Biodiversity Net Gain Proposed (Lime Down B) .....	134

Plate 10: Biodiversity Net Gain Proposed (Lime Down C including additional land within Works No. 9).....	135
Plate 11: Biodiversity Net Gain Proposed (Lime Down D) .....	136
Plate 12: Biodiversity Net Gain Proposed (Lime Down E) .....	137
Plate 13: Biodiversity Net Gain Baseline – Cable Route Corridor (1 of 12).....	138
Plate 14: Biodiversity Net Gain Baseline – Cable Route Corridor (2 of 12).....	139
Plate 15: Biodiversity Net Gain Baseline – Cable Route Corridor (3 of 12).....	140
Plate 16: Biodiversity Net Gain Baseline – Cable Route Corridor (4 of 12).....	141
Plate 17: Biodiversity Net Gain Baseline – Cable Route Corridor (5 of 12).....	142
Plate 18: Biodiversity Net Gain Baseline – Cable Route Corridor (6 of 12).....	143
Plate 19: Biodiversity Net Gain Baseline – Cable Route Corridor (7 of 12).....	144
Plate 20: Biodiversity Net Gain Baseline – Cable Route Corridor (8 of 12).....	145
Plate 21: Biodiversity Net Gain Baseline – Cable Route Corridor (9 of 12).....	146
Plate 22: Biodiversity Net Gain Baseline – Cable Route Corridor (10 of 12).....	147
Plate 23: Biodiversity Net Gain Baseline – Cable Route Corridor (11 of 12).....	148
Plate 24: Biodiversity Net Gain Baseline – Cable Route Corridor (12 of 12).....	149

# 1 Biodiversity Net Gain Assessment Report

## 1.1 Introduction

1.1.1 Clarkson and Woods Limited has been commissioned by Lime Down Solar Park Limited (the Applicant) to carry out a Biodiversity Net Gain (BNG) Assessment of the Lime Down Solar PV Sites and Cable Route Corridor.

1.1.2 The purpose of this report is to provide a quantitative assessment of the likely net gains for biodiversity which will be delivered by the Scheme post-development, justifying and comparing the valuation of baseline and proposed habitats.

1.1.3 Whilst BNG delivery is not yet mandatory for Nationally Significant Infrastructure Projects (NSIPs), the Scheme aims to adhere to good practice and deliver a net gain for biodiversity nonetheless, in line with local planning policy. The proposed requirement for NSIPs to deliver at least 10 % net gain is currently anticipated to be made mandatory from May 2026.

1.1.4 This report is supported by **ES Volume 7: Biodiversity Net Gain Assessment Appendix – Statutory Biodiversity Metric Calculation [EN010168/APP/7.9]**, and the following plates, provided at the end of this document:

### Solar PV Sites (including Works No. 9)

- **Plate 3: Biodiversity Net Gain Baseline (Lime Down A);**
- **Plate 4: Biodiversity Net Gain Baseline (Lime Down B);**
- **Plate 5: Biodiversity Net Gain Baseline (Lime Down C including additional land within Works No. 9);**
- **Plate 6: Biodiversity Net Gain Baseline (Lime Down D);**
- **Plate 7: Biodiversity Net Gain Baseline (Lime Down E);**
- **Plate 8: Biodiversity Net Gain Proposed (Lime Down A);**
- **Plate 9: Biodiversity Net Gain Proposed (Lime Down B);**
- **Plate 10: Biodiversity Net Gain Proposed (Lime Down C including additional land within Works No. 9);**
- **Plate 11: Biodiversity Net Gain Proposed (Lime Down D); and**
- **Plate 12: Biodiversity Net Gain Proposed (Lime Down E).**

### Cable Route Corridor (excluding Works No. 9)

- **Plate 13 – 24: Biodiversity Net Gain Baseline (Cable Route Corridor)**

### Assessment Scope

- 1.1.5 This report, including the above **Plates 3-7** and **Plates 13-24**, provide a quantitative baseline of the biodiversity value of the Scheme. Together with **Plates 8-12** and **ES Volume 2, Figure 3-4: Landscape and Ecology Mitigation Plan [EN010168/APAP/6.2]**, it also sets out the habitat creation, mitigation and enhancement measures that will be implemented to achieve BNG for the Scheme.
- 1.1.6 Within this report, the BNG assessment for the Solar PV Sites (Lime Down A-E) and Cable Route Corridor have been separated to reflect the nature of impacts and future management applicable to each element of the Scheme.
- 1.1.7 The management of the Solar PV Sites, including Works No. 9 (**ES Volume 2, Chapter 2.3: Works Plan, [EN010168/APP/2.3]** refers), will be the responsibility of the Applicant for the lifetime of the Scheme, and therefore any proposed habitat creation and enhancement measures will be secured for a minimum period of 60 years. Works No. 9 specifically comprises land identified within the Cable Route Corridor that has been designated as ecological mitigation habitat and therefore will be subject to permanent (for the 60 years lifespan of the Scheme) change.
- 1.1.8 Works within the Cable Route Corridor, excluding Works No. 9, will be temporary (anticipated to take up to 18 months), and the long-term management of this area will be the responsibility of relevant landowners. Therefore, biodiversity enhancements within the Cable Route Corridor cannot feasibly be secured within the Development Consent Order (DCO). No enhancement measures have therefore been proposed within the Cable Route Corridor, with habitat creation proposed only where existing hedgerows will be reinstated following initial removal.
- 1.1.9 Given that BNG calculations should be made based on the entire red line boundary of a site (Order Limits in the case of the Scheme), iterations of the BNG calculations have been provided for the Solar PV Sites (including Works No. 9) only (removing the temporary exempt areas, which elevate the baseline), and for the Solar PV Sites and Cable Route Corridor combined.
- 1.1.10 In this document, the present and future biodiversity value of the Scheme has been assessed via the calculation of biodiversity gains and losses, using habitat features as a proxy measure for quantifying the value and importance of nature within the Scheme. The process of BNG assessment follows the mitigation hierarchy, which prioritises the avoidance of impacts in the first instance, minimising or mitigating impacts where avoidance is not possible, and the use of compensation measures as a last resort. It should be noted that the mitigation hierarchy has been followed throughout Scheme design and the environmental assessment process. As a result, no off-site habitat

compensation is considered necessary to deliver biodiversity gains, as significant impacts have been avoided or sufficiently mitigated.

- 1.1.11 Whilst the approach to BNG assessment quantifies biodiversity gains and losses, it is separate to the legal and planning duties that account for the protection afforded to protected and notable habitats and species, for which decision-makers and developers have a responsibility to discharge. Habitats and species have been assessed on an individual basis as relevant to legislation and planning policy in **ES Volume 1, Chapter 9: Ecology and Biodiversity, [EN010168/APP/6.1]**. Appropriate mitigation measures are also detailed within **ES Volume 7: Outline Ecological Protection and Mitigation Strategy [EN010168/APP/7.19]** to ensure legal compliance and that no environmental offences are committed during the construction phase of the Scheme.
- 1.1.12 This document aims to:
- Establish the total number of Habitat Units (HU), Hedgerow Units (HeU) and Watercourse (WU) present within the Scheme at baseline (baseline units);
  - Establish the total number of HU, HeU and WU which will be lost, created, retained or enhanced at the Scheme during the delivery of ecological measures during the construction and operational phases of the Scheme;
  - Determine whether the Scheme will result in a net loss, no net loss, or a net gain in biodiversity units and to what extent;
  - Justify how each of the Chartered Institute for Ecology and Environmental Management (CIEEM) BNG Principles (Ref 1) have been applied to the Scheme; and
  - Establish how BNG will be secured in the long term.
- 1.1.13 Whilst indicative layout plans have been included in the DCO application (**ES Volume 2, Figure 3-1: Indicative Site Layout Plan [EN010168/APP/6.2]** refers), this represents one example of how the Scheme could be developed in accordance with the framework provided by the **Design Principles and Parameters [EN010168/APP/7.4]**. The ability of the applicant to micro-site during construction and maintain a degree of flexibility in Scheme design is required so that the detailed design of the Scheme can be informed by technical consideration, post-consent work, and take advantage of innovation in technology.
- 1.1.14 Aspects of the Scheme that require design flexibility include, but are not limited to:
- Solar PV Panels and panel type/specification;

- Associated Development such as the Conversion units/33 kV Sub-distribution Switch Rooms, Battery Energy Storage System (BESS) Area, and Substations; and
  - Grid Connection Cables and Interconnecting Cables, i.e. the routing of the cables within the Cable Route Corridor.
- 1.1.15 The Rochdale Envelope is discussed further in **ES Volume 1, Chapter 3: The Scheme, EN010168/APP/6.1**.
- 1.1.16 Given that the design of the Scheme requires an element of flexibility, the BNG assessment provided in this document should therefore be treated as indicative and may be subject to minor changes based on the final layout of the Scheme. For the purposes of this assessment, the locations and arrangements of Solar PV Panels and Associated Development have been taken from **ES Volume 2, Figure 3-1: Indicative Site Layout Plan [EN010168/APP/6.2]**.

### Relevant Policy and Legislation

- 1.1.17 The following BNG-related policies are considered pertinent to the Scheme and the assessment presented within this document.

#### **Relevant Legislation**

- The Environment Act (2021) (Ref 2).

#### **Relevant National Planning Policies**

- Overarching National Policy Statement for Energy (EN-1) (2024) (Ref 3);
- National Policy Statement for Renewable Energy Infrastructure (EN-3) (2024) (Ref 4);
- National Policy Statement for Electricity Networks Infrastructure (EN-5) (2024) (Ref 5);
- National Planning Policy Framework (February 2025) (Ref 6); and
- The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024 (Ref 7).

#### **Relevant Local Planning Policies**

- Wiltshire Core Strategy (Ref 8);
- Wiltshire Draft Local Plan (Ref 9);
- Wiltshire and Swindon Local Nature Recovery Strategy (LNRS) (Public Consultation Draft March 2025) (Ref 10);
- Wiltshire Biodiversity Action Plan (BAP) 2011 (Ref 11);

- Wiltshire Landscape Biodiversity Areas (2012) (Ref 12); and
- Wiltshire's Natural Environment Plan 2022-2030: A Green & Blue Infrastructure Strategy for Wiltshire (Ref 13).

### Consultation

- 1.1.18 Full details of the consultation relevant to Ecology and Biodiversity is displayed in **ES Volume 1, Chapter 9: Ecology and Biodiversity, EN010168/APP/6.1**.
- 1.1.19 Consultation relating to potential habitat retention, enhancement and creation measures has been undertaken as part of on-going consultation with stakeholders including Natural England, Wiltshire Council, the Environment Agency, and Butterfly Conservation, as well as during statutory and non-statutory public consultation events.
- 1.1.20 The approach to the application of Strategic Significance was discussed with Wiltshire Council in a meeting on 14 July 2025. It was confirmed by Wiltshire Council following the meeting, via email correspondence, that the Wiltshire and Swindon Draft LNRS should be used to inform the assigning of Strategic Significance for habitats, hedgerows and watercourses.

## 1.2 Methodology

### BNG Assessment

- 1.2.1 The BNG assessment presented within this report follows the guidance set out within *Biodiversity Net Gain Report & Audit Templates (Version 1)*. CIEEM. July 2021 (Ref 14). It is also in line with the *British Standard 8683:2021 (Process for Designing and Implementing Biodiversity Net Gain)* (Ref 15).
- 1.2.2 The stages of Scheme design and application of the mitigation hierarchy have followed *Biodiversity Net Gain: Good Practice Principles for Development* (CIEEM, CIRA, IEMA 2016).
- 1.2.3 The baseline conditions presented within this document have been informed by UKHabitat (UKHab) Surveys of the Solar PV Sites, completed between June 2023 and September 2024, which have subsequently been updated between May and July 2025, and UKHab Surveys of the Cable Route Corridor undertaken between March and August 2025. Modular River Physical (MoRPh) Surveys of all watercourses within the Scheme have also been undertaken between June 2023 and August 2025, and associated River Type Assessments completed using the Cartographer software. Detailed methodologies and survey results are provided in **ES Volume 3, Appendix 9-1: Ecological Baseline Report, [EN010168/APP/6.3]**.
- 1.2.4 The Statutory Biodiversity Metric, referred to hereafter as ‘the Metric’, has been used to complete the calculation which accompanies this document (**ES Volume 7: Biodiversity Net Gain Assessment Appendix – Statutory Biodiversity Metric Calculation [EN010168/APP/7.9]** refers), with mapping carried out on QGIS Version 3.34 or later.

### Quality Assurance

- 1.2.5 A suitably competent person is defined within the BNG British Standard BS8683:2020 as a ‘*person who can demonstrate they have acquired through training, qualifications or experience, or a combination of these, the knowledge and skills enabling that person to perform a specified task*’.
- 1.2.6 The preparation of this BNG assessment has been led by Molly Brown ACIEEM. Since joining Clarkson and Woods in 2021, Molly has been involved in undertaking BNG assessments using different iterations of the Metric. Molly is a member of the BNG Working Group at Clarkson and Woods and is involved in decision-making relating to companywide approaches to BNG, as well as assisting with review of BNG calculations and delivery of BNG training.
- 1.2.7 This document has been subject to a two-stage quality assurance review by appropriately experienced senior consultants who are full members of CIEEM.

### Limitations

- 1.2.8 The number of rows generated by the overlay of baseline and proposed habitats once mapped using QGIS approached 2,229 in the case of HU, 1,377 for HeU, and 138 for WU. As per the Statutory Metric QGIS template and GIS import tool User Guide (Ref 16), data have been consolidated into groups of identical values (i.e. multiple polygons with identical baseline values proposed to have identical outcomes) for simpler representation within the Metric. If requested, the raw data can be provided in full.
- 1.2.9 Condition assessment information for each individual habitat parcel recorded has not been presented in this document, given the number of parcels recorded, as detailed above. Instead, summaries of the overall condition scores for each habitat, hedgerow, and watercourse type are provided in Tables 2 and 3.
- 1.2.10 It is anticipated that a non-significant margin of error may occur throughout the mapping process, from collecting data in the field to mapping using QGIS software.
- 1.2.11 Given the extent of the Solar PV Sites, the following Minimum Mappable Units (MMU) for UKHab classification were generally set at:
- Area features (HU) – 400 m<sup>2</sup> (20 m x 20 m); and
  - Linear features (HeU and WU) – 20 m.
- 1.2.12 It should therefore be noted that some habitat parcels or features below the above MMU thresholds were not individually mapped and included within the BNG calculations. This approach is in line with UKHab guidance and is considered proportionate to the size of the Scheme. An exception to this general rule was made for ponds, as all ponds were individually mapped regardless of area.
- 1.2.13 It should also be noted that, given the agricultural nature of the landscape, fields under arable rotation are likely to vary in habitat type between years. For example, rotation between cereal and non-cereal crops, and grass or clover leys. This is not considered to constitute a limitation to the BNG assessment, as all of these ‘Cropland’ habitat types have the same score within the Metric.
- 1.2.14 The location and extent of arable field margins are also likely to vary between years; the removal of arable field margins between years is not considered to represent degradation as it constitutes on-going agricultural management, for instance rotational provision of bird game cover crop. The extent of arable field margins recorded in 2022 has been taken as the baseline and is considered to be representative of the average quantum of arable field margin habitat present within the Solar PV Sites.

- 1.2.15 During the surveys, there were a small number of habitats that did not align with a single UKHab classification, for example where areas had been seeded with a bird cover crop in line with the arable field margin definition, but exceeded the defined maximum margin width of 12 m. In these instances, professional judgement was used to assign the UKHab classification that best suited the habitat present, and in line with the precautionary principle to ensure habitats were not undervalued.
- 1.2.16 The River Condition Assessment (RCA) methodology is inherently limited by its reliance on sampling small subreaches (at least 20 %) and extrapolating the results to represent a broader watercourse section, as far as it is considered relevant. The subreach lengths to survey were strategically chosen to represent the typical condition of the watercourse, following guidance set out within the Guide to Assessing River Condition Watercourse (Ref 17). This is not considered to be a significant limitation to the baseline survey as it provides a good representation of the watercourse characteristics; however, it does not provide complete information on all types and extents of habitats, and all human pressures and interventions along the entire length of watercourse.
- 1.2.17 RCA guidance acknowledges that identifying an overdeep channel is best undertaken by a geomorphologist however a qualified Moprh surveyor can assess this using a simple river shape calculation to identify whether a site is likely to have been affected by 'overdeepening'. In combination with each river shape calculation, on-site observations and professional judgement were used by accredited MoRPh surveyors to consider overdeepening at the Site. It was subsequently found that the majority of watercourses within the Site had likely been overdeepened and their condition class was therefore downgraded. This is not considered to be a significant limitation as no change in condition class of the watercourses has been proposed. An uplift is proposed through changes to riparian encroachment only, but the limitation has been noted given that the overdeepening assessment has an overall bearing on the BNG condition assessment of a watercourse.
- 1.2.18 Areas such as railway corridors (including tracks, embankments and woodland strips along their boundaries) were not possible to access due to health and safety concerns/access consents. The habitats in these areas have therefore been assumed based on a combination of aerial imagery, visual observations from adjacent land, and professional judgement using the precautionary principle. These habitats will be retained with no change. In all such cases the baseline habitat has been assigned as the high distinctiveness habitat type 'Woodland – lowland mixed deciduous woodland' in 'Good' condition.
- 1.2.19 Furthermore, where wetland features such as ditches and ponds within the Solar PV Sites and Cable Route Corridor were dry at the time of the surveys, condition assessment criteria relating to water quality, or those that are reliant

on water being present in order to assess, were assumed to have been passed on a precautionary basis.

## 1.3 Baseline Habitats

### Strategic Significance

- 1.3.1 Evaluation of Strategic Significance within this assessment has been informed primarily by the Wiltshire and Swindon Draft LNRS, considering the locations and objectives of the Draft LNRS target areas.
- 1.3.2 In accordance with **Table 7** of the Statutory Biodiversity Metric User Guide document (Ref 18), in areas where a LNRS has been published, the baseline Strategic Significance for habitat parcels should always be scored as low, i.e. assigned to the 'Area/compensation not in local strategy/no local strategy' Strategic Significance category. It should be noted that the current Wiltshire and Swindon LNRS is at the Draft stage is not the final version, with the final version expected to be published in October 2025. However, it was agreed with Wiltshire Council on 14 July 2025 that the draft LNRS can be used to assign Strategic Significance for the purposes of completing Biodiversity Net Gain calculations. Therefore, no habitats have been afforded an elevated Strategic Significance score at baseline and the 'Area/compensation not in local strategy/no local strategy' Strategic Significance category was applied to all baseline habitats.
- 1.3.3 Strategic Significance multipliers have been applied to some proposed habitats where habitat creation and/or enhancement measures aligned with the Draft LNRS. This is discussed further in Sections 1.7 to 1.9.
- 1.3.4 Further relevant policy and guidance that identify biodiversity opportunities on a spatial basis have also been considered in the Scheme design, including:
- Natural England Habitat Network Mapping (Ref 19);
  - Wiltshire Landscape Biodiversity Areas; and
  - Wiltshire's Natural Environment Plan 2022-2030: A Green & Blue Infrastructure Strategy for Wiltshire.
- 1.3.5 Further details of how Scheme design and landscape proposals have considered the above documents are included in **Volume 7: Outline Landscape and Ecological Management Plan (LEMP) [EN010168/APP/7.18]**.

### Irreplaceable Habitats

#### **Solar PV Sites (including Works No. 9)**

- 1.3.6 It is acknowledged that ancient and veteran trees are classified as 'Irreplaceable Habitat' under The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024. 42 ancient and veteran trees were recorded within the Solar PV Sites (**ES Volume 1, Chapter 10: Arboriculture**

[EN010168/APP/6.1] refers). These trees have been marked as Irreplaceable Habitat within the Metric for clarity and will be retained.

### **Cable Route Corridor (excluding Works No. 9)**

- 1.3.7 A total of 10 ancient and veteran trees were recorded within the Cable Route Corridor and have therefore been categorised as Irreplaceable Habitat within the Metric. All ancient and/or veteran trees will be retained within the Cable Route Corridor.

### **Baseline Survey**

#### **Cropland Habitats**

- 1.3.8 Condition assessments are Not Applicable for all habitats listed within the broad habitat type 'Cropland'.

#### Solar PV Sites (including Works No. 9)

##### *Cereal Crops*

- 1.3.9 Fields comprising cereal crop habitat occupied the vast majority (63.92 %) of land area at the Solar PV Sites and were generally intensively farmed monocultures considered likely to receive periodic treatment with fertiliser and pesticides.

##### *Non-cereal Crops*

- 1.3.10 Several fields within the Solar PV Sites were planted with non-cereal crops, such as legumes, and were similarly subject to intensive agricultural management.

##### *Arable Field Margins: Tussocky*

- 1.3.11 As per the UKHab Classification System, arable field margins were characterised as areas of habitat situated at the outer 2-12 m margins of arable fields and were understood to be managed specifically to provide benefits for wildlife. Margins wider than 12 m were classified as their relevant habitat category, such as grassland type or ruderal/ephemeral habitat, depending on the dominant vegetation type present. Margins narrower than 2 m were considered to be contiguous with hedgerow ground flora and were therefore captured within the Metric as such.

- 1.3.12 Margins of arable fields across the Solar PV Sites were generally very narrow (less than 2 m wide and therefore covered within condition assessments of associated hedgerows), although tussocky arable field margins which had purposefully been left wide and managed for wildlife were present at Lime Down C and D. Generally, these margins were species-poor and relatively uniform in structure, being cut most years in order to limit scrub encroachment from

adjacent hedgerows. Tussocky arable field margins were typically dominated by rank and tussock-forming grasses, and occasional ruderal species.

*Arable Field Margins: Game Bird Mix*

- 1.3.13 A small number of portions of fields at Lime Down C and D were planted with strips of wild bird cover crop, including species such as millet *Panicum miliaceum*, left unharvested for seed to benefit farmland birds.
- 1.3.14 It should be noted that areas seeded with game bird mix exceeded the maximum width (12 m) of arable field margins, per the UKHab definition, measuring up to approximately 95 m in width. Despite not meeting this criterion of the UKHab definition, the habitat parcels otherwise fit the description of game bird mix arable field margins. In order to capture the value of these habitats, which provide an important foraging resource for birds and other species in a largely monoculture arable landscape, the classification of arable field margin was applied.

*Arable Field Margins: Pollen and Nectar*

- 1.3.15 One field margin was noted at Lime Down A to have been sown with wildflowers and plant species of particular value to nectar-feeding insects and pollinators. Species recorded in this area included black medick *Medicago lupulina*, sainfoin *Onobrychis viciifolia*, and bird's-foot trefoil *Lotus corniculatus*.
- 1.3.16 As discussed above, this habitat parcel was approximately 55 m wide, exceeding the defined width for arable field margins, but was classified as such to reflect the value of the habitat, in line with the precautionary principle.

*Temporary Grass and Clover Leys*

- 1.3.17 Across the Solar PV Sites, 11 fields at Lime Down B, C, and D, comprising 8.33 % of total land area, were planted with a temporary perennial ryegrass *Lolium perenne* and clover *Trifolium sp.* ley.

Cable Route Corridor (excluding Works No. 9)

*Cereal Crops*

- 1.3.18 Cereal crops also comprised the most frequently encountered (36.91 %) of habitat area within the Cable Route Corridor. The route transects a number of large arable fields subject to intensive agricultural management similar to land within the Solar PV Sites. This habitat type totalled 170.82 ha of land within the Cable Route Corridor

*Non-Cereal Crops*

- 1.3.19 A relatively small quantum of land (33.8 ha) within the Cable Route Corridor comprised non-cereal cropland. Fields of this habitat type were typically sown with crops such as rapeseed *Brassica napus*.

*Arable Field Margin: Tussocky*

- 1.3.20 Where field margins were recorded within the Cable Route Corridor, bounding cropped fields, they typically comprised tussocky grassland of varying structural diversity, but limited botanical diversity.

*Arable Field Margins: Cultivated Annually*

- 1.3.21 A small number of arable field margins comprised land that appeared to be cultivated on an annual basis and consisted of arable weed species and early colonising species.

*Temporary Grass and Clover Leys*

- 1.3.22 Over 11 % of land within the Cable Route Corridor comprised fields that had been sown with temporary grass or clover leys as part of agricultural rotation. This habitat type covered approximately 52.43 ha of land within the Cable Route Corridor.

*Winter Stubble*

- 1.3.23 Three fields within the Cable Route Corridor (3.95 ha combined) were recorded as winter stubble, where previous crops had been harvested and the remnant vegetation left within the field without further cultivation.

**Grassland Habitats**

- 1.3.24 Botanical quadrat data to support the below grassland classifications and condition assessments are provided in Annex A at the end of this document.

Solar PV Sites (including Works No. 9)

*Other Neutral Grassland*

- 1.3.25 A small number of grassland fields and several field margins at Lime Down E, and a single field (C29) at Lime Down C were classified as other neutral grassland (ONG). Fields of ONG at Lime Down E were managed via intermittent cattle grazing or mowing and supported a relatively high diversity of botanical species. Fields of ONG, particularly at Lime Down E, included a number of Lowland Meadow indicator species such as bird's-foot trefoil *Lotus corniculatus*, lady's bedstraw *Galium verum*, meadow vetchling *Lathyrus pratensis*, pyramidal orchid *Anacamptis pyramidalis*, ox-eye daisy *Leucanthemum vulgare* and salad burnet *Sanguisorba minor*, although the overall species assemblage did not meet the threshold for classification as Lowland Meadow.
- 1.3.26 Of the limited ONG habitat present at the Solar PV Sites (1.84 % of total land area), 53.97 % was assessed as being of Poor condition, generally limited by botanical diversity within the sward. 46.03 % of ONG was assessed as being of Good condition, with no Moderate condition ONG noted.

*Modified Grassland*

- 1.3.27 Modified grassland fields within the Solar PV Sites was typically managed either via livestock grazing or was cut for silage and was recorded across the Solar PV Sites. Additional modified grassland habitat was recorded at field margins and along grassy tracks.
- 1.3.28 Poor species diversity was also the limiting factor resulting in the majority of modified grassland habitat being assessed as being of Poor condition (73.76 %), which typically constituted fields managed via frequent silage cuts. Good condition modified grassland habitat was generally concentrated in field margins, which are likely subject to lower intensity management, and cattle-grazed fields (25.09 %), and only a very small proportion (1.14 %) of modified grassland habitat was considered to be of Moderate condition.

Cable Route Corridor (excluding Works No. 9)

*Other Neutral Grassland*

- 1.3.29 One field within the Cable Route Corridor was classified as ONG, owing to the botanical diversity and presence of grassland indicator species within the sward. This habitat was also encountered at a small number of arable field margins and road verges and totalled 3.06 ha.. Of the ONG habitat within the Cable Route Corridor, 92.73 % is of Moderate Condition, and 7.27 % is of Poor Condition.

*Modified Grassland*

- 1.3.30 Modified grassland fields, field margins and verges were frequently encountered within the Cable Route Corridor, comprising 125.76 ha in total and 27.18 % of total land coverage within the Cable Route Corridor. As for the Solar PV Sites, the majority (77.67 %) was recorded of Poor condition owing to restricted species-richness and structural diversity, likely due to agricultural improvement and regular management. 21.80 ha (17.33 %) of this habitat type within the Cable Route Corridor was of Good condition, with the remainder being of Moderate condition.

**Heathland and Shrub Habitats**

Solar PV Sites (including Work No.9)

*Mixed Scrub*

- 1.3.31 Small pockets of mixed scrub were present at Lime Down A, C, D, and E. Generally, these areas formed isolated patches at field edges or surrounding ponds, although a larger, planted strip of shrubs was present at Field E9.
- 1.3.32 All mixed scrub achieved a Poor or Moderate condition (32.55 % and 67.45 %, respectively).

Cable Route Corridor (excluding Works No. 9)

*Mixed Scrub*

1.3.33 Several small parcels of mixed scrub habitat were recorded within the Cable Route Corridor, typically at field boundaries, with a larger area of mixed scrub present surrounding the Existing National Grid Melksham Substation. A total of approximately 3.65 ha of mixed scrub habitat was recorded within the Cable Route Corridor, of varying condition (28.72 % in Good, 8.54 % in Moderate, and 62.74 % in Poor condition).

1.3.34 .

*Bramble Scrub*

1.3.35 A very small (0.025 ha) area of bramble scrub was recorded adjacent a road within the Cable Route Corridor. Condition assessments are Not Applicable for this habitat type.

**Lake Habitats**

Solar PV Sites (including Works No. 9)

*Ponds – Priority Habitat*

1.3.36 A total of 25 ponds were recorded across the Solar PV Sites, including land within Works No. 9, typically associated with the local ditch network. The majority of ponds encountered across the Solar PV Sites were relatively small in size (none covered an area larger than 500 m<sup>2</sup>) and were situated at the edges of fields in most cases.

1.3.37 Ponds varied in terms of condition, structure, water levels and surrounding habitat. All ponds were, however, in Poor or Moderate condition, with ponds generally being overshadowed by surrounding tall scrub or hedgerows resulting in a general lack of aquatic/marginal vegetation and being silted with leaves and other organic matter which detrimentally impacted water quality. The ponds in Moderate condition generally featured better water quality and the presence of good quality semi-natural habitat around the pond edges, and represented the majority of pond habitat at the Solar PV Sites.

1.3.38 Ponds qualify as being a Priority Habitat if they support species of high conservation importance, including UKBAP species. All on-Site ponds have therefore been assumed to constitute Priority Habitat given the likelihood that toads and other amphibians (including great crested newts) may be present.

Cable Route Corridor (excluding Works No. 9)

1.3.39 A total of 18 ponds were recorded within the CRC, comprising a total of approximately 0.54 ha. All ponds form part of the wider network of waterbodies within the local landscape and are considered likely to support toads and other

amphibian species, including great crested newt, and have therefore been considered to qualify as Priority Habitat.

- 1.3.40 Ponds within the Cable Route Corridor were of Poor or Moderate condition, with the majority (83.72 %) assessed as being of Moderate condition.

### **Woodland Habitats**

#### Solar PV Sites (including Works No. 9)

##### *Other Woodland; Broadleaved*

- 1.3.41 Woodland habitat comprised a very small proportion of the total area at the Solar PV Sites (less than 1 %) but represents ecologically valuable habitat for a range of species. Several blocks of plantation woodland predominately comprising broadleaved tree species, likely originally created to provide shelter belts or for game bird rearing, were present at Lime Down A, B, and D. An entire field at Lime Down E (E10) comprised recently planted mixed broadleaf tree saplings, and the area was recorded as plantation woodland to reflect the value of the developing habitat.
- 1.3.42 The majority of woodland parcels were attributed a Moderate condition (71.22 %), with the remainder being attributed a Poor condition. In all cases, woodland was generally uniform in structure with a lack of developing understory, with some browsing pressure from deer evident. Ground flora associated with each area was restricted to a small number of shade tolerant woodland species.

#### Cable Route Corridor (excluding Works No. 9)

##### *Lowland Mixed Deciduous Woodland*

- 1.3.43 Several small blocks of lowland mixed deciduous woodland were recorded within the Cable Route Corridor, including some larger areas in proximity to the Existing National Grid Melksham Substation. This woodland type was assessed as being in Moderate condition where surveyed.
- 1.3.44 Of the 17.95 ha of lowland mixed deciduous woodland present within the Cable Route Corridor, 10.57 ha has been assumed as this habitat type on a precautionary basis and assigned Good condition within the Metric. These are areas of wooded railway embankments where survey access was not possible on health and safety grounds.

##### *Other Woodland; Broadleaved*

- 1.3.45 This habitat type was encountered regularly within the CRC, most notably in areas of woodland which have developed through recent succession, particularly along railway embankments, and broadleaf plantation woodland blocks. The majority of broadleaved woodland was in Moderate condition (69.85

%), with the remaining blocks classified as Poor condition due to lack of structural variation and woodland management.

*Other Coniferous Woodland*

- 1.3.46 Two blocks of young plantation coniferous woodland were present within the Cable Route Corridor (covering an area of 3.94 ha combined), both of which were assessed as being of Poor condition.

**Sparsely Vegetated Land Habitats**

Solar PV Sites (including Works No. 9)

*Ruderal/Ephemeral*

- 1.3.47 Small areas (totalling an area of 1.07 ha) of ruderal/ephemeral vegetation were recorded at Lime Down C and E, restricted to field corners and margins, and extending from hedgerows and other boundary features or associated with unmanaged areas, such as surrounding ponds, around farmsteads/buildings or where agricultural vehicle access is restricted. These habitats were either in Moderate or Good condition.

Cable Route Corridor (excluding Works No. 9)

- 1.3.48 Several discrete areas of ruderal/ephemeral vegetation were present within the Cable Route Corridor, of varying condition, covering an area of 3.16 ha combined. The majority was considered to be in Good condition (64.69 %).

**Urban Habitats**

Solar PV Sites (including Works No. 9)

*Bare Ground*

- 1.3.49 Bare ground areas were universally in Poor condition, generally owing to a lack of any significant vegetation cover.

*Developed Land; Sealed Surface*

- 1.3.50 Habitats classified as developed land; sealed surface identified within the Solar PV Sites included agricultural storage and working areas, buildings, and areas of hardstanding. Condition assessments are Not Applicable for this habitat type.

*Artificial Unvegetated; Unsealed Surface*

- 1.3.51 Crushed aggregate farm tracks recorded within the Solar PV Sites were classified as artificial unvegetated; unsealed surface. Condition assessments are Not Applicable for this habitat type.

Cable Route Corridor (excluding Works No. 9)

*Allotments*

- 1.3.52 A small area (approximately 0.26 ha) of allotment habitat was recorded within the Cable Route Corridor, associated with a complex of farm buildings. The habitat was considered to be of Poor condition.

*Bare Ground*

- 1.3.53 Bare ground was recorded rarely (approximately 0.02 ha in area) within the Cable Route Corridor but, where present, was assessed as being of Poor condition.

*Developed Land; Sealed Surface*

- 1.3.54 Habitats classified as developed land; sealed surface identified within the Cable Route Corridor included roads and infrastructure, buildings, and areas of hardstanding, and comprised 5.48 % of total land cover. Condition assessments are Not Applicable for this habitat type.

*Artificial Unvegetated; Unsealed Surface*

- 1.3.55 As with the Solar PV Sites, this habitat within the Cable Route Corridor typically comprised crushed aggregate tracks, which occupied 8.62 ha.. Condition assessments are Not Applicable for this habitat type.

**Individual Trees**

Solar PV Sites (including Works No. 9)

*Rural Trees*

- 1.3.56 A total of 50 individual, rural trees were recorded at the Solar PV Sites which were not associated with (i.e. not within 3 m of) another field boundary habitat. Eight such trees were categorised as being veteran trees on account of displaying veteran characteristics, which were present in Lime Down A, C, D and E. Eight rural trees were considered to be 'very large', 29 rural trees were considered to be 'large', nine were 'medium', and four were 'small' in accordance with 'Table 14 - Tree size classes and area equivalents' of the Statutory Biodiversity Metric User Guide document (Ref 18).

- 1.3.57 In addition, and in accordance with the Statutory Biodiversity Metric User Guide, all veteran trees have been recorded as individual rural trees, regardless of their location (e.g. veteran trees within hedgerows or lines of trees have been mapped individually). A further 34 such trees associated with (i.e. within 3 m of) field boundaries have been recorded as individual rural trees. All trees were in Good condition.

Cable Route Corridor (including Works No. 9)

- 1.3.58 A total of 64 individual, rural trees were recorded within the Cable Route Corridor, of which 10 were considered veteran and therefore represent

Irreplaceable Habitat. Four trees were assessed as being of Moderate condition, and the rest achieved Good condition against the criteria.

- 1.3.59 Of the 64 trees within the Cable Route Corridor, three were categorised as 'small' in size, 20 were categorised as 'medium', 20 were categorised as 'large', and 21 were categorised as 'very large'.
- 1.3.60 A single tree has been assumed to be 'medium' in Good condition, due to access limitations.

## 1.4 Baseline Hedgerows

### Strategic Significance

- 1.4.1 The baseline Strategic Significance category 'Area/compensation not in local strategy/no local strategy' was applied to all existing hedgerows.

### Irreplaceable Habitat

- 1.4.2 No hedgerow habitats are attributed Irreplaceable Habitat status under the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024.

### Baseline Data

#### **Solar PV Sites (including Works No. 9)**

- 1.4.3 The Solar PV Sites contain an extensive network of approximately 76.79 km of managed hedgerows (excluding lines of trees), just under half of which contain occasional mature and semi-mature trees. The hedgerow network typically bordered the agricultural fields across the Solar PV Sites. Hedgerows within this network varied widely in terms of species diversity, shape, structure, management and condition. However, the majority (over 61 km) of hedgerows were categorised as being species-rich.
- 1.4.4 A large proportion of the hedgerows also contained at least occasional semi-mature to mature trees (particularly mature oak and ash standards) and many were bordered by drainage ditches which are dry for at least part of the year.
- 1.4.5 The majority of hedgerows were in Moderate or Good condition, however, all conditions were represented across the hedgerows. Hedgerows of Poor condition were usually defunct and gappy, with no or less than 1 m wide vegetated field margins and were presenting some signs of current damage, generally through inappropriate management. Some hedgerows of Moderate condition were also gappy but usually had vegetated field margins over 1 m in width, though these were dominated by plant species indicative of nutrient enrichment (such as nettles, cleavers and docks). Hedgerows of Good condition were intact and bordered with undisturbed fringes of vegetation.
- 1.4.6 An additional 1.27 km of lines of trees were recorded across the Solar PV Sites, however, only one of them qualified as being 'ecologically valuable' as defined within the Metric Technical Supplement document, as it supported at least one tree per 30 m length of mature, veteran or ancient age class.
- 1.4.7 Lines of trees were generally of Poor or Moderate condition, excluding the ecologically valuable feature which was in Good condition. Features in Poor condition were usually lacking mature trees and undisturbed naturally vegetated strips on either side of the trees to protect the trees from farming and other potentially damaging activities.

### **Cable Route Corridor (excluding Works No. 9)**

- 1.4.8 As with the Solar PV Sites, an extensive network of hedgerows and lines of trees were recorded within the Cable Route Corridor and surrounding area, although only relatively small sections of individual hedgerows were present within the Cable Route Corridor owing to the width of the route.
- 1.4.9 The majority of hedgerows within the Cable Route Corridor were species-rich in composition and were often associated with banks/ditches. Standard trees were also frequently recorded within hedgerows. Only five hedgerows within the Cable Route Corridor were assessed as being of Poor condition, with the vast majority of hedgerows in either Good or Moderate condition as a result of dense, intact structure.
- 1.4.10 A total of 2.22 km of lines of trees were recorded within the Cable Route Corridor, of which approximately 15 % was considered 'ecologically valuable'. Lines of trees were generally in Poor or Moderate condition, was a small proportion of ecologically valuable lines of trees assessed as being of Good condition.

## 1.5 Baseline Watercourses

### Strategic Significance

- 1.5.1 The baseline Strategic Significance category 'Area/compensation not in local strategy/no local strategy' was applied to all existing watercourses within the Solar PV Sites and Cable Route Corridor.

### Irreplaceable Habitats

- 1.5.2 No watercourse habitats are attributed Irreplaceable Habitat status under the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024.

### Baseline Data

#### **Ditches**

##### Solar PV Sites (including Works No. 9)

- 1.5.3 Flowing water occurs occasionally in the form of small water conveying features for more significant local watercourses or agricultural drainage ditches within or adjacent to the Solar PV Sites, many of which regularly dry out (although are wet for >4 months/year).
- 1.5.4 The Ditch habitat category was only used for ditches which are likely to retain water for more than 4 months of the year as per the Statutory Metric User Guide (Ref 18) definition. Agricultural ditches which were considered unlikely to retain water for 4 months of the year were defined within the relevant hedgerow category (e.g. native hedgerow associated with bank or ditch), and therefore are not represented in the Baseline Watercourses section of the Metric.
- 1.5.5 Most wetted ditches featured grassy banks and were approximately 0.5-2 m deep and 1-2 m wide with very little emergent vegetation. Water quality appeared to vary, although in many cases was relatively poor with high turbidity evident, likely owing to frequent agricultural run-off.
- 1.5.6 The majority of Ditches were in Poor condition (approximately 72%), varying due to poor water quality, low water levels, high levels of shading by adjacent vegetation, and lack of emergent, submerged and marginal vegetation.

##### Cable Route Corridor (excluding Works No. 9)

- 1.5.7 As with the Solar PV Sites, a network of agricultural drainage ditches are present within the Cable Route Corridor which are considered to hold water for more than 4 months of the year. These are similar in character to ditches within the Solar PV Sites, being generally small (1-2 m wide) and shallow (0.5-2m deep) and most appeared to dry out at seasonally, with water levels generally being low or dry at the time of survey. Water quality appeared to vary, although

was frequently relatively poor with high turbidity evident, likely owing to frequent agricultural run-off.

- 1.5.8 Approximately 52% of the total 2.63 km of ditches in the Cable Route Corridor were in Poor condition, varying due to poor water quality, low water levels, high levels of shading by adjacent vegetation, and lack of emergent, submerged and marginal vegetation. The remaining 48% of ditches were in Moderate condition.

### **Priority Habitat River and Other Rivers and Streams**

#### Solar PV Sites (including Works No. 9)

- 1.5.9 Sections of two significant local watercourses known as Gauze Brook and Gabriel's Well (both of which are tributaries of the River Avon) flow through the Solar PV Sites, at Lime Down D and E respectively. Several sections of smaller unnamed tributaries that feed into them or into the River Avon downstream of the Order Limits are present within the Solar PV Sites (including Works No. 9).
- 1.5.10 Most of Gauze Brook, including where it flows through Lime Down D, is categorised as 'Priority Habitat River' according to the Natural England 'Priority River Habitat – Rivers' dataset (Ref 20), which are defined as rivers and streams that exhibit a high degree of naturalness. All other watercourses, including Gabriel's Well, consisted of the UKHab category 'Other Rivers and Streams'.
- 1.5.11 Most of the watercourses within these habitat categories were found likely to be 'overdeep' as a result of a legacy of channel modifications such that they are, to some extent, hydrologically and ecologically disconnected from their riparian margins and floodplains. This was reflected in a downgrade of their condition by one class as per RCA guidance (Ref 17). The only watercourse which was not considered to be overdeep was Gabriel's Well (EW1 to EW3 – **Table 1** refers).
- 1.5.12 Approximately 59% of 'Priority Habitat River' along Gauze Brook within the Solar PV Sites was classed as being in Moderate Condition, with the rest being in 'Fairly Poor' condition. Approximately half of the 'Other Rivers and Streams' watercourses within or adjacent to the Solar PV Sites were found to be in 'Fairly Poor' condition (approximately 51.5% of the total length of this habitat type). The remainder of watercourses within this habitat category were found to be in Moderate (approximately 14.4%) and Fairly Good (approximately 34.1%) condition. The condition score of the watercourses across the Solar PV Sites was principally negatively impacted by the agricultural land use within 10 m of the bank top and extent of silt recorded within the channel bed.
- 1.5.13 The calculated 'river type' varied across stretches of watercourses within the Site. The majority of watercourses were found to be type 'H' – straight/sinuuous with gravel-pebble recorded as the coarsest substrate within the channel bed but generally dominated by sand substrate. Gabriel's Well was found to be type

'F' which differs by having cobble as the coarsest recorded substrate. The only other river type found within the Solar PV Sites was river type 'K' which was assigned to a watercourse in Lime Down forming a tributary of Gauze Brook (DW5) which is characterised by fine sediment, with the coarsest substrate as 'sand', and average substrate as 'silt'.

- 1.5.14 The condition of each watercourse and its associated river type is provided in **Table 1. Plates 3 – 7**, showing the location of each watercourse within the Sites, are provided at the end of this document.

Cable Route Corridor (excluding Works No. 9)

- 1.5.15 Sections of seven watercourses comprising the habitat type 'Other Rivers and Streams' and totalling a combined 1.18 km in length are present within the Cable Route Corridor, all of which have some hydrological connection with the River Avon.
- 1.5.16 All of these watercourses were found likely to be 'overdeep' as a result of a legacy of channel modifications such that they are, to some extent, hydrologically and ecologically disconnected from their riparian margins and floodplains. This was reflected in a downgrade of their condition by one class as per RCA guidance (Ref 17).
- 1.5.17 Approximately 45% of watercourses within the Cable Route Corridor were found to be in 'Moderate' condition with the remain 55% of watercourses being in 'Fairly Poor' Condition. As for watercourses at the Solar PV Sites, the condition score of the watercourses within the Cable Route Corridor was principally negatively impacted by the agricultural land use within 10 m of the bank top and extent of silt recorded within the channel bed. The calculated 'river type' varied between type 'H' or type 'F' both of which are characteristic of straight/sinuuous watercourses with either gravel-pebble or cobble recorded as the coarsest substrate within the channel bed.
- 1.5.1 The condition of each watercourse and its associated river type is provided in **Table 2. Plates 13 – 24**, showing the location of each watercourse within the Sites, are provided at the end of this document.

**Table 1: Watercourse Conditions and River Types – Solar PV Sites (including Works No. 9)**

River Name	Label	Condition	River Type
Unnamed Tributary of the River Avon	BW1	Fairly Poor	H
Unnamed Tributary of the River Avon	CW1	Fairly Poor	H
Gauze Brook	DW1	Fairly Poor	H
	DW2	Moderate	H
	DW3	Moderate	H
	DW4	Moderate	H
Unnamed Tributary - feeds into Gauze Brook	DW5	Fairly Poor	K
Gabriel's Well	EW1	Fairly Good	F
	EW2	Moderate	F
	EW3	Fairly Good	F
Unnamed Tributary - feeds into Gabriel's Well	EW4	Fairly Poor	H
	EW5	Fairly Good	H

**Table 2: Watercourse Conditions and River Types – Cable Route Corridor**

River Name	Label	Condition	River Type
Unnamed Tributary of the River Avon	CW2	Fairly Poor	H
Byde Mill Brook	CRR1	Moderate	F
Unnamed Stream	CRR2 to CRR5	Fairly Poor	H
Pudding Brook	CRR6	Moderate	F
Unnamed Tributary – feeds into Pudding Brook	CRR7	Moderate	F
Gauze Brook	CRR8	Fairly Poor	H
Unnamed Tributary of the River Avon	CRR9	Fairly Poor	H

## Watercourse and Riparian Encroachment

- 1.5.2 According to the Statutory Biodiversity Metric User Guide, watercourse encroachment is 'any feature or action that adversely affects the natural function of the watercourse, or results in localised changes in habitat, species and migratory pathways'. This multiplier accounts for development within a riverbank or channel that impacts the function of the river corridor, aside from culverts, which are marked as separate habitats in the Metric.

1.5.3 According to the User Guide, riparian zone encroachment is ‘any feature or intervention within the riparian zone that reduces the quantity, quality or ecological function of the riparian habitat. This includes:

- Buildings or hardstanding
- Management practice (including agriculture)
- Structures that prevent wildlife from accessing the riverbank’

1.5.4 The riparian zone is defined within the User Guide as consisting of the land within 5 m of the bank tops for ditches, and 10 m from the bank top for any other watercourse type.

Solar PV Sites (including Works No. 9)

1.5.5 One ditch at the south of Field 36 was recorded as having Major watercourse encroachment on account of most of the southern bank being reinforced to stabilise the railway embankment to the south. Aside from this exception. no watercourse encroachment was recorded within any other existing watercourse elsewhere and therefore the category ‘No Encroachment’ was applied to all other watercourse features.

1.5.6 The majority of watercourses at Baseline featured some level of riparian encroachment on at least one bankside, primarily through the lack of adequate field margins and the prevalence of agricultural practices within the riparian zone, although the severity of riparian zone encroachment varied across features.

Cable Route Corridor (excluding Works No. 9)

1.5.7 One ditch (CRD11) within the Cable Route Corridor was recorded as having Major watercourse encroachment on account of most of the southern bank being reinforced to stabilise the railway embankment to the south. This ditch lies to the opposite (eastern) side of the Fosse way from the ditch at Field 36 which is similarly reinforced. Aside from this exception. no watercourse encroachment was recorded within any other existing watercourse elsewhere and therefore the category ‘No Encroachment’ was applied to all other watercourse features.

1.5.8 All Cable Route Corridor ditches and watercourses at Baseline featured some level of riparian encroachment on at least one bankside, primarily through the lack of adequate field margins and the prevalence of agricultural practices within the riparian zone, although the severity of riparian zone encroachment varied across features.

## 1.6 Baseline Summary

1.6.1 **Plates 3 – 7** at the end of this document show all baseline habitats recorded within the Scheme.

1.6.2 **Table 3** below shows the extent of each habitat type within the Solar PV Sites (including Works No. 9) and the proportion of the area of the Solar PV Sites taken up by each area-based habitat type; percentages are not given for hedgerows and watercourses as these are linear features, with no area value in the BNG assessment.

**Table 3: Summary of Baseline Habitats – Solar PV Sites (including Works No. 9)**

UKHab Habitat Type	Area (ha) / Length (km)	% of Solar PV Sites Area	Sites where recorded	Condition Assessment Score
<b>Cropland</b>				
Cereal crops	488.24	63.92	Lime Down A, B, C, D, and E	N/A
Non-cereal crops	117.73	15.41	Lime Down A, B, C, D, and E	N/A
Temporary grass and clover leys	63.60	9.41	Lime Down C and D	N/A
Arable field margins game bird mix	4.15	0.54	Lime Down C and D	N/A
Arable field margins pollen and nectar	1.05	0.14	Lime Down A	N/A
Arable field margins tussocky	1.13	0.15	Lime Down C and D	N/A
<b>Grassland</b>				
Modified grassland	60.68	7.94	Lime Down A, B, C, D, and E	Good – 25.09 % Moderate – 1.14 % Poor – 73.76 %

UKHab Habitat Type	Area (ha) / Length (km)	% of Solar PV Sites Area	Sites where recorded	Condition Assessment Score
Other neutral grassland	14.02	1.84	Lime Down C and E	Good – 46.03 % Poor – 53.97 %
<b>Heathland and Shrub</b>				
Mixed scrub	0.63	0.08	Lime Down A, C, D and E	Moderate – 67.45 % Poor – 32.55 %
<b>Woodland</b>				
Other woodland; broadleaved	4.04	0.53	Lime Down A, B, D and E	Moderate – 71.22 % Poor – 28.78 %
<b>Rural Trees</b>				
Rural Trees	84 no.	N/A	Lime Down A, C, D and E	Good – 100 %
<b>Lakes</b>				
Ponds (priority habitat)	0.33	0.04	Lime Down A, C, D, and E	Moderate – 77.75 % Poor – 22.25 %
<b>Sparsely Vegetated Land</b>				
Ruderal/ephemeral	1.07	0.14	Lime Down C and E	Good – 51.71 % Moderate – 48.29 %
<b>Urban</b>				
Artificial unvegetated, unsealed surface	1.42	0.19	Lime Down C, D and E	N/A
Bare ground	1.72	0.22	Lime Down A, B, D and E	Poor – 100 %

UKHab Habitat Type	Area (ha) / Length (km)	% of Solar PV Sites Area	Sites where recorded	Condition Assessment Score
Developed land; sealed surface	3.88	0.51	Lime Down A, B, C, D, and E	N/A
<b>Hedgerows and Lines of Trees</b>				
Native hedgerow	5.29	N/A	Lime Down A, B, C, D, and E	Good – 62.48 % Moderate – 33.84 % Poor – 3.68 %
Native hedgerow – associated with bank or ditch	4.63	N/A	Lime Down A, B, C, D, and E	Good – 66.69 % Moderate – 33.31 %
Native hedgerow with trees	1.94	N/A	Lime Down A, C, D, and E	Good – 65.88 % Moderate – 34.12 %
Native hedgerow with trees – associated with bank or ditch	2.94	N/A	Lime Down A, B, C, D, and E	Good – 64.38 % Moderate – 25.73 % Poor – 9.89 %
Species-rich native hedgerow	25.46	N/A	Lime Down A, B, C, D, and E	Good – 85.12 % Moderate – 14.20 % Poor – 0.68 %
Species-rich native hedgerow – associated with bank or ditch	10.31	N/A	Lime Down A, B, C, D, and E	Good – 83.43 % Moderate – 16.57 %
Species-rich native hedgerow with trees	15.56	N/A	Lime Down A, B, C, D, and E	Good – 69.85 % Moderate – 24.69 % Poor – 5.46 %
Species-rich native hedgerow with trees – associated with bank or ditch	10.66	N/A	Lime Down A, B, C, D, and E	Good – 78.36 % Moderate – 21.64 %

UKHab Habitat Type	Area (ha) / Length (km)	% of Solar PV Sites Area	Sites where recorded	Condition Assessment Score
Line of trees	0.90	N/A	Lime Down A, C, and E	Moderate – 91.90 % Poor – 8.10 %
Line of trees (ecologically valuable)	0.37	N/A	Lime Down E	Good – 100 %
<b>Watercourses</b>				
Priority Habitat River	1.49	N/A	Lime Down D	Moderate – 58.62 % Fairly Poor – 41.37%
Other rivers and streams	2.51	N/A	Lime Down B, C, D, and E	Fairly Good – 34.10 % Moderate – 14.38 % Fairly Poor – 51.51 %
Ditches	12.27	N/A	Lime Down A, B, C, D, and E	Moderate – 28.16 % Poor – 71.84 %
Culvert	0.09	N/A	Lime Down B, C, D, and E	N/A

**Table 4: Summary of Baseline Habitats – Cable Route Corridor**

UKHabitat Classification Habitat Type	Area (ha) / Length (km)	% of Cable Route Corridor Area	Condition Assessment Score
<b>Cropland</b>			
Cereal crops	170.82	36.91	N/A
Non-cereal crops	33.80	7.31	N/A

UKHabitat Classification Habitat Type	Area (ha) / Length (km)	% of Cable Route Corridor Area	Condition Assessment Score
Temporary grass and clover leys	52.43	11.33	N/A
Winter Stubble	3.95	0.85	N/A
Arable field margins cultivated annually	0.18	0.04	N/A
Arable field margins tussocky	0.84	0.18	N/A
<b>Grassland</b>			
Modified grassland	125.76	27.18	Good – 17.33% Moderate – 5% Poor – 77.67%
Other neutral grassland	3.06	0.66	Moderate – 92.73% Poor – 7.27%
Traditional Orchard	0.11	0.02	Moderate- 100%
<b>Heathland and Shrub</b>			
Bramble scrub	0.02	0.01	N/A
Mixed scrub	3.65	0.79	Good – 28.72% Moderate – 8.54% Poor – 62.74%
<b>Woodland</b>			
Lowland mixed deciduous woodland	17.95 (10.57 assumed)	3.88	Good – 58.93% Moderate – 39.02% Poor – 2.06%
Other woodland; broadleaved	8.41	1.82	Moderate – 69.85%

UKHabitat Classification Habitat Type	Area (ha) / Length (km)	% of Cable Route Corridor Area	Condition Assessment Score
			Poor – 30.15%
Other Coniferous Woodland	3.94	0.85	Poor – 100%
<b>Rural Trees</b>			
Rural Trees	64 No.	N/A	Good – 60 No. Moderate – 4 No.
<b>Lakes</b>			
Ponds (priority habitat)	0.54	0.12	Moderate – 83.72% Poor – 16.28%
<b>Sparsely Vegetated Land</b>			
Ruderal/ ephemeral	3.16	0.68	Good – 64.69% Moderate – 2.06% Poor – 33.25%
<b>Urban</b>			
Allotments	0.26	0.06	Poor – 100%
Artificial unvegetated, unsealed surface	8.62	1.86	N/A
Bare ground	0.02	Less than 0.01	Poor – 100%
Developed land; sealed surface	25.37	5.48	N/A
<b>Hedgerows and Lines of Trees</b>			
Native hedgerow	5.09	N/A	Good – 46.97% Moderate – 48.11%

UKHabitat Classification Habitat Type	Area (ha) / Length (km)	% of Cable Route Corridor Area	Condition Assessment Score
			Poor – 4.92%
Native hedgerow – associated with bank or ditch	4.84	N/A	Good – 55.15% Moderate – 43.05% Poor – 1.8%
Native hedgerow with trees	1.02	N/A	Good – 26.69% Moderate – 73.31%
Native hedgerow with trees – associated with bank or ditch	1.02	N/A	Good – 48.56% Moderate – 51.44%
Species-rich native hedgerow	8.08	N/A	Good – 61.99% Moderate – 38.01%
Species-rich native hedgerow – associated with bank or ditch	9.54	N/A	Good – 80.98% Moderate – 19.02%
Species-rich native hedgerow with trees	3.01	N/A	Good – 74.29% Moderate – 25.71%
Species-rich native hedgerow with trees – associated with bank or ditch	4.46	N/A	Good – 81.41% Moderate – 18.59%
Line of trees	0.87	N/A	Moderate – 23.42% Poor – 76.58%
Line of trees – associated with bank or ditch	1.02	N/A	Good – 23.42% Moderate – 57.83% Poor – 10.86%
Line of trees (ecologically valuable)	0.33	N/A	Good – 9.97%

UKHabitat Classification Habitat Type	Area (ha) / Length (km)	% of Cable Route Corridor Area	Condition Assessment Score
			Moderate – 55.59% Poor – 34.44%
<b>Watercourse</b>			
Other rivers and streams	1.18	N/A	Moderate – 45.48% Fairly Poor – 54.52%
Ditches	3.09	N/A	Moderate – 40.53% Poor – 59.47%
Culvert	0.06	N/A	N/A

## 1.7 Proposed Habitats

### Temporary Habitat Loss

- 1.7.1 In Section 6 of The Statutory Biodiversity Metric – User Guide, it states that habitat loss does not need to be recorded where there are temporary impacts only, and the habitat can be restored to both of the following:
- *‘baseline habitat type within two years of the initial impact; and*
  - *baseline condition within two years of the initial impact.’*
- 1.7.2 Given the temporary nature of cable installation works proposed within the Cable Route Corridor, all loss of area-based habitats within the Cable Route Corridor (excluding Works No. 9) have been considered temporary losses in line with the above definition. All habitats will be restored to their baseline habitat type and condition within two years following completion of construction.
- 1.7.3 No habitat enhancement or creation is proposed within the Cable Route Corridor (excluding Works No. 9), as the long-term management of habitats within the Cable Route Corridor cannot be secured by the Applicant owing to the temporary nature of the land agreements in place for this element of the Scheme.
- 1.7.4 As a result, the following habitat proposals within this section relate to the Solar PV Sites (including Works No. 9) only.

### Habitat Loss and Retention

#### **Irreplaceable Habitats**

- 1.7.5 All existing Irreplaceable Habitats (comprising ancient and veteran trees only) will be retained through the Scheme.

#### **Cropland Habitats**

- 1.7.6 The vast majority of the habitat under the broad habitat classification ‘Cropland’ within the Solar PV Sites will be lost as a result of the Scheme, with the exception of permanent set-aside habitat proposed to deliver ecological mitigation, including for ground-nesting bird species such as skylark, in Fields A11, A12, and C10. These fields will be cultivated every 2-5 years and allowed to establish naturally and have been classified as non-cereal crops for the purposes of this BNG assessment, although these areas will not be sown or subject to regular agricultural management. Arable field margins associated with these fields have therefore been treated as retained in the Metric.

- 1.7.7 It should be noted that the tussocky arable field margins within the Solar PV Sites at baseline will not directly be lost as a result of the Scheme but rather, in the absence of an adjacent arable crop they cease to fit the habitat description of 'arable field margin: tussocky'. Furthermore, it is not possible to enhance the condition of arable field margins, whereas it is proposed to overseed these areas with a biodiverse seed mix to increase botanical diversity. Therefore, the arable field margins within the Solar PV Sites are described as being lost and subsequently recreated as ONG in Moderate to Good condition (see Paragraph 1.7.33) instead of these being described as retained. This approach has consequences for the trading summary (see Paragraph 1.11.11).

## **Grassland Habitats**

### Modified Grassland

- 1.7.8 Approximately 37.92 ha (approximately 54.31 %) of existing modified grassland within the Solar PV Sites will be lost as a result of the Scheme, the majority of which is associated with whole fields of modified grassland where panels are proposed. Although modified grassland will be reinstated within the arrays following the completion of the construction phase, it is anticipated that there will be some ground disturbance within panel array areas (for example, to facilitate cable installation and through other construction related activities), and therefore grassland within these areas has been treated as 'lost' and then subsequently 'created' on a precautionary basis. Smaller sections of modified grassland will be lost to facilitate the creation of more ecologically valuable habitats, such as ONG, mixed scrub and other broadleaved woodland outside of the panel arrays, and ecological mitigation, including permanent set aside and associated field margins. A minimal amount of modified grassland habitat will be lost to facilitate the installation of hard-standing infrastructure within the Solar PV Sites, comprising developed land; sealed surface.

### Other Neutral Grassland

- 1.7.9 Where ONG exists at the margins of fields within proposed protective buffer areas, all existing habitat will be retained (where it is considered that the baseline condition is unlikely to be improved), or enhanced where practicable, with the exception of small areas required for construction of internal access tracks. Further ONG loss will occur in fields where panels are proposed, and re-seeded following construction.

## **Heathland and Shrub Habitats**

### Mixed Scrub

- 1.7.10 Existing areas of mixed scrub outside of the array fencing, for example where scrub is present around ponds or derelict buildings, have been largely retained and enhanced, where practicable.
- 1.7.11 Mixed scrub habitat will be lost to facilitate creation of other broadleaved woodland outside of the panelled areas, where the scrub is encroaching into grassland areas or where clearance is required to facilitate access during construction and operational management of the Scheme.

### **Lake Habitats**

#### Ponds – Priority Habitat

- 1.7.12 All ponds within the Solar PV Sites have been retained, and protective buffers of at least 10 m applied during the construction and operational phases. Although it is considered likely that the quality and ecological condition of existing ponds will be enhanced (through measures such as wide protective vegetated buffers and the cessation of agricultural run-off from pesticide and herbicide use, for example), all ponds have been retained in their original condition in the Metric, on a precautionary basis.

### **Woodland and Forest Habitats**

#### Other Woodland; Broadleaved

- 1.7.13 All established woodland within the Solar PV Sites will be retained with no change in condition. A minimum 15 m ecological buffer will be incorporated between the footprint of the solar array and woodland edges during the construction and operational phases.

### **Other Habitat Types**

- 1.7.14 Other habitats of relatively low ecological value (such as areas of ‘Sparsely vegetated land’ and ‘Urban’ habitats) will generally be lost as a result of the Scheme, although existing tracks will generally be retained and utilized to facilitate vehicular movements around the Solar PV Sites during construction and operation.

### **Individual Trees**

#### Rural Trees

- 1.7.15 The in-field, individual rural trees will be retained within the Scheme and retained in their baseline condition throughout construction and operation. Such trees act as islands or stepping-stones for wildlife, and these are also to be buffered from development according to their ecological value (between 8 m and 15 m) and Root Protection Zones (whichever is greater).

### Habitat Creation

- 1.7.16 Details of the objectives of habitat creation, as well as how created habitats will be managed throughout the operational phase of the Scheme, are provided within the **Volume 7: Outline Landscape and Ecological Management Plan (LEMP) [EN010168/APP/7.18]**.
- 1.7.17 It has been necessary to make assumptions about the condition and distinctiveness of created habitats to complete the Metric. Habitat creation in the Metric is based on a realistic and achievable scenario, and has been informed through a combination of professional judgement, as well as local habitat context and Clarkson & Woods' extensive experience in conducting ecological monitoring and habitat surveys of active solar farms across the UK (Ref 21).

### **Strategic Significance**

- 1.7.18 Elevated Strategic Significance scores have been applied to proposed habitats where these are in a location specified in the Draft LNRS Habitat Opportunity Areas for Mapped Habitat-Based Priorities, and of a habitat type considered relevant to that particular priority habitat. The relevant priority habitats are listed below, along with a summary of the created habitats that were considered relevant to each priority habitat, which were therefore considered to be eligible for a high Strategic Significance score.
- 1.7.19 Actions associated with creation and maintenance of habitats relevant to each priority habitat have been considered in the habitat management objectives and prescriptions provided in the **Volume 7: Outline Landscape and Ecological Management Plan (LEMP) [EN010168/APP/7.18]**.
- 1.7.20 Non-Mapped Habitat-Based Priorities within the Draft LNRS of relevance to the Solar PV Sites include nature friendly farming, ponds and hedgerows. However, Strategic Significance is heavily reliant on spatial data and the location of habitat creation and enhancement measures. Therefore, no Strategic Significance multipliers have not been applied to Non-Mapped Habitat Based Priorities within the Metric, unless where the habitat types are identified associated with relevant Draft LNRS Habitat Opportunity Areas and priority habitats (listed below).

### 3.2 - Neutral Grassland

- 1.7.21 The aim of the Draft LNRS with respect to neutral grassland is to '*create a high-quality network of better, bigger and more connected neutral grassland*'. The UKHab classifications associated with neutral grassland within the Draft LNRS, considered relevant to the Solar PV Sites, include:
- Ponds (40); and

- Native hedgerows (h2a).

1.7.22 Creation of ponds and native hedgerows proposed within areas which have been identified within the Draft LNRS mapping for neutral grassland habitats have been, or will be in the case of ponds, assigned elevated Strategic Significance; 'Formally identified in the local strategy'.

### 3.3 - Woodland

1.7.23 The aim of the Draft LNRS with respect to woodland is to '*improve woodland habitats by making them better, bigger and more connected*'. The UKHab classifications associated with woodland within the Draft LNRS, considered relevant to the Solar PV Sites, include:

- Ponds (40).

1.7.24 Pond creation proposed within areas which have been identified within the Draft LNRS mapping for woodland has been assigned elevated Strategic Significance.

1.7.25 Any ponds created within this area will be assigned Strategic Significance category 'Formally identified in the local strategy'.

### 3.5 – Open Mixed Habitats

1.7.26 The aim of the Draft LNRS with respect to open mixed habitats is to '*create mixed habitats in areas which are a priority for both open and wooded habitats*'. The UKHab classifications associated with open mixed habitats within the Draft LNRS, considered relevant to the Solar PV Sites, include:

- Ponds (40);
- Native hedgerows (h2a); and
- Mixed scrub (h3h).

1.7.27 Creation of ponds, native hedgerows and mixed scrub proposed within areas which have been identified within the Draft LNRS mapping for open mixed habitats have been, or will be in the case of ponds, assigned elevated Strategic Significance.

1.7.28 The Strategic Significance category 'Formally identified in the local strategy' was applied to approximately 0.22 ha of proposed mixed scrub at the Solar PV Sites.

### 3.6 – Rivers, Streams and Wetlands

1.7.29 The aim of the Draft LNRS with respect to rivers, streams and wetlands is to '*enhance the habitat of rivers, streams and wetlands via restoration of natural habitats and processes and by improving water quality*'. The

UKHab classifications associated with rivers, streams and wetlands within the Draft LNRS, considered relevant to the Solar PV Sites, include:

- Rivers (r2a)
- Ponds (40); and
- Native hedgerows (h2a).

- 1.7.30 Creation of ponds and native hedgerows proposed within areas which have been identified within the Draft LNRS mapping for rivers, streams and wetland habitats have been, or will be in the case of ponds, assigned elevated Strategic Significance; 'Formally identified in the local strategy'. Enhancement of existing rivers within the Solar PV Sites will also be attributed elevated Strategic Significance in these areas.

### **Cropland Habitats**

#### Non-Cereal Crops

- 1.7.31 Areas of cropland habitat will be created within the Scheme primarily to deliver mitigation habitat for a variety of ground-nesting birds such as skylark, as well as to provide ongoing suitable habitat for arable weed species. Approximately 61.4 ha of permanent set-aside habitat will be created across whole fields in Lime Down A and C. This has been categorized as non-cereal crops in the Metric. Although a permanent (for the duration of the Scheme) set-aside system does not fully fit the UKHab definition of 'C1d - Non-cereal crops', the other potentially suitable habitat types (including Sparsely Vegetated Land – Ruderal/Ephemeral) are more prescriptive in their habitat definitions, and would result in a higher Habitat Unit value for these areas. Using the precautionary principle, it was therefore considered that non-cereal crop would be the most appropriate category for these areas on a precautionary basis.

#### Arable Field Margins: Tussocky

- 1.7.32 Within fields where permanent set aside is proposed (classified as non-cereal crops), a buffer will be maintained from boundary hedgerows. Tussocky grassland will be created within these protective buffers and managed to maximise biodiversity value. Given that these buffers form the margins of arable habitat, subject to cultivation, the tussocky grassland to be created in these areas has been classified arable field margin habitat within the Metric.

### **Grassland Habitats**

- 1.7.33 Newly created grassland habitat types and conditions have been applied using the following criteria:

### Modified Grassland

- Areas of grassland within panel arrays, comprising areas both directly under panels and between panel rows, have been assigned as modified grassland in Poor condition, owing to the potential impact of shading from the panels and the generally lower species diversity observed within panel arrays during operational phase ecological monitoring of solar sites. Approximately 374.76 ha of modified grassland in Poor condition will be created through the Scheme; and
- Areas of grassland within the security fencing, but outside of the panelled areas themselves (i.e. in easements (e.g. for existing underground utilities) and margins between the fence line and the panels) have been assigned as modified grassland in Good condition. These areas will not be subject to shading impacts and will be more accessible for ongoing management activities such as overseeding and cutting but, as they are within the fence line, have the potential to be subject to restrictions on sward development due to cut and collect regimes limiting botanical diversity. Approximately 74 ha of modified grassland in Good condition will be created through the Scheme.

### Other Neutral Grassland

- Areas of grassland outside of security fencing where tussocky grassland margins, damp grassland, or grassland associated with riparian corridors are proposed (refer to the **Volume 7: Outline Landscape and Ecological Management Plan (LEMP) [EN010168/APP/7.18]** for further details) have been assigned as ONG in Moderate condition. Approximately 98.18 ha of ONG in Moderate condition will be created through the Scheme; and
- Areas of grassland outside of fencing which where wildflower meadow is proposed have been assigned as ONG in Good condition. These areas are generally entire fields which have been designated for ecological mitigation, although occasionally comprise narrower strips of wildflower meadow at the edges of panelled fields (outside of the security fencing), often providing connectivity between larger wildflower meadow areas. These areas will be managed to maximise their species diversity and ecological value over the operational phase. Approximately 75.07 ha of ONG in Good condition will be created through the Scheme.

## **Heathland and Shrub Habitats**

### Mixed Scrub

- 1.7.34 Approximately 4.43 ha of mixed scrub planting will be delivered, 0.22 ha of which is considered to be Strategically Significant. Mixed scrub habitat

is generally proposed at the edges of existing scrub or woodland areas to strengthen the boundary habitat and increase the extent of woody vegetation. Mixed scrub had also been proposed in areas where additional visual screening is required. All proposed mixed scrub creation will target a Moderate condition.

### **Lake Habitats**

#### Ponds – Priority Habitat

- 1.7.35 Although pond creation will be pursued through the Scheme (as set out in the **Volume 7: Outline Landscape and Ecological Management Plan (LEMP) [EN010168/APP/7.18]** and **ES Volume 3, Figure 3-4: Landscape and Ecology Mitigation Plan [EN010168/APAP/6.2]**, the precise locations of any newly created ponds have not currently been confirmed, and will likely be informed through soil percolation tests, and with the advice from a hydrologist, post-consent. Confirmed pond sizes and locations will be provided within the detailed LEMP, when this is produced. Given that the areas of newly created ponds have not been confirmed, no pond creation has been accounted for in the BNG Metric, on a precautionary basis.

### **Woodland and Forest Habitats**

#### Other Woodland; Broadleaved

- 1.7.36 Approximately 11.37 ha of new woodland will be created through the Scheme. New broadleaved woodland will generally be created to provide screening from sensitive visual receptors, although woodland planting has also been targeted in areas which would enhance the connectivity of existing woodland copses or directly increase the extent of existing woodlands. All woodland will comprise native broadleaved species (with a habitat category of other woodland; broadleaved) and will target Moderate condition.

### **Other Habitat Types**

- 1.7.37 The Scheme will result in the creation of areas of Urban habitats, including developed land; sealed surface (which primarily has been used in areas utilized for battery storage or for substations and other infrastructure within the Solar PV Sites) and artificial unvegetated; unsealed surface (which has been used for permanent internal access tracks between fields).

### **Rural Trees**

- 1.7.38 The creation of 659 rural trees has been accounted for in the Metric. These trees are outside of areas of hedgerow, scrub and woodland

planting, and instead represent areas designated as Proposed Riparian Corridor within **ES Volume 3, Figure 3-4: Landscape and Ecology Mitigation Plan [EN010168/APAP/6.2]**, where grassland habitats with scattered tree and shrub planting are proposed. Rural trees have therefore been used to represent the scattered tree planting, with groups of three or five trees every 30 m within these areas. All newly planted rural trees have been prescribed a Tree Size class of Small, with a target condition of Moderate.

### Habitat Enhancement

#### **Grassland Habitats**

- 1.7.39 Grassland has considered to be enhanced, rather than created, where the grassland type at baseline matches with the proposed type outlined in paragraph 1.7.33 above, and where these areas lie within protective ecological buffer zones or fields wholly designated for ecological mitigation, as it is considered that these areas will be adequately protected from damage and degradation during the construction phase.

#### Modified Grassland

- 1.7.40 Areas where modified grassland condition enhancement is proposed generally comprise field margins that occur inside the security fencing but outside of the panel footprint (2.93 ha in total). Modified grassland in these areas is proposed to be enhanced from Poor or Moderate condition to Good condition.
- 1.7.41 The majority of modified grassland enhancement will constitute a change in habitat type, to ONG of either Moderate or Good condition. This is largely restricted to field margins, outside of the security fencing, which will be managed to maximise their biodiversity benefit. A single field within Works No. 9 will be enhanced to ONG in Moderate condition, which has been designated as mitigation land for ground-nesting birds, such as skylark.
- 1.7.42 Overall, approximately 19.78 ha of modified grassland will be enhanced through the Scheme.

#### Other Neutral Grassland

- 1.7.43 Areas of enhanced ONG comprise areas of existing grassland that will be retained within the protective buffer areas at field margins, namely at Lime Down E. The proposed enhancement comprises sensitive management to increase species and structural diversity, to improve ONG condition from Poor at baseline to Moderate. Approximately 2.31 ha of ONG will be enhanced through the Scheme.

## **Heathland and Shrub Habitats**

### Mixed Scrub

- 1.7.44 A small quantum (0.03 ha) of mixed scrub habitat at the Solar PV Sites will be enhanced to Moderate condition, via management to improve structural variation in the existing habitat.

## 1.8 Proposed Hedgerows

### Hedgerow Loss and Retention

- 1.8.1 Hedgerow loss has been avoided wherever practicable through sensitive design of the Scheme. This includes the utilisation of existing access points, as well as the use of existing tracks to cross fields, in order to minimise hedgerow losses wherever this can be avoided.
- 1.8.2 Hedgerow losses are generally anticipated in the following areas:
- Where new access points from the adjacent highway are required, or where the widening of an existing access from the highway is required. All access points have been calculated to require hedgerow removal of between 0 m (where existing access can be used with no additional removal required) up to a maximum of 18 m (where abnormal load vehicle swept path analysis shows that a wider access is required). Vehicle swept path analysis and visibility splays were taken from detailed drawings of each access provided in **ES Volume 3, Appendix 13-1: Transport Assessment [EN010168/APP/6.3]**;
  - Where permanent internal access tracks will need to cross existing hedgerows. Hedgerow losses at each crossing point are between 3.5 m – 6 m in width; and
  - Where a section of existing hedgerow will need to be removed to facilitate cable installation, including along the entire Cable Route Corridor. Hedgerow losses in these areas have been assumed to be a maximum of 12 m in width (reduced to 10 m within Wiltshire Bat Impact Zones (Ref 22)), to facilitate the cable trench and an adjacent haul road for vehicular access. Hedgerow losses associated with cable installation will be reinstated following the completion of cable works, and therefore these sections have also been included in the Hedgerow Creation section.
- 1.8.3 Where temporary access tracks and routes are required during the construction phase (which do not follow the permanent internal access tracks on **ES Volume 2, Figure 3-4: Landscape and Ecology Mitigation Plan [EN010168/APAP/6.2]**), it has been assumed that these will utilise existing field gates and gaps in hedgerows, and therefore no hedgerow losses associated with these features have been accounted for in the Metric.

### **Solar PV Sites (including Works No. 9)**

- 1.8.4 In total, approximately 343 m of existing hedgerow is anticipated to be lost across the Solar PV Sites. All remaining hedgerows within the Solar PV Sites will either be retained or enhanced.

### **Cable Route Corridor (excluding Works No. 9)**

- 1.8.5 In total, approximately 1.406 km of existing hedgerow is anticipated to be lost throughout the Cable Route Corridor, as shown on the Hedgerow Removal Plan provided in Annex A of **DCO Volume 7, Outline Ecological Protection and Mitigation Strategy [EN010168/APP/7.19]**. All remaining hedgerows within the Cable Route Corridor will be retained.

### Hedgerow Creation

#### **Strategic Significance**

- 1.8.6 Where proposed hedgerow creation occurs within the Draft LNRS Habitat Opportunity Areas for Mapped Habitat-Based Priorities, set out in Paragraph 1.7.18, the Strategic Significance category of 'Formally identified within a local strategy' was applied. The base 'Area/compensation not in local strategy/no local strategy' Strategic Significance category was applied to the remaining newly created hedgerows at the Solar PV Sites.
- 1.8.7 Given that hedgerow creation within the Cable Route Corridor relates only to the reinstatement of existing hedgerow features, following their removal to permit cable installation works, it was considered appropriate and precautionary that no Strategic Significance multiplier be applied.

### **Solar PV Sites (including Works No. 9)**

#### Species-Rich Native Hedgerow with Trees

- 1.8.8 Newly created hedgerows will all target the hedgerow type 'Species-rich Native Hedgerow with Trees' in Good condition. Approximately 15.74 km of new species rich hedgerows with trees will be created through the Scheme, at the Solar PV Sites. Hedgerow creation will comprise a mix of entirely new hedgerows and secondary hedgerows which will be created adjacent to existing hedgerows, with a gap between the two to permit access for hedgerow maintenance. These secondary hedgerows will create 'green lane' features between the two hedgerows which will likely be of considerable ecological value.

#### Line of Trees

- 1.8.9 Lines of trees in Moderate condition will be created, largely for visual screening purposes. Approximately 9.43 km of new lines of trees will be created through the Scheme.

### **Cable Route Corridor (excluding Works No. 9)**

- 1.8.10 Any hedgerow losses associated with cable installation will be reinstated following the completion of cable works, and therefore these sections

have been included in the Hedgerow Creation tab as the same hedgerow type and condition as that present at baseline.

- 1.8.11 A small quantum (54 m) of hedgerow losses will not be reinstated, to allow for permanent access gaps for maintenance during operation.

### Hedgerow Enhancement

- 1.8.12 Any existing hedgerows in Poor condition were marked for enhancement to Moderate condition in the Metric, and any existing hedgerows in Moderate condition are proposed to be enhanced to Good condition.

- 1.8.13 Elevation in condition by one condition score level will be achieved through the implementation of sensitive management measures secured by **Volume 7, Outline Landscape and Ecological Management Plan [EN010168/APP/7.18]**, which will ensure that all hedgerows at the Solar PV Sites are managed to maximise their value for biodiversity for the lifetime of the Scheme. General enhancement will take place across the Solar PV Sites to plant up gaps in existing hedgerows, and to manage them to a greater height and width. In addition, the implementation of protective ecological buffers of 15 m from all existing hedgerows (within which other ecologically valuable margin habitats will be created) and cessation of widespread fertiliser application will also enhance the value of the existing hedgerows.

### **Supplementary Tree planting**

- 1.8.14 As shown in **ES Volume 2, Figure 3-4: Landscape and Ecology Mitigation Plan [EN010168/APP/6.2]** proposals include the enhancement of approximately 13.65 km of existing hedgerows through the addition of tree planting. Whilst this measure will predominately be implemented to increase the screening value of particular hedgerows, the addition of trees along the length of a hedgerow will result in a change to the Hedgerow Type, i.e. from a 'Native Hedgerow' to a 'Native Hedgerow with Trees'. No changes to the species richness category of affected hedgerows have been made, and therefore this is consistent with their species richness at baseline.

## 1.9 Proposed Watercourses

### Strategic Significance

- 1.9.1 Enhancement of existing watercourses within the Solar PV Sites (including Works No. 9) will be attributed elevated Strategic Significance in targeted areas for rivers, streams and wetlands as mapped within the draft LNRS. This applies to approximately 2.27km of watercourse in total, comprising Gauze Brook (DW1 to DW4 – **Table 1** refers), a tributary of Gauze Brook in Lime Down D (DW5), and an unnamed tributary of the River Avon at Lime Down C (CW1 and CW2). The Strategic Significance category 'Formally identified in the local strategy' was applied to these areas in the post-development Metric tab.
- 1.9.2 The 'Area/compensation not in local strategy/no local strategy' Strategic Significance category applied to all other watercourses at baseline remains unchanged in the post-development assessment.

### Irreplaceable Habitats

- 1.9.3 No watercourse habitats are attributed Irreplaceable Habitat status under the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024.

### Watercourse Loss/Retention

- 1.9.4 No watercourses will be lost as a result of the Scheme, although new culverts will occasionally be installed where these are required at ditches. New culverts have been accounted for where permanent internal access tracks cross watercourses where an existing access/culvert was not present (as displayed on **ES Volume 2, Figure 2: Landscape and Ecological Mitigation Plan [EN010168/APP/6.2]**). As access tracks were designed to utilise existing field and ditch crossings wherever practicable, new culverting has only been proposed at eight locations, all within Ditch habitat.
- 1.9.5 It should be noted that the Scheme retains the option to install culverts where required, however any temporary access tracks required during the construction of the Scheme will be designed to utilise existing access points and field entrances wherever possible, and therefore the requirement for new culverts to be constructed is likely to be minimal. As a result, no new culverts associated with temporary construction access tracks have been accounted for within this BNG assessment.

### Watercourse Creation

- 1.9.6 No watercourse creation (other than the culvert creation discussed above in Paragraph 1.9.4) has been proposed through the Scheme design.

### Watercourse Enhancement

- 1.9.7 The streams and ditches within the Solar PV Sites (including Works No. 9) are expected to be enhanced in condition during the operational phase of the Scheme, principally through the reversion of largely arable land to permanent grassland, likely resulting in reduced sediment run-off, as well as the cessation of application of fertilisers and pesticides. However no enhancements via an upgrading the condition of existing watercourses have been accounted for in the metric, on a precautionary basis. However, enhancements to watercourses through reducing riparian zone encroachment have been accounted for.
- 1.9.8 The Scheme will result in the cessation of arable farming across the land within the Solar PV Sites. In addition to this, wide buffers will be implemented around watercourses and their associated habitats. These buffer zones will be maintained for the lifetime of the Scheme, within which no development or damaging management activities will occur. The buffer zones designed into the Scheme are as follows:
- 8 m minimum from ditches;
  - 10 m minimum from ditches with signs of otter or water vole, and ponds where GCN are absent;
  - 15 m minimum from all woodland, hedgerows, lines of trees hedgerows and streams; and
  - 50 m from ponds with confirmed evidence of GCN, or where the presence of great crested newts has been assumed due to inconclusive results
- 1.9.9 Given the implementation of the above buffer zones, it is considered that any existing encroachment into the riparian zones of ditches and watercourses (defined as comprising land within 8 m and 10 m from the bank tops respectively) will be eliminated within the Sites, and the watercourses will be enhanced as a result. Therefore, all watercourses within the Watercourse Enhancement tab of the Metric have been enhanced through the 'No Encroachment/No Encroachment' category being applied.
- 1.9.10 Where watercourses lie on the boundaries of a Site, it is not possible to control encroachment into the riparian zone on the side of the watercourse which is outside of the Order Limits. In these cases, the riparian zone encroachment value for the bank which is within the Order Limits was set to 'No Encroachment', and the existing level of riparian encroachment on the off-site side of the watercourse was left unchanged from the baseline value.

## 1.10 BNG Good Practice Principles for Development

1.10.1 **Table 5** below provides full justification of how each of the 10 BNG Principles (Ref 1) have been applied as part of the BNG assessment.

**Table 5: BNG Good Practice Principles and Justification**

BNG Principle	Justifications
Principle 1. Apply the Mitigation Hierarchy	<p>In the first instance, areas of elevated biodiversity importance have been identified through detailed baseline surveys. Two Local Wildlife Sites, designated for lowland meadow habitats, were identified within the Solar PV Sites following the initial surveys. These areas were consequently removed from the Scheme Boundary due to the ecological importance of the habitats present, and are no longer present within the Order Limits in order to avoid direct impacts to priority habitat.</p> <p>Further areas of elevated biodiversity importance have been retained within the Scheme design, where practicable, following discussion with the design team. The Scheme design has evolved over time and the various design iterations reflect this process of avoiding impacts.</p> <p>Where areas of habitat loss are unavoidable, measures to minimise biodiversity loss and mitigate impacts have been designed into the Scheme, such as utilising existing access points, and the implementation of protective buffers, fencing and ecological watching briefs.</p> <p>Finally, new habitat creation and/or enhancement of existing habitats have been proposed to compensate for unavoidable losses.</p> <p>Sources of impacts, and avoidance, mitigation and compensation measures, are discussed in <b>Volume 7: Outline Landscape and Ecological Management Plan (LEMP) [EN010168/APP/7.18]</b>.</p> <p>Measures to avoid and minimise biodiversity impacts are defined and documented within the <b>Outline Ecological Protection and Mitigation Strategy [EN010168/APP/7.19]</b>.</p> <p>Measures to restore and enhance existing habitats; create new habitats of biodiversity value; and manage all habitats within the Scheme for the duration of the Scheme, are defined and documented within the <b>Volume 7: Outline Landscape and Ecological Management Plan (LEMP) [EN010168/APP/7.18]</b> and <b>ES Volume 2, Figure 3-4: Landscape and Ecology Mitigation Plan [EN010168/APP/6.2]</b></p>
Principle 2. Avoid losing biodiversity that cannot be offset by gains elsewhere	<p>No irreplaceable habitats are anticipated to be impacted by the Scheme. The only irreplaceable habitats within the Order Limits are ancient and veteran trees, all of which are retained.</p>
Principle 3. Be inclusive and equitable	<p>Consultation has been undertaken with relevant stakeholders throughout the DCO process, at the scoping and statutory consultation stages. Stakeholders have included Natural England, Local Planning Authorities, the Environment Agency and Butterfly Conservation. Items of discussion and how these have been addressed are documented in <b>Table 2</b> of the <b>ES Volume 1, Chapter 9: Ecology and Biodiversity [EN010168/APP/6.1]</b></p> <p>This includes discussion over BNG directly (including targeting 10% Net Gain despite there being no statutory obligation for NSIPs) as well as opportunities to enhance the local landscape in alignment with local policy and local needs.</p>

BNG Principle	Justifications
Principle 4. Address risks	<p>Habitat retention has been considered carefully, acknowledging risks of damage during construction and habitat removal for access. Wide buffers have been designed into the Scheme, and the precautionary principle has been applied when selecting targeted post-development habitat types.</p> <p>The assessment of Biodiversity Net Gain has been made based on detailed landscape proposals, which have been formulated through consideration of locally appropriate species mixes with resilience to future pressures, such as climate change.</p> <p>It is acknowledged that there are logistical uncertainties over the supply of seed mixes and planting stock at the time of construction, particularly given the uncertainty around seed supply which can vary year on year depending on climate and the requirements of other large-scale projects. Therefore, flexibility has been built into the <b>Volume 7: Outline Landscape and Ecological Management Plan [EN010168/APP/7.18]</b> to select an appropriate seed mix, rather than stipulate a specific supplier.</p> <p>Target habitat condition has been chosen conservatively, based on Clarkson &amp; Woods' extensive experience in conducting ecological monitoring and habitat surveys of active solar farms across the UK (Ref 21). This has included a differentiation between the target condition of grassland within the array footprint and in open areas of habitat.</p> <p>The <b>Volume 7: Outline Landscape and Ecological Management Plan [EN010168/APP/7.18]</b> sets out a programme of regular monitoring for the lifetime of the Scheme to ensure that habitat creation and management objectives are met. The detailed LEMP (post-consent) will specify the roles and responsibilities of key personnel who will be appointed to deliver the measures of the LEMP throughout the duration of the Scheme.</p> <p>The <b>Volume 7: Outline Landscape and Ecological Management Plan [EN010168/APP/7.18]</b> also allows for the amendment and variation of management objectives and practices to best suit the conditions within the Solar PV Sites, responding dynamically and proactively to specific practicalities and challenges which may arise over the life of the Scheme, and the findings of ecological monitoring.</p>
Principle 5. Make a measurable Net Gain	<p>The Statutory Metric has been utilised to quantify all habitat values both at baseline and post-development within the Solar PV Sites, with at least 10% net gain demonstrated for each unit type (HU, HeU and WU).</p>
Principle 6. Achieve the best outcomes for biodiversity	<p>The BNG design has considered all Site survey data regarding the presence of particular species and habitats, to ensure that habitat provisions are locally appropriate and align with broader mitigation requirements.</p> <p>Additionally, desk study data have been examined to ensure that habitat creation and enhancement considers local conservation priorities (species and habitats), the presence of protected or notable species within the local landscape, and the Wiltshire and Swindon Draft LNRS.</p> <p>The presence of locally and nationally designated sites for nature conservation in the local landscape has also been considered, along with opportunities to enhance connectivity in the areas surrounding these features.</p> <p>The design enhances connectivity across the Site and with the wider landscape through strengthening existing hedgerows and creating new hedgerows and areas of woodland, scrub and grassland. Extensive grassland creation will establish a large swathe of contiguous habitat. Details are provided within <b>Volume 7: Outline Landscape and Ecological Management Plan (Outline LEMP) [EN010168/APP/7.18]</b>.</p> <p>All net gain is proposed to be delivered on-site, with no offsite provision needed to achieve a 10% net gain.</p>

BNG Principle	Justifications
	<p>In particular, as set out in <b>ES Volume 1, Chapter 9: Ecology and Biodiversity [EN010168/APP/6.1]</b> the Scheme design will lead to beneficial effects on the following habitats and species:</p> <ul style="list-style-type: none"> <li>Other neutral grassland</li> <li>Woodland</li> <li>Ponds</li> <li>Hedgerows and lines of trees</li> <li>Ditches and Watercourses</li> <li>Badgers</li> <li>Bats</li> <li>Dormice</li> <li>Brown hare</li> <li>Harvest mouse, hedgehog and polecat</li> <li>Amphibians (including great crested newts)</li> <li>Reptiles</li> <li>Breeding birds</li> <li>Overwintering birds</li> <li>Terrestrial Invertebrates</li> </ul>
Principle 7. Be additional	<p>The proposed conservation gains will be caused by the Scheme activities and would not have occurred in other circumstances.</p> <p>The reversion from intensive agriculture to low (or no) input (fertiliser and soil improvers) grassland alone would be expected to provide a modest net gain in plant and invertebrate species diversity over time.</p> <p>The establishment of meadows within a predominately arable landscape will drive a diversification of local habitats toward that of historical land use patterns where agriculture in the region was characterised by a mix of arable and pasture farming, which supported a greater abundance of wildlife.</p>
Principle 8. Create a Net Gain legacy	<p>Stakeholders have been engaged from an early stage of the Scheme to deliver habitat creation which aligns with local priorities and needs.</p> <p>Delivery of BNG will be funded directly by the Scheme. The Scheme's lifetime of 60 years exceeds the minimum commitment of 30 years for BNG delivery.</p> <p>The measures in <b>Volume 7: Outline Landscape and Ecological Management Plan (LEMP) [EN010168/APP/7.18]</b> are not rigidly set for the 60-year lifetime of the Scheme, but rather can be modified as necessary to respond and adapt to changing conditions and issues which may arise. A specified regime of monitoring will inform the need for changes to management.</p> <p>The Scheme design has taken into account climate change resilience through planting of species which will withstand projected climatic conditions. Consideration of disease threats, such as ash dieback, has also fed into the planting selection.</p> <p>Risks posed by other developments have been considered as part of a cumulative assessment.</p> <p>Minimum professional and technical requirements for those responsible for the delivery of the LEMP and BNG-related habitat management will be specified in the detailed LEMP.</p> <p>Site management may utilise local contractors and graziers, where viable.</p>

BNG Principle	Justifications
Principle 9. Optimise sustainability	<p>The design prioritises delivery of BNG, but other wider benefits will be delivered. New permissive paths will be provided for local amenity, and the Scheme is expected to give rise to flood attenuation benefits. Delivery of renewable energy aligns with a more sustainable future through reduced atmospheric pollution from fossil fuels.</p> <p>Local contractors and materials will be used as much as possible.</p>
Principle 10. Be transparent	<p>The commitment to BNG is stated by the Applicant in this report and in <b>ES Volume 1, Chapter 9: Ecology and Biodiversity [EN010168/APP/6.1]</b> Any changes to this commitment during examination of the DCO will be clearly defined in revised documents.</p> <p><b>Volume 7: Outline Landscape and Ecological Management Plan (LEMP) [EN010168/APP/7.18]</b> specifies monitoring, the methodology for which follows published guidance (Ref 23), which has been designed to be part of a wider scientific study looking at environmental and ecological interactions on solar farms. The best practice guidance was prepared by ecologists, academics and those in the industry. The data collected during monitoring will be submitted as part of this study.</p> <p>Part of the detailed LEMP's monitoring and reporting commitment will include the submission of findings to the Local Environmental Records Centres.</p>

### 1.11 BNG Metric

1.11.1 The information provided in the Metric are directly related to the Habitat Baseline Plans (**Plates 3 – 7**) and the Proposed Habitats Plans (**Plates 8 – 12**).

#### Headline Results

#### **Solar PV Sites (including Works No. 9)**

1.11.2 Considering the Solar PV Sites alone, the Scheme will result in a significant net gain of biodiversity units, including HU, HeU and WU, as shown in the headline results below.

#### **Plate 1: Headline Results (taken from Statutory Biodiversity Metric) – Solar PV Sites (including Works No. 9) only**

FINAL RESULTS		
<b>Total net unit change</b> <small>(Including all on-site &amp; off-site habitat retention, creation &amp; enhancement)</small>	<i>Area habitat units</i>	1094.89
	<i>Hedgerow units</i>	203.85
	<i>Watercourse units</i>	22.08
<b>Total net % change</b> <small>(Including all on-site &amp; off-site habitat retention, creation &amp; enhancement)</small>	<i>Area habitat units</i>	63.80%
	<i>Hedgerow units</i>	19.35%
	<i>Watercourse units</i>	25.30%
<b>Trading rules satisfied?</b>	<b>No - Check Trading Summaries ▲</b>	

1.11.3 At the Solar PV Sites, the Scheme will result in a total net change of 1,094.89 HU, representing an increase of 63.80 %. The majority of HU will be delivered by the creation of ONG within the Solar PV Sites, which will be managed to maximise biodiversity value.

1.11.4 At the Solar PV Sites, the Scheme will result in a total net change of 203.85 HeU, representing an increase of 19.35 %. The net gain in HeU will be provided as a result of hedgerow creation and enhancement of existing hedgerows.

1.11.5 At the Solar PV Sites, the Scheme will result in a total net change of 22.08 WU, representing an increase of 25.30 %. This net gain will solely be delivered by the watercourse enhancement measures principally through a reduction in riparian encroachment.

## The Scheme

- 1.11.6 The overall net gain in biodiversity units for the Scheme as a whole, including both the Solar PV Sites and Cable Route Corridor are also presented in **Plate 2** below.

### Plate 2: Headline Results (taken from Statutory Biodiversity Metric) – The Scheme

FINAL RESULTS		
<b>Total net unit change</b> <small>(Including all on-site &amp; off-site habitat retention, creation &amp; enhancement)</small>	<i>Area habitat units</i>	1093.78
	<i>Hedgerow units</i>	198.38
	<i>Watercourse units</i>	22.08
<b>Total net % change</b> <small>(Including all on-site &amp; off-site habitat retention, creation &amp; enhancement)</small>	<i>Area habitat units</i>	36.10%
	<i>Hedgerow units</i>	12.74%
	<i>Watercourse units</i>	19.89%
<b>Trading rules satisfied?</b>	<b>No - Check Trading Summaries ▲</b>	

- 1.11.7 The Scheme will result in a total net change of 1,093.93 HU, representing an increase of 36.10 %. The majority of HU will be delivered by the creation of ONG within the Solar PV Sites, which will be managed to maximise biodiversity value.
- 1.11.8 The Scheme will result in a total net change of 198.38 HeU, representing an increase of 12.74 %. The net gain in HeU will be provided as a result of hedgerow creation and enhancement of existing hedgerows.
- 1.11.9 The Scheme will result in a total net change of 22.08 WU, representing an increase of 19.89 %. This net gain will solely be delivered by the watercourse enhancement measures principally through a reduction in riparian encroachment.

### Trading Rules

The trading summary ensures that all changes in habitat type abide by trading rules set out within the Metric, described in

- 1.11.10 **Table 6** below. The trading rules within the metric are a set of rules that try to prevent the 'trading down' of habitat distinctiveness. Under the trading rules, losses of habitat are to be compensated for on a "like for like" or "like for better" basis.

**Table 6: Statutory Biodiversity Metric Trading Rules**

Distinctiveness Group	Trading Rule
Very High	Bespoke compensation likely to be required
High	Same habitat required
Medium	Same broad habitat type or a higher distinctiveness required ( $\geq$ )
Low	Same distinctiveness or better habitat required ( $\geq$ )

- 1.11.11 The trading rules have been satisfied for all Very High, High and Low distinctiveness habitats, but the trading rules have not been satisfied for all Medium distinctiveness habitats. The failure is due to the loss of 'Cropland - Arable Field Margins: Tussocky', 'Cropland - Arable Field Margins: Game Bird Mix' and 'Cropland – Arable Field Margins: Pollen and Nectar', with a cumulative deficit in HU within the 'Cropland' habitat type.
- 1.11.12 Medium distinctiveness habitat types require replacement by a habitat of equivalent distinctiveness within the broad habitat type (i.e. 'Cropland') or replacement with a habitat of higher distinctiveness.
- 1.11.13 As almost all existing 'Cropland' habitats will be removed from the Solar PV Sites and replaced with permanent grassland habitats, it is not possible to replace the 'Cropland' with a habitat of equivalent distinctiveness from the same broad habitat type. Furthermore, no creation of additional high or very high distinctiveness habitat is proposed within the Solar PV Sites.
- 1.11.14 It should be noted that the arable field margins will, in effect, not be directly lost. Any field margins within 15 m of a hedgerow will, wherever possible, be protected from damage during construction and the proposal is to over-sow these habitats with a suitable seed mix to enhance their biodiversity. The habitat will therefore in practice be retained and enhanced. However, in the absence of an adjacent arable crop these areas cease to fit the habitat descriptions of arable field margins. Furthermore, it is not possible to enhance the condition of arable field margins in the Metric. Therefore, arable field margins within the Solar PV Sites are described as being lost and subsequently recreated as other habitats, such as ONG, or retained where appropriate.
- 1.11.15 The permanent grassland habitats provided, particularly areas of ONG, will also create opportunities for similar species as arable field margins, such as for pollinators, birds, mammals, reptiles and amphibians, whilst

suitable habitat for arable weed species present within the arable field margins will be provided in the fields of permanent set-aside.

- 1.11.16 In these instances, it is therefore considered that whilst the Metric reports a failure of the trading rules for 'Cropland' habitats, the proposed habitat creation on-Site will actually result in the real-world provision of equivalent habitats for this habitat type, and therefore, taking into account professional judgement, the BNG assessment is considered to be fully compliant with all trading rules.

## 1.12 References

- Ref 1 Biodiversity Net Gain: Good Practice Principles for Development (CIEEM, CIRA, IEMA 2016). Available at: <https://cieem.net/wp-content/uploads/2019/02/Biodiversity-Net-Gain-Principles.pdf> [Accessed 04 September 2025]
- Ref 2 Environment Act 2021, c. 30. Available at: <https://www.legislation.gov.uk/ukpga/2021/30/contents> [Accessed 04 September 2025]
- Ref 3 Department for Energy Security & Net Zero (January 2024) Overarching National Policy Statement for Energy (EN-1). Available at: [https://assets.publishing.service.gov.uk/media/65bbfbd709fe1000f637052/over\\_arching-nps-for-energy-en1.pdf](https://assets.publishing.service.gov.uk/media/65bbfbd709fe1000f637052/over_arching-nps-for-energy-en1.pdf) [Accessed 04 September 2025]
- Ref 4 Department for Energy Security & Net Zero (January 2024) National Policy Statement for Renewable Energy Infrastructure (EN-3). Available at: [https://assets.publishing.service.gov.uk/media/65a7889996a5ec000d731aba/np\\_s-renewable-energy-infrastructure-en3.pdf](https://assets.publishing.service.gov.uk/media/65a7889996a5ec000d731aba/np_s-renewable-energy-infrastructure-en3.pdf) [Accessed 04 September 2025]
- Ref 5 Department for Energy Security & Net Zero (January 2024) National Policy Statement for Electricity Networks Infrastructure (EN-5). Available at: <https://assets.publishing.service.gov.uk/media/65a78a5496a5ec000d731abb/nps-electricity-networks-infrastructure-en5.pdf> [Accessed 04 September 2025]
- Ref 6 National Planning Policy Framework (2012) Section 15: Conserving and enhancing the natural environment. Available at: <https://www.gov.uk/guidance/national-planning-policy-framework/15-conserving-and-enhancing-the-natural-environment> [Accessed 04 September 2025]
- Ref 7 The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024. Available at: <https://www.legislation.gov.uk/uksi/2024/48/contents/made> [Accessed 04 September 2025]
- Ref 8 Wiltshire Council (Adopted January 2015) Wiltshire Core Strategy.
- Ref 9 Wiltshire Council (July 2023) Wiltshire Council Local Plan – Pre-Submission Draft 2020-2038.
- Ref 10 Wiltshire Council, New Forest National Park, and Swindon Borough Council (March 2025) Local Nature Recovery Strategy for Wiltshire and Swindon – Public Consultation Draft March 2025. Available at:

- [https://www.wiltshire.gov.uk/media/15315/LNRS-Consultation-doc/pdf/LNRS\\_Glossy\\_Doc\\_V5.pdf?m=1741097351523](https://www.wiltshire.gov.uk/media/15315/LNRS-Consultation-doc/pdf/LNRS_Glossy_Doc_V5.pdf?m=1741097351523) [Accessed 04 September 2025]
- Ref 11 Wiltshire Biodiversity Partnership (2008) Wiltshire Biodiversity Action Plan.
- Ref 12 Wiltshire Wildlife Trust (July 2013) Wiltshire's Landscape Biodiversity Areas 2012.
- Ref 13 Wiltshire Council (February 2022) A Green & Blue Infrastructure Strategy for Wiltshire: Wiltshire's Natural Environment Plan 2022-2030.
- Ref 14 Biodiversity Net Gain Report & Audit Templates (Version 1). CIEEM. July 2021. Available at: [Biodiversity Net Gain Report and Audit Templates | CIEEM](#) [Accessed 04 September 2025]
- Ref 15 British Standard BS 8683:2021. Process for designing and implementing Biodiversity Net Gain. Specification (31/08/2021).
- Ref 16 Natural England Joint Publication JP039 (November 2023) The Statutory Biodiversity Metric and Small Sites Metric: QGIS template and GIS import tool - User Guide
- Ref 17 Gurnell et al. (2022) A GUIDE TO ASSESSING RIVER CONDITION: Part of the Rivers and Streams Component of the Biodiversity Net Gain Metric. Available at: <https://modularriversurvey.org/wp-content/uploads/A-GUIDE-TO-ASSESSING-RIVER-CONDITION-Nov22.pdf> [Accessed 04 September 2025]
- Ref 18 The Statutory Biodiversity Metric User Guide First published: February 2024. Last updated: July 2024. (DEFRA) [Available at: https://assets.publishing.service.gov.uk/media/6866779ee134dfbc2e9e6d39/The\\_Statutory\\_Biodiversity\\_Metric\\_-\\_User\\_Guide\\_-\\_July\\_2025.pdf](#) [Accessed 04 September 2025]
- Ref 19 Available at: <https://naturalengland-defra.opendata.arcgis.com/maps/7d16507932cd436d824a1262e7c29594/about> [Accessed 04 September 2025]
- Ref 20 Available at: <https://naturalengland-defra.opendata.arcgis.com/maps/priority-river-habitat-rivers-england> [Accessed 04 September 2025]
- Ref 21 Solar Energy UK (2023). Solar Habitat: Ecological trends on solar farms in the UK. Available at: <https://solarenergyuk.org/resource/solar-habitat-2024-ecological-trends-on-solar-farms-in-the-uk/> [Accessed 04 September 2025]

- Ref 22 Natural England and Wiltshire Council (September 2015) Bat Special Areas of Conservation (SAC) – Planning Guidance for Wiltshire.
- Ref 23 Available at: <https://solarenergyuk.org/resource/solar-energy-uk-guidance-a-standarised-approach-to-monitoring-biodiversity/> [Accessed 04 September 2025]
- Ref 24 Natural England (2010) Higher Level Stewardship – Farm Environment Plan (FEP) Manual 3rd Edition.



Small timothy	<i>Phleum bertolonii</i>		2		4	
Sweet vernal grass	<i>Anthoxanthum odoratum</i>		10	10	10	10
Yorkshire fog	<i>Holcus lanatus</i>	20	15	20	30	10
Species Indicative of Sub-optimal Condition						
Creeping buttercup	<i>Ranunculus repens</i>	10	5	5	5	4
White clover	<i>Trifolium repens</i>	10				
<b>Total No. of Species</b>		10	10	6	11	12
<b>Total No. of Species <i>Excluding</i> Species Indicative of Sub-optimal Condition</b>		8	9	5	10	11
<b>Average No. of Species per m<sup>2</sup> <i>Excluding</i> Species Indicative of Sub-optimal Condition</b>		<b>8.6</b>				





<b>Total No. of Species <i>Excluding</i> Species Indicative of Sub-optimal Condition</b>	4	4	9	9	4	7	6	9	9	4	11	11	12	8	14	12	9	9	10	8
<b>Average No. of Species per m<sup>2</sup> <i>Excluding</i> Species Indicative of Sub-optimal Condition</b>	<b>6.78</b>										<b>10.40</b>									







<b>Average No. of Species per m<sup>2</sup> Excluding Species Indicative of Sub-optimal Condition</b>	<b>8.4</b>	<b>7.4</b>	<b>11.2</b>	<b>7.4</b>
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**Table A5: Botanical Quadrat Data for ‘Medium, High and Very High Distinctiveness’ Grassland Types – Cable Route Corridor**

Field Number		CRF114					CRF110 (Northern Margin)				
Common Name	Latin Name	Q1	Q2	Q3	Q4	Q5	Q1	Q2	Q3	Q4	Q5
		Percentage Cover									
Blackthorn	<i>Prunus spinosa</i>						10	10		10	5
Chickweed	<i>Stellaria media</i>					20					
Cock's foot	<i>Dactylis glomerata</i>	10		15	10	5	20	20	20	10	15
Common couch	<i>Elytrigia repens</i>						5				
Common soft brome	<i>Bromus hordeaceus subsp. hordeaceus</i>		5								
Common vetch	<i>Vicia sativa</i>	15					2	2	10	10	10
Creeping cinquefoil	<i>Potentilla reptans</i>						2				
Crested dogs tail	<i>Cynosurus cristatus</i>	5									
Cut-leaved cranesbill	<i>Geranium dissectum</i>	5			2	2					
Dandelion	<i>Taraxacum agg.</i>				20	15					

False oat grass	<i>Arrhenatherum elatius</i>	25	50	25	10	15	10	15	15	20	20
Field bindweed	<i>Convolvulus arvensis</i>				15	20	2		2		2
<b>Goats beard</b>	<b><i>Tragopogon pratensis</i></b>					<b>10</b>					
Hedge woundwort	<i>Stachys sylvatica</i>										1
Hogweed	<i>Heracleum sphondylium</i>	10	10	2	10	35		2	5	2	5
Meadow barley	<i>Hordeum secalinum</i>		10								
<b>Meadow buttercup</b>	<b><i>Ranunculus acris</i></b>			<b>25</b>		<b>1</b>					
Meadow cranesbill	<i>Geranium pratense</i>						10	10	15	15	15
Meadow foxtail	<i>Alopecurus pratensis</i>					5	5	10			
<b>Meadow vetchling</b>	<b><i>Lathyrus pratensis</i></b>						<b>2</b>				
Perennial rye grass	<i>Lolium perenne</i>		10	40	55						
<b>Red clover</b>	<b><i>Trifolium pratense</i></b>			<b>2</b>			<b>2</b>	<b>5</b>		<b>10</b>	
<b>Ribwort plantain</b>	<b><i>Plantago lanceolata</i></b>						<b>5</b>	<b>5</b>	<b>5</b>		<b>5</b>

Rough meadow grass	<i>Poa trivialis</i>		15		15		20	15	15	15	15
Soft brome	<i>Bromus hordeaceus</i>			10	10	5					
Sweet vernal grass	<i>Anthoxanthum odoratum</i>	25									
Yorkshire fog	<i>Holcus lanatus</i>	60	45	50	40	35					
Species Indicative of Sub-Optimal Condition											
Creeping buttercup	<i>Ranunculus repens</i>			1							
White clover	<i>Trifolium repens</i>	1									
<b>Total No. of Species</b>		9	7	9	10	12	13	10	8	8	10
<b>Total No. of Species Excluding Species Indicative of Sub-optimal Condition</b>		8	7	8	10	12	13	10	8	8	10
<b>Average No. of Species per m<sup>2</sup> Excluding Species Indicative of Sub-optimal Condition</b>		9					9.8				



<b>Average No. of Species per m<sup>2</sup> <i>Excluding</i> Species Indicative of Sub-optimal Condition</b>	<b>3</b>	<b>4</b>
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White clover	<i>Trifolium repens</i>																10	10							
<b>Total No. of Species</b>		8	8	8	7	8	5	4	6	5	6	4	4	3	3	4	4	4	4	4	4	7	8	6	
<b>Total No. of Species <i>Excluding</i> Species Indicative of Sub-optimal Condition</b>		8	7	7	6	7	2	3	4	3	4	3	2	2	3	3	4	2	2	2	3	3	4	5	4
<b>Average No. of Species per m<sup>2</sup> <i>Excluding</i> Species Indicative of Sub-optimal Condition</b>		7					3.2					2.33			3.33			2			3.8				









<b>Total No. of Species <i>Excluding</i> Species Indicative of Sub-optimal Condition</b>	7	7	5	5	5	5	4	5	5	6	4	6	5	5	6	4	6	4	4	4	5	4	6	4	4
<b>Average No. of Species per m<sup>2</sup> <i>Excluding</i> Species Indicative of Sub-optimal Condition</b>	<b>5.8</b>					<b>5</b>					<b>5.2</b>					<b>4.4</b>					<b>4.6</b>				





































Total No. of Species	8	10	8	8	10	6	7	4	7	6	6	6	8	7	7	6	7	7	7	8
Total No. of Species <i>Excluding</i> Species Indicative of Sub-optimal Condition	6	9	7	5	7	5	6	4	6	5	6	6	7	7	7	5	6	6	6	7
Average No. of Species per m <sup>2</sup> <i>Excluding</i> Species Indicative of Sub-optimal Condition	6.8					5.2					6.6					6				





<b>Indicative of Sub-optimal Condition</b>					
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Plate 5: Biodiversity Net Gain Baseline (Lime Down C including additional land within Works No. 9);

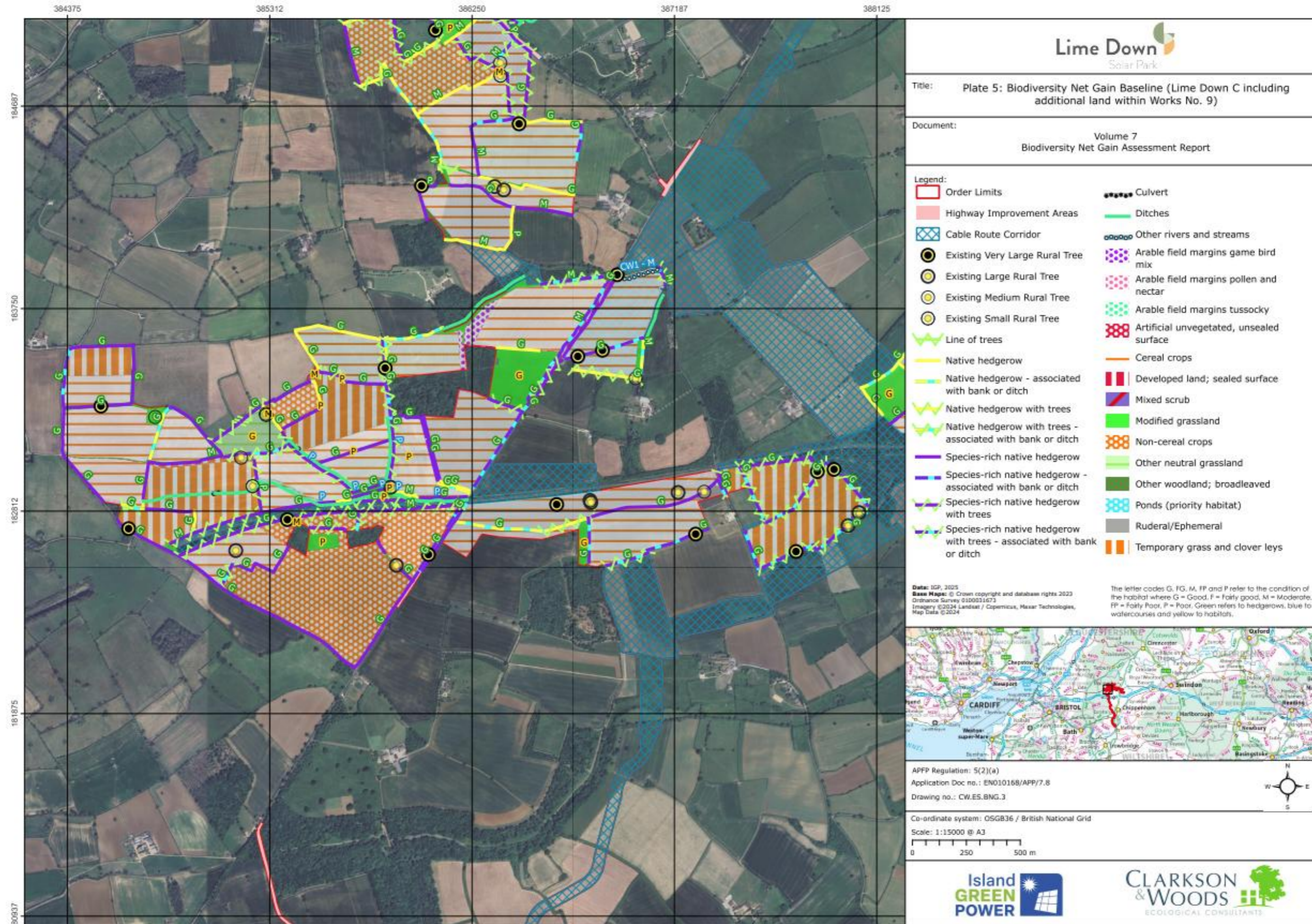


Plate 6: Biodiversity Net Gain Baseline (Lime Down D)

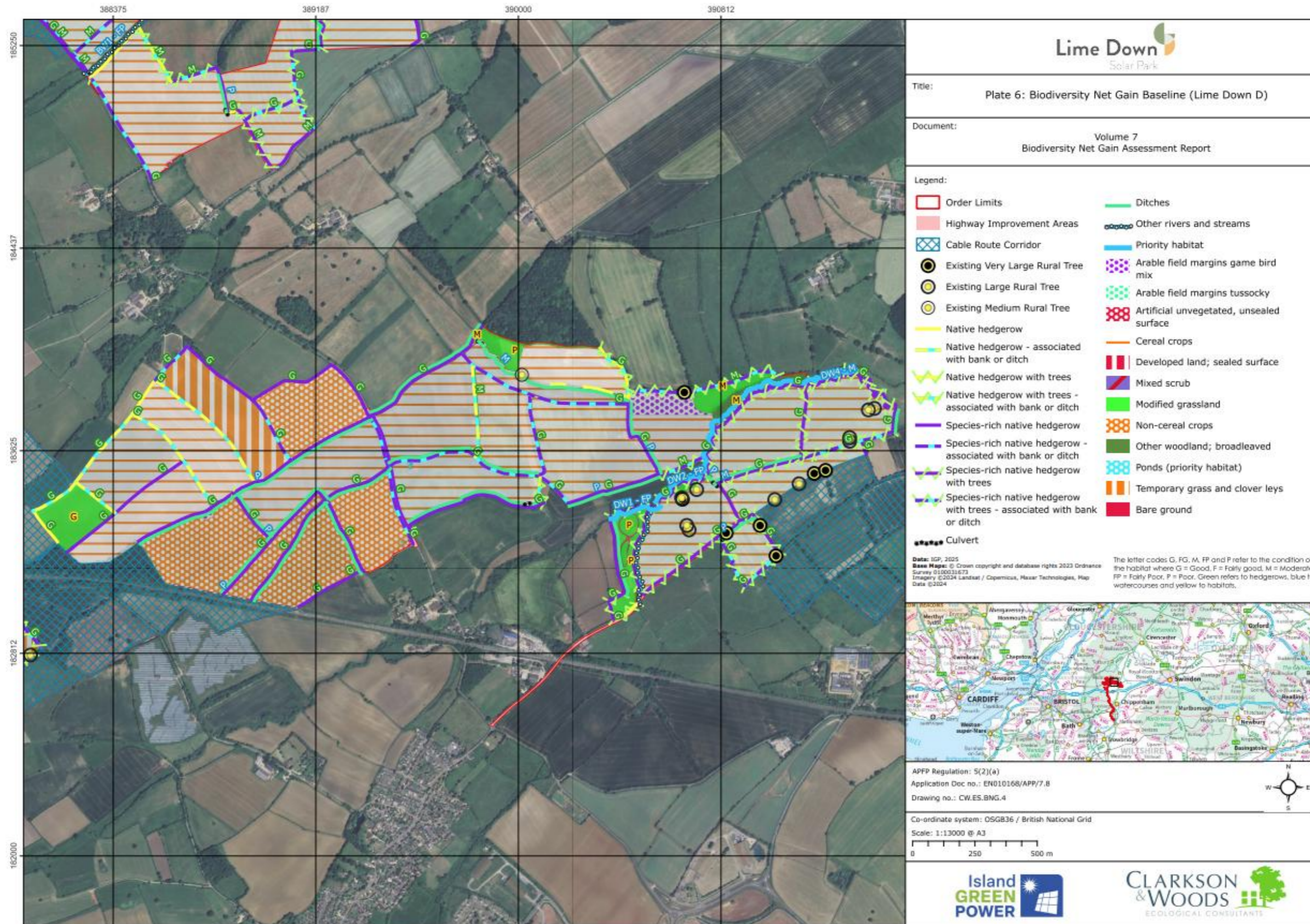
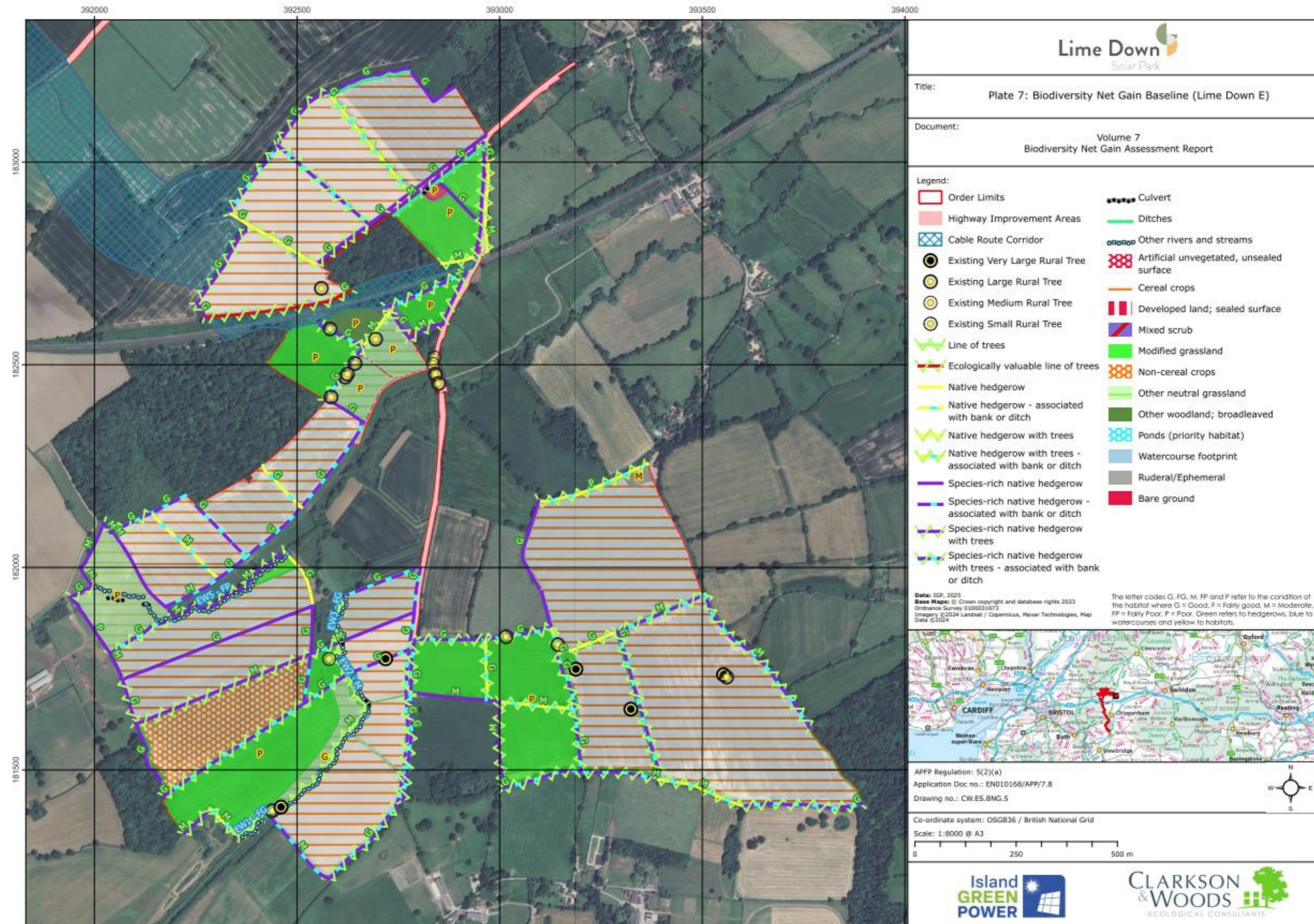
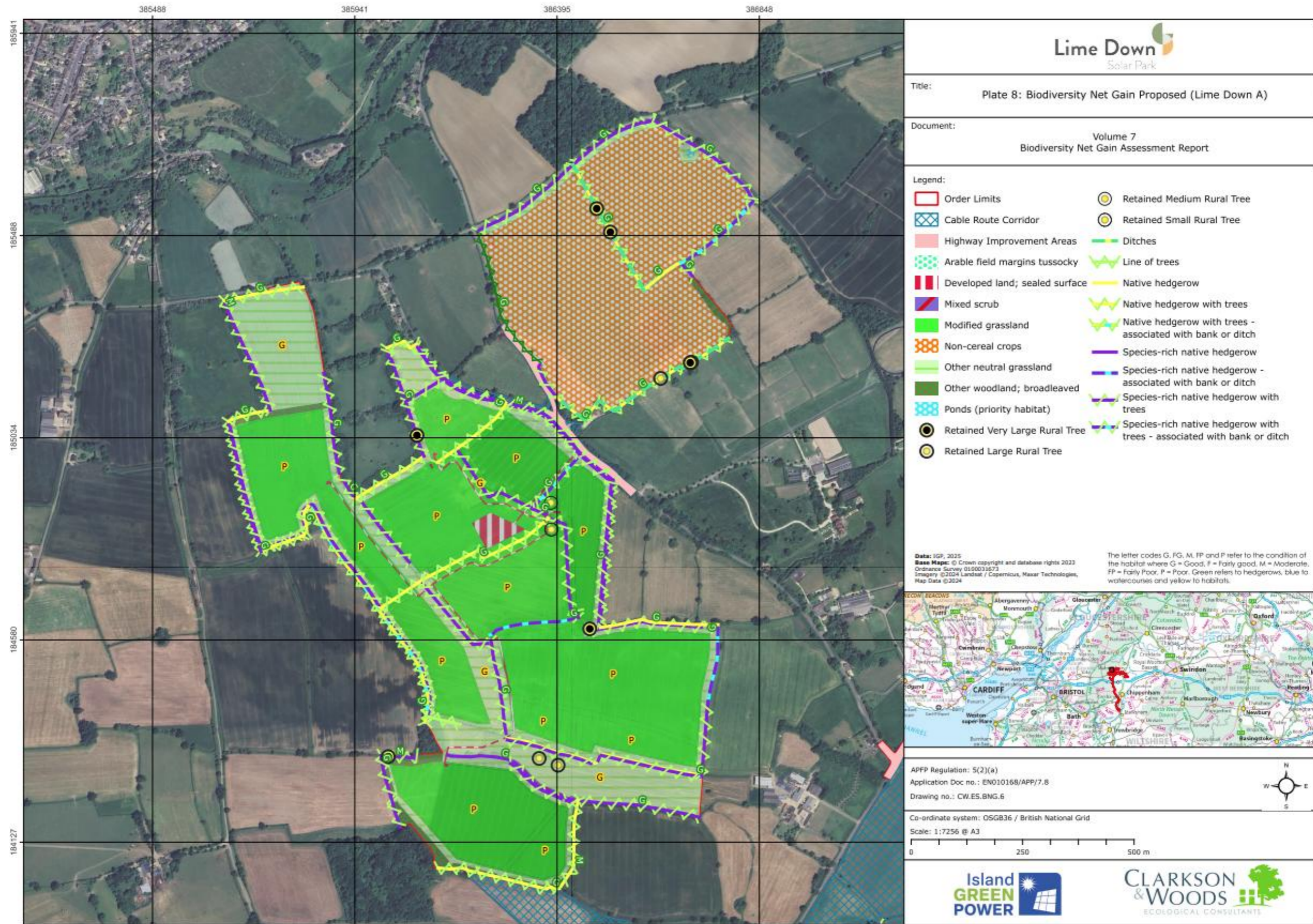


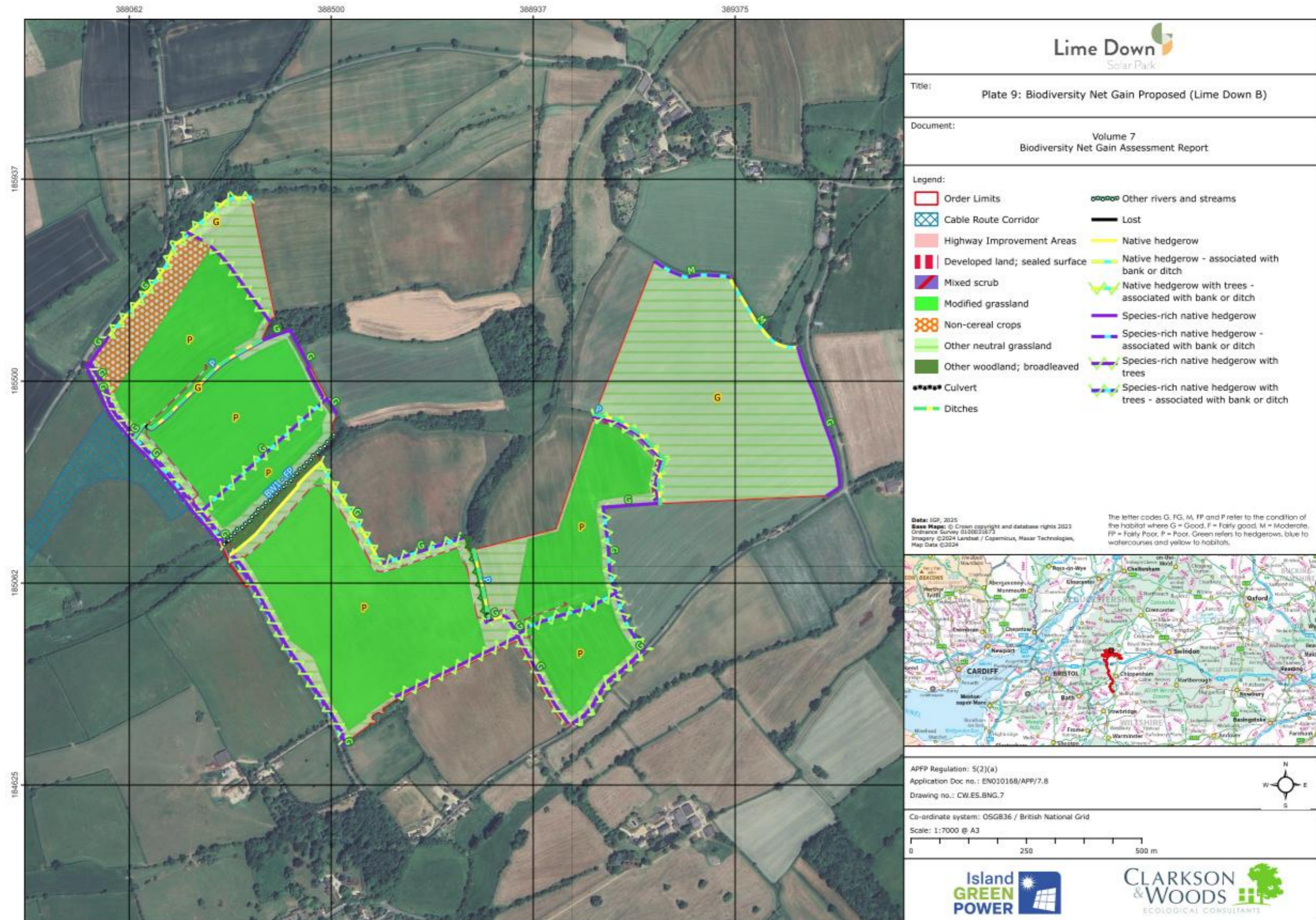
Plate 7: Biodiversity Net Gain Baseline (Lime Down E)



**Plate 8: Biodiversity Net Gain Proposed (Lime Down A)**



**Plate 9: Biodiversity Net Gain Proposed (Lime Down B)**



**Plate 10: Biodiversity Net Gain Proposed (Lime Down C including additional land within Works No. 9)**

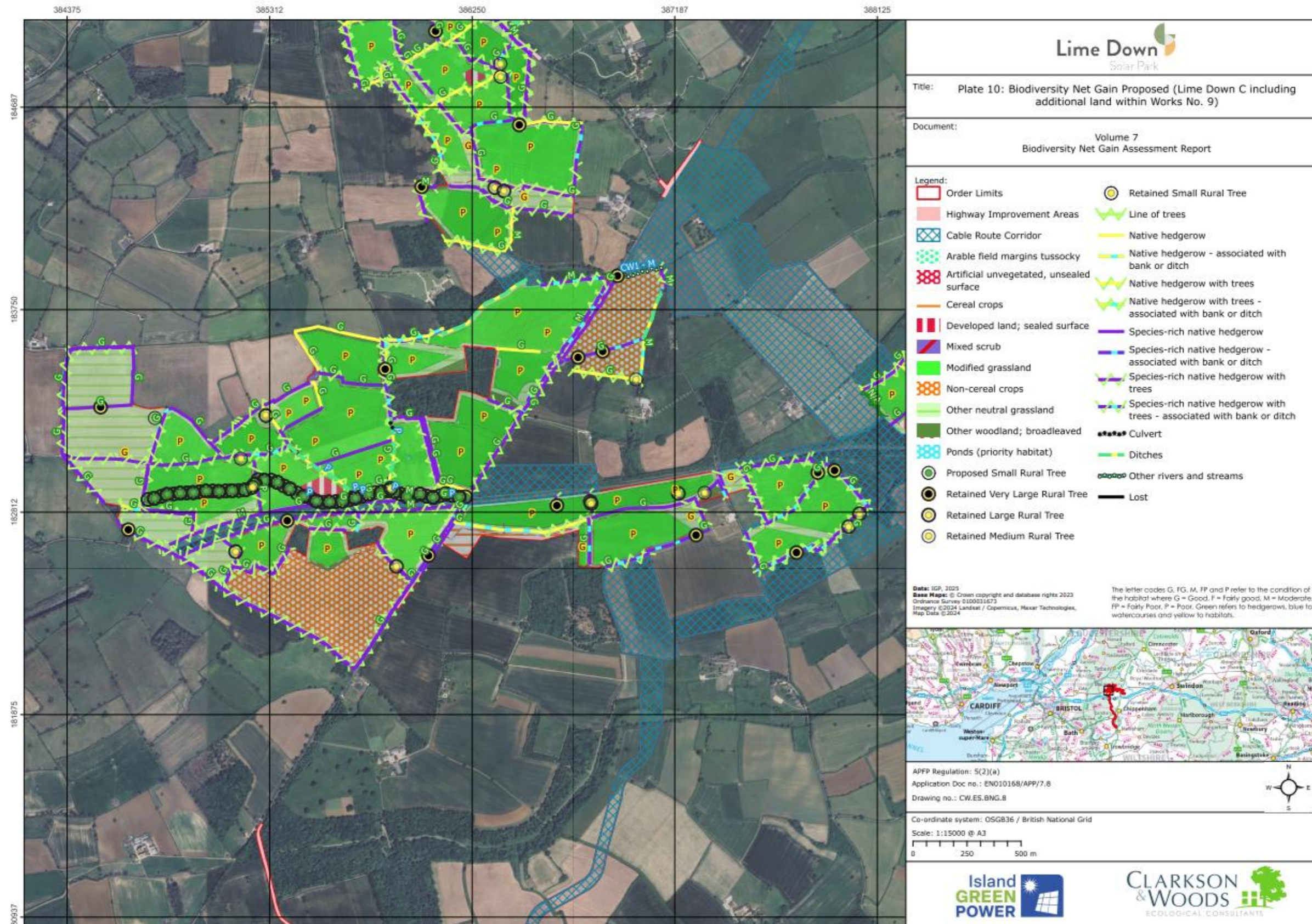


Plate 11: Biodiversity Net Gain Proposed (Lime Down D)

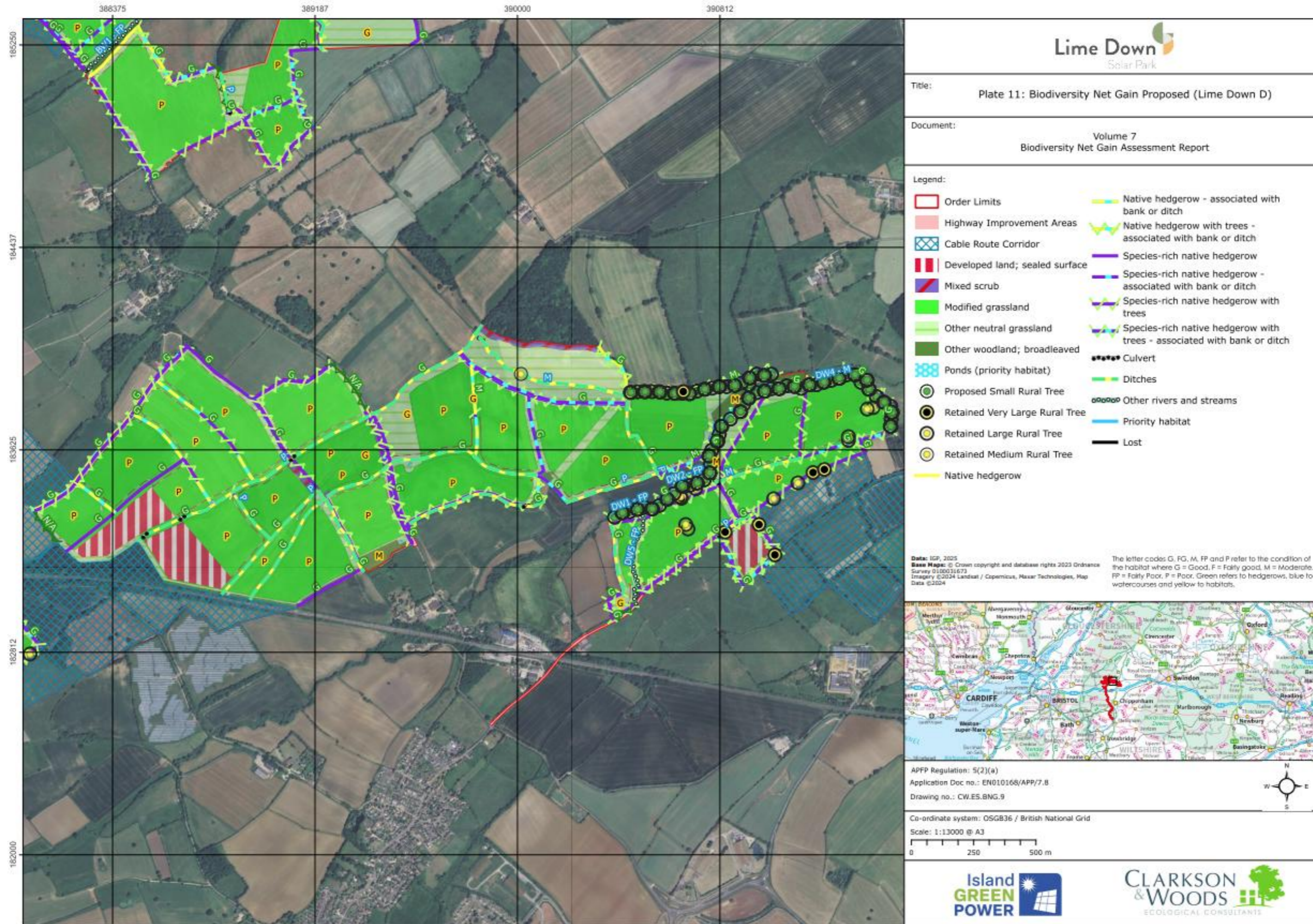
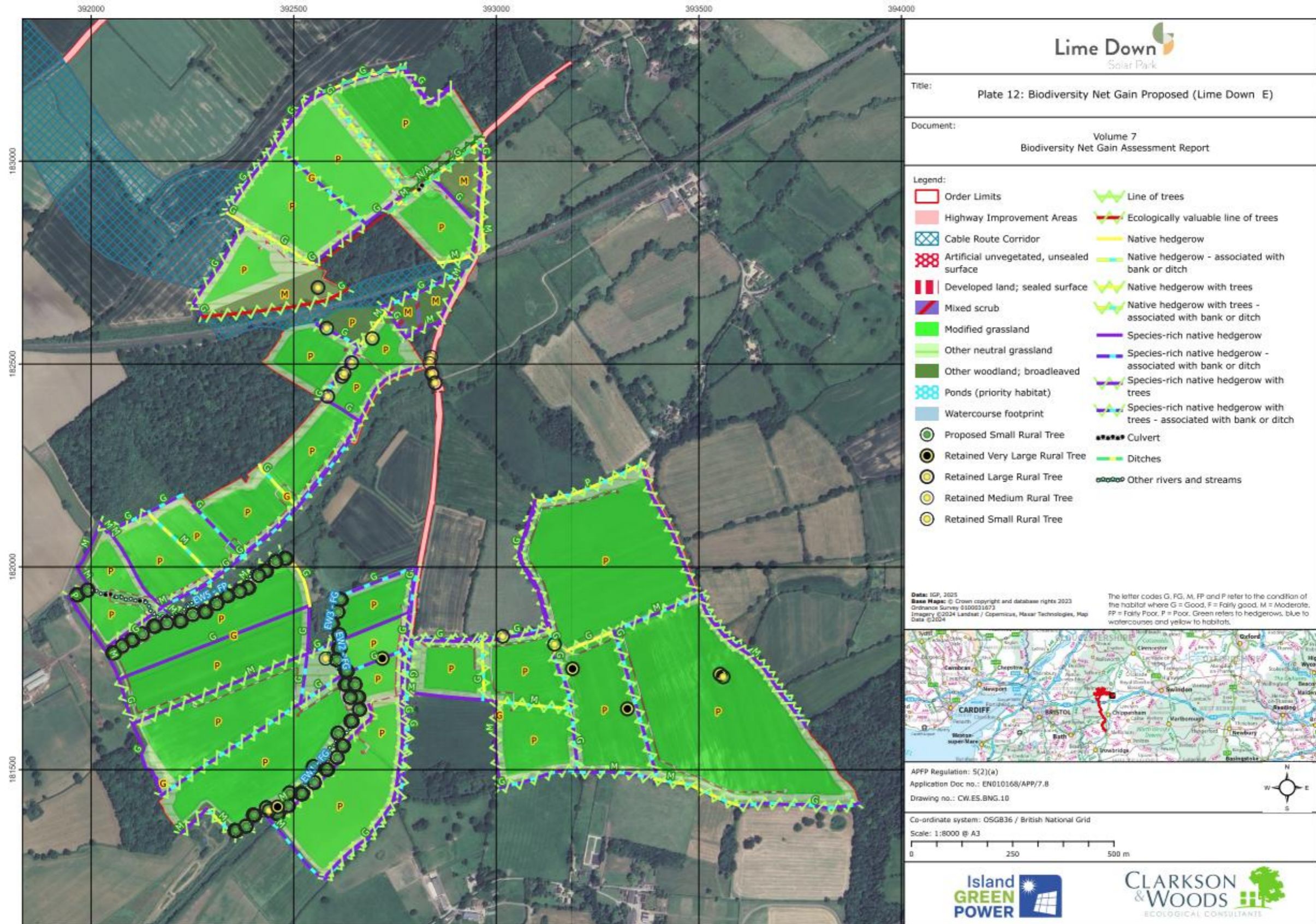
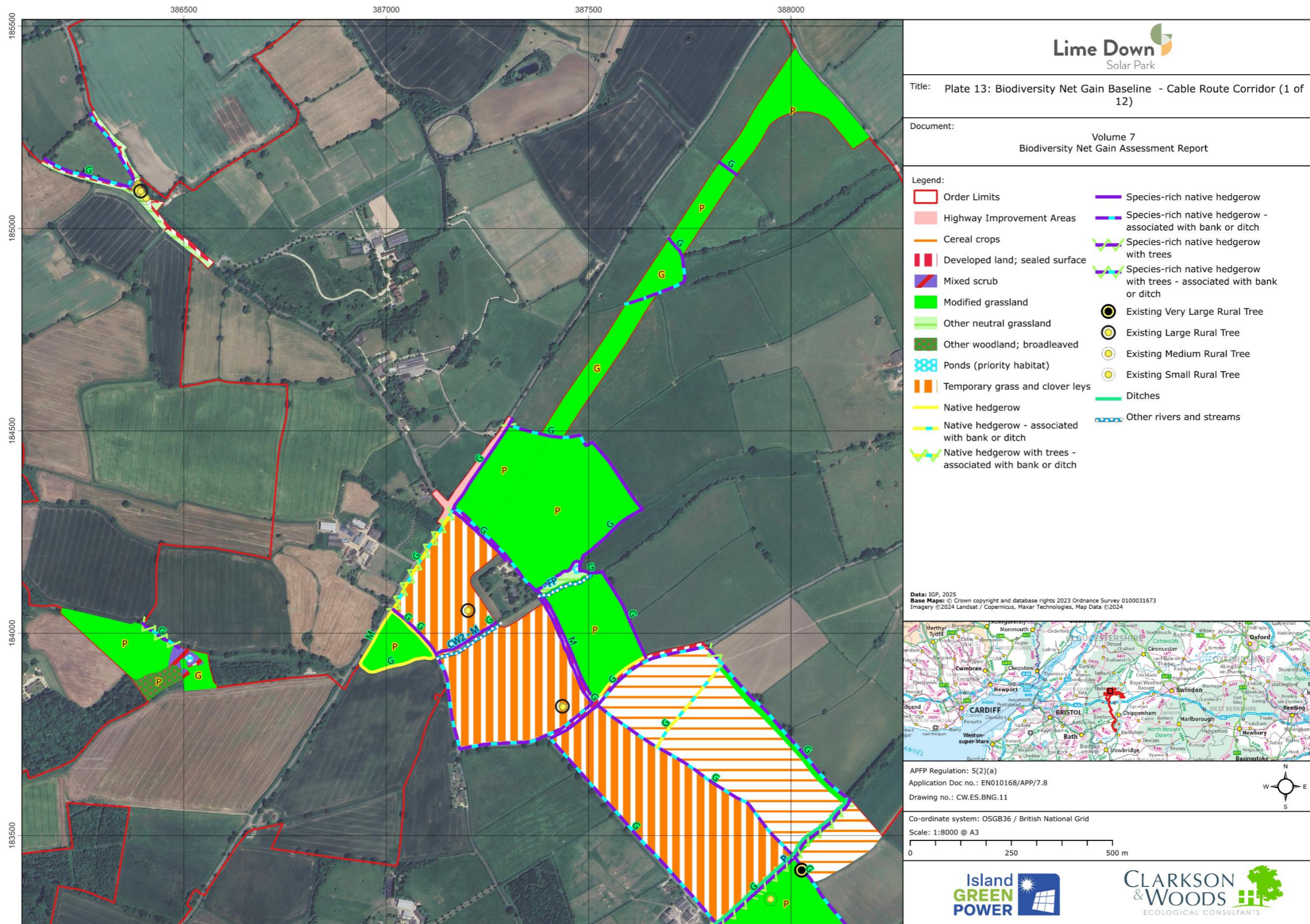


Plate 12: Biodiversity Net Gain Proposed (Lime Down E)



**Plate 13: Biodiversity Net Gain Baseline – Cable Route Corridor (1 of 12)**



**Plate 14: Biodiversity Net Gain Baseline – Cable Route Corridor (2 of 12)**

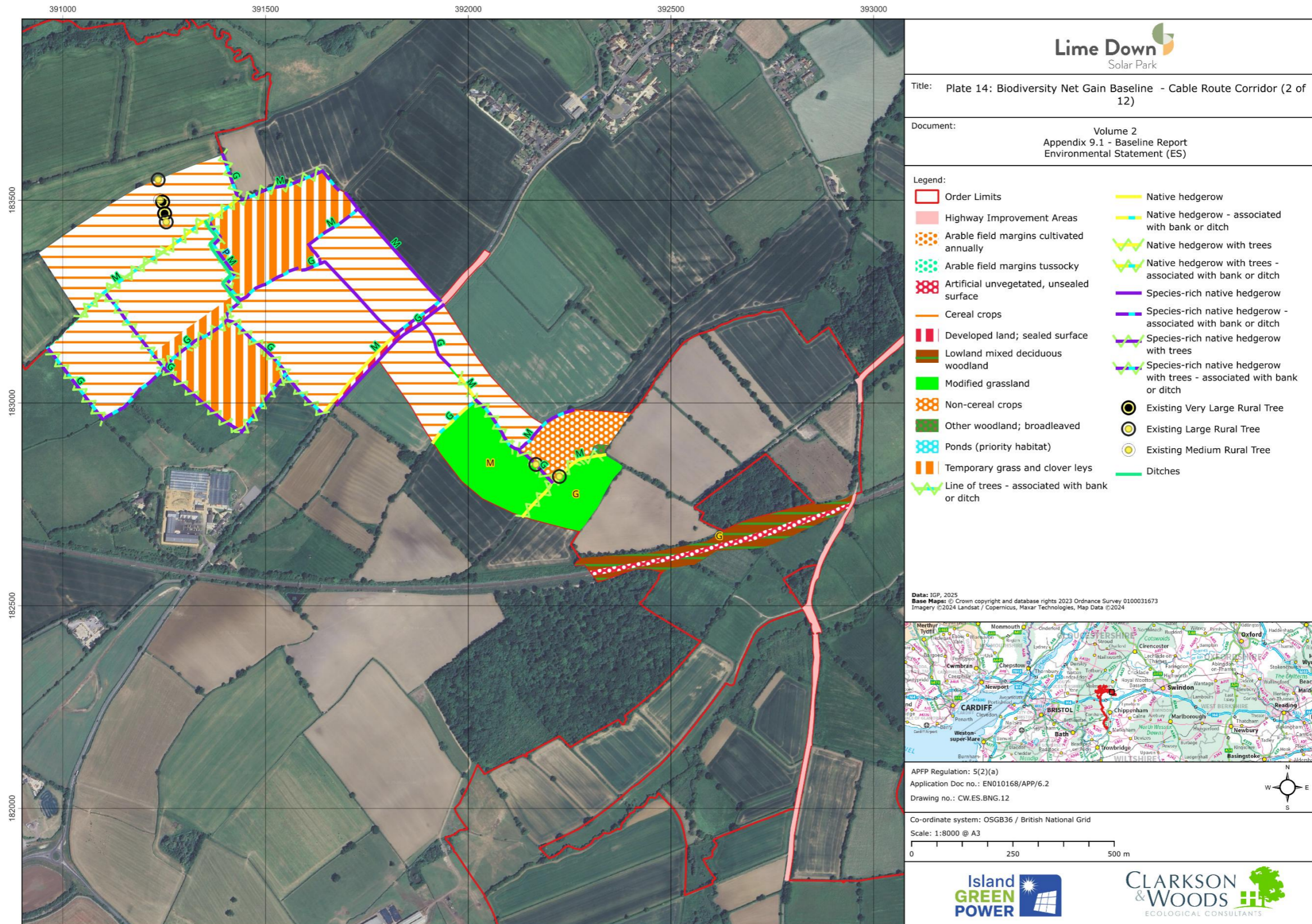


Plate 15: Biodiversity Net Gain Baseline – Cable Route Corridor (3 of 12)

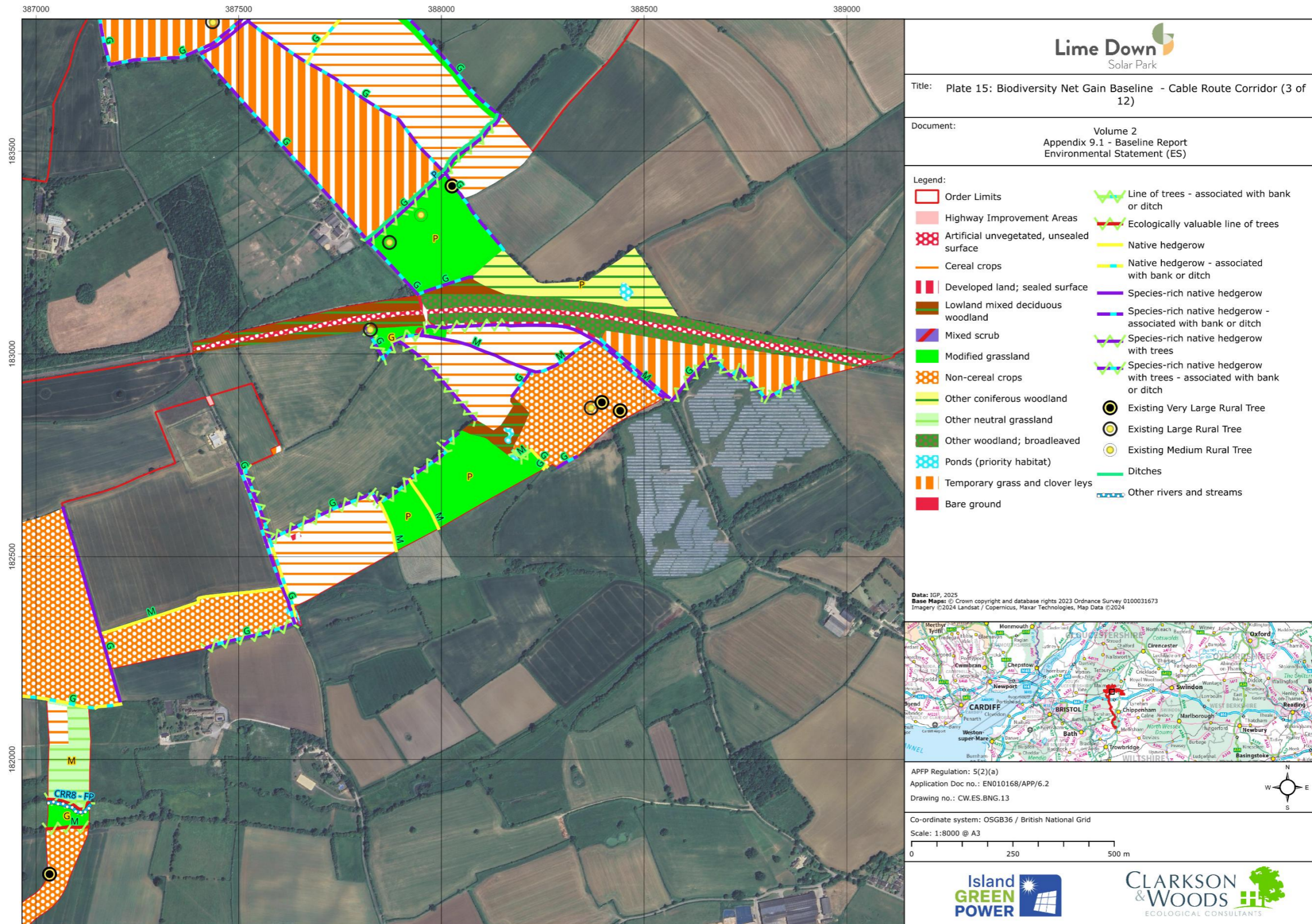
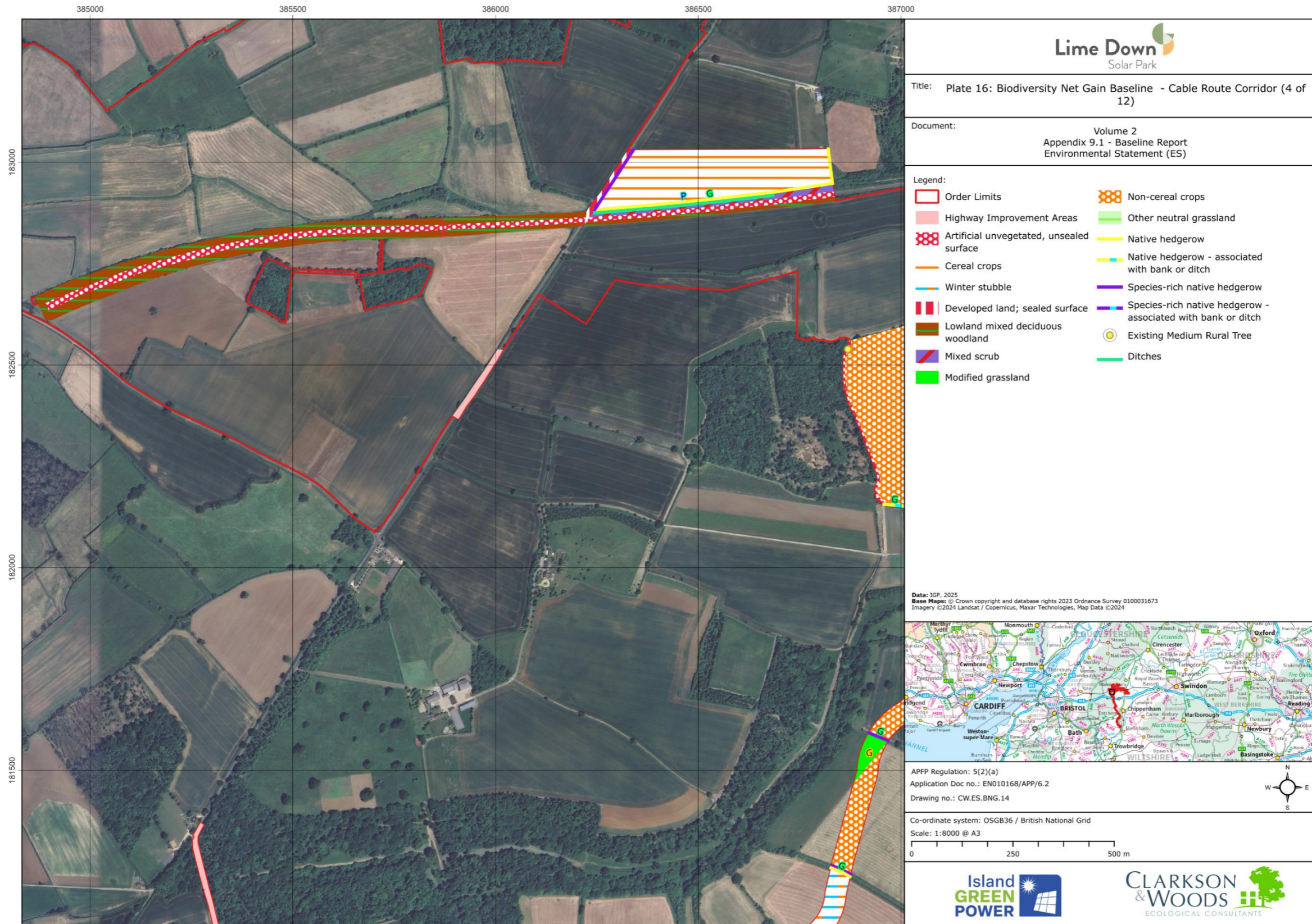


Plate 16: Biodiversity Net Gain Baseline – Cable Route Corridor (4 of 12)



**Plate 17: Biodiversity Net Gain Baseline – Cable Route Corridor (5 of 12)**

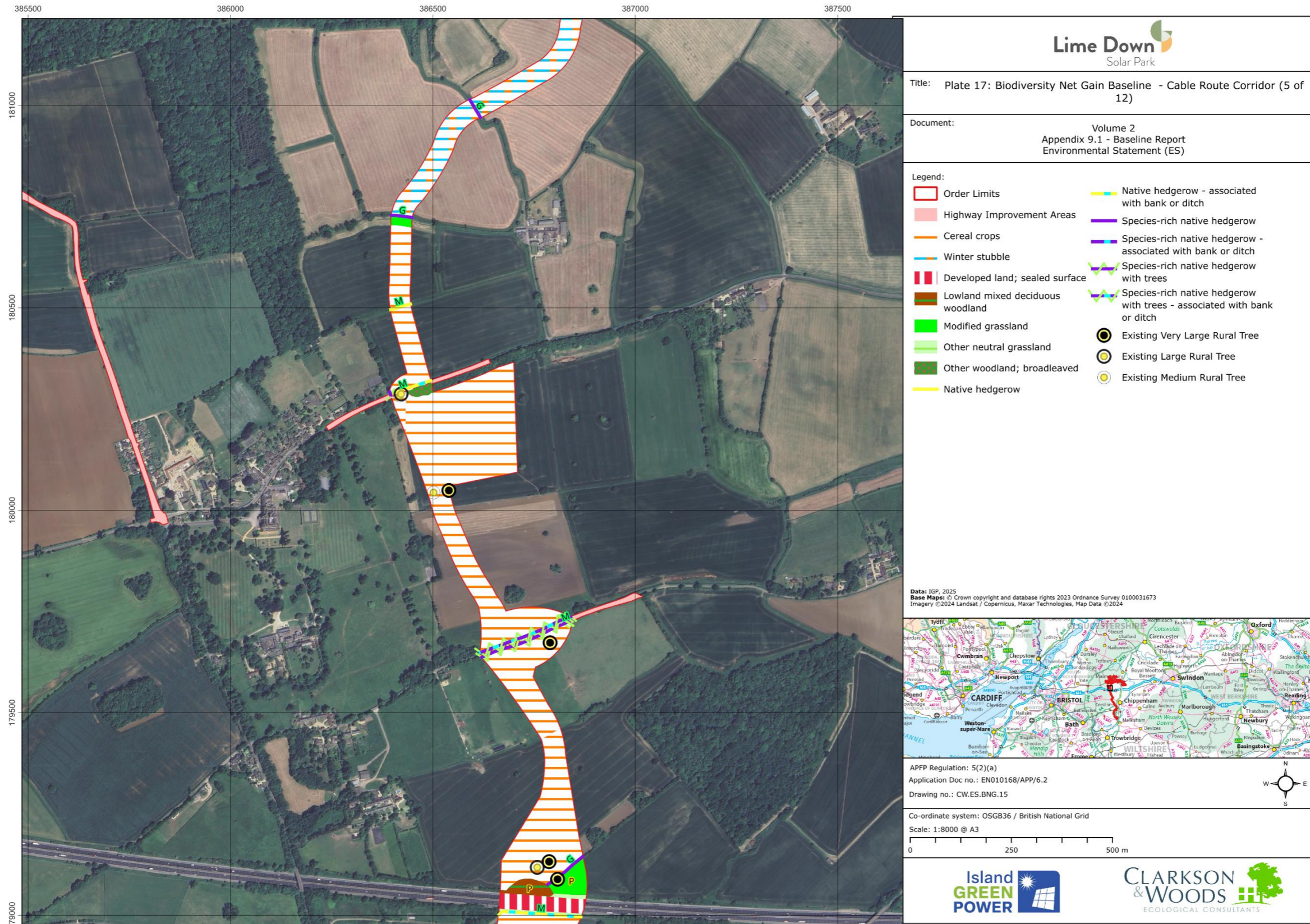
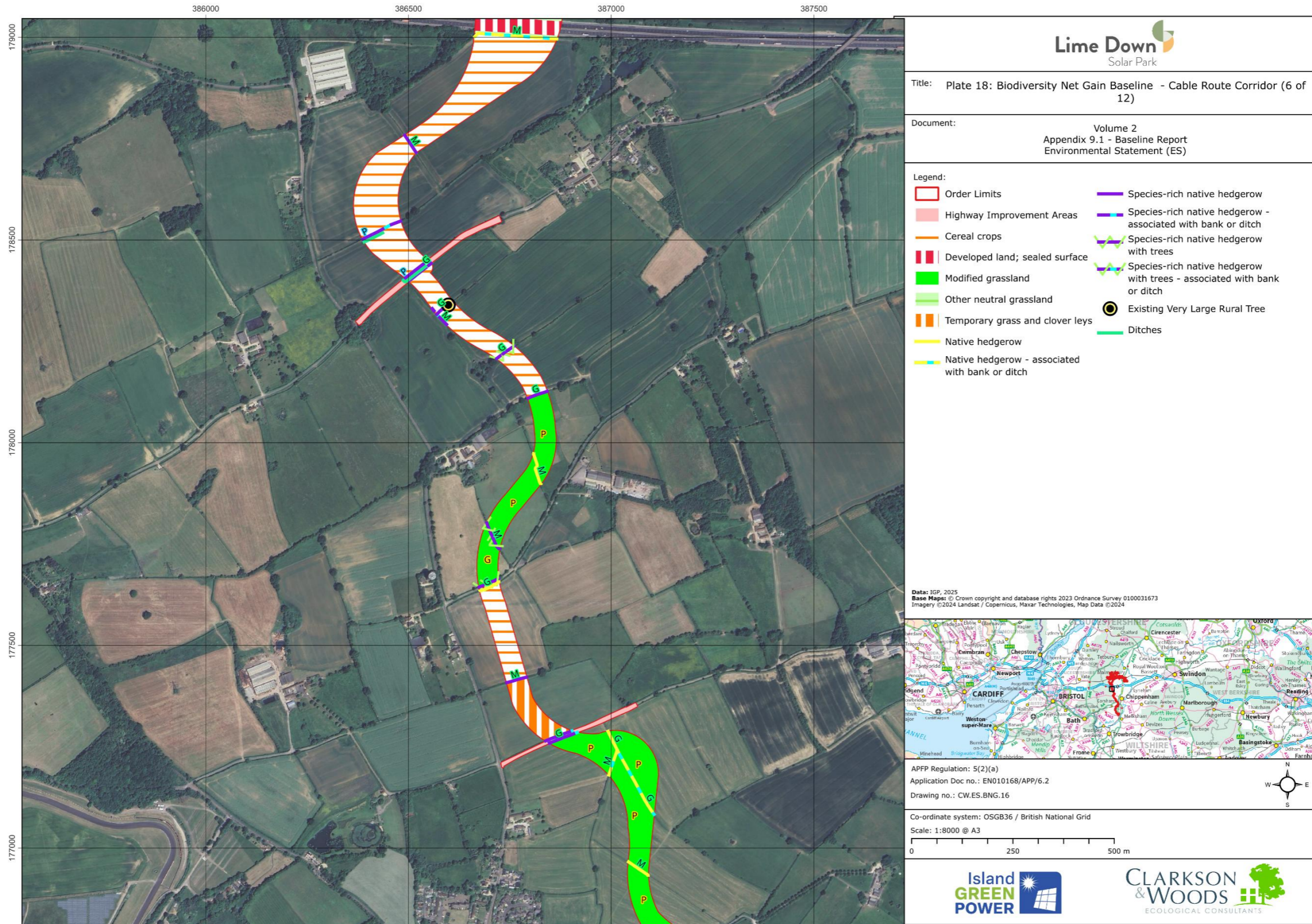


Plate 18: Biodiversity Net Gain Baseline – Cable Route Corridor (6 of 12)



**Plate 19: Biodiversity Net Gain Baseline – Cable Route Corridor (7 of 12)**

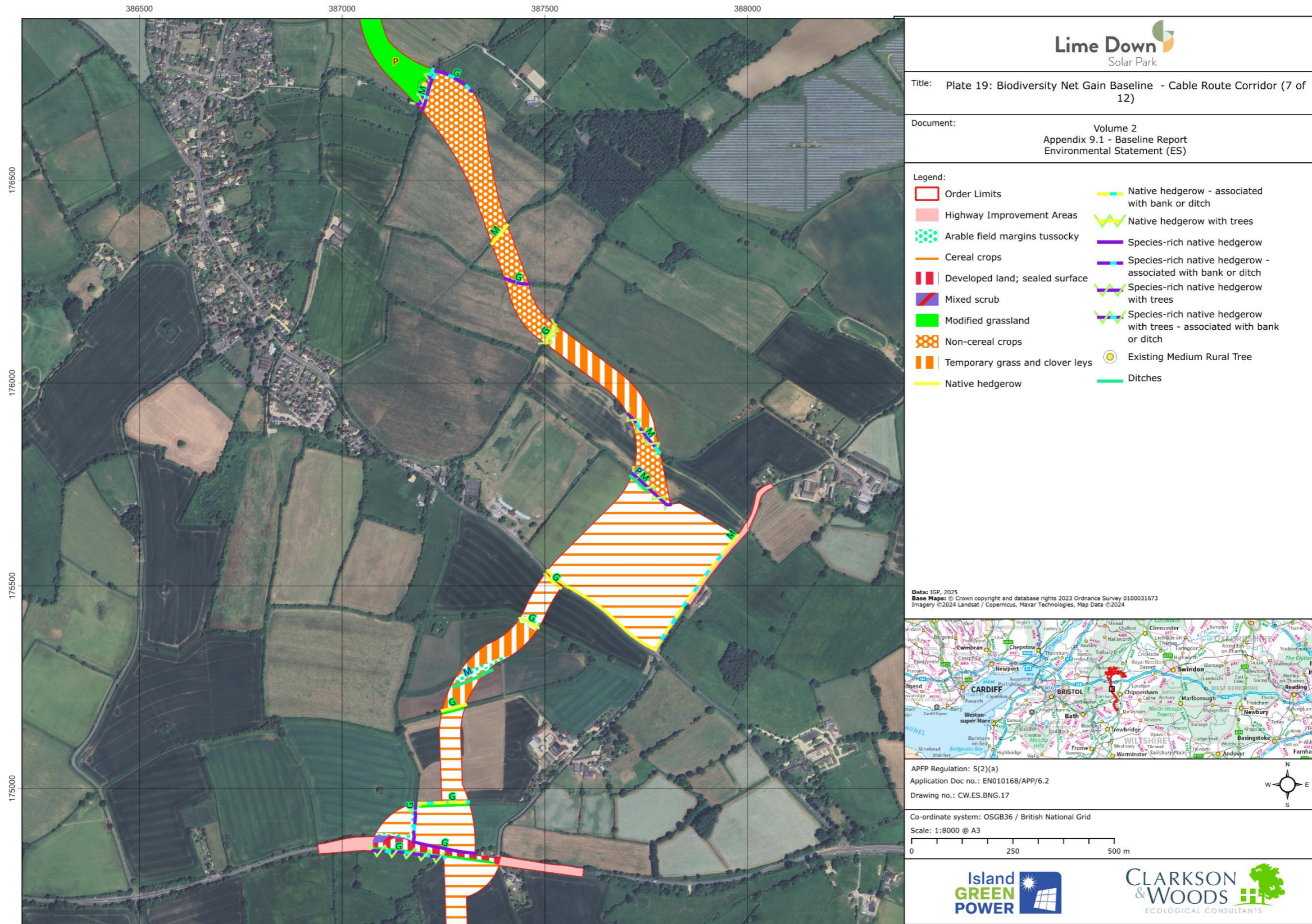
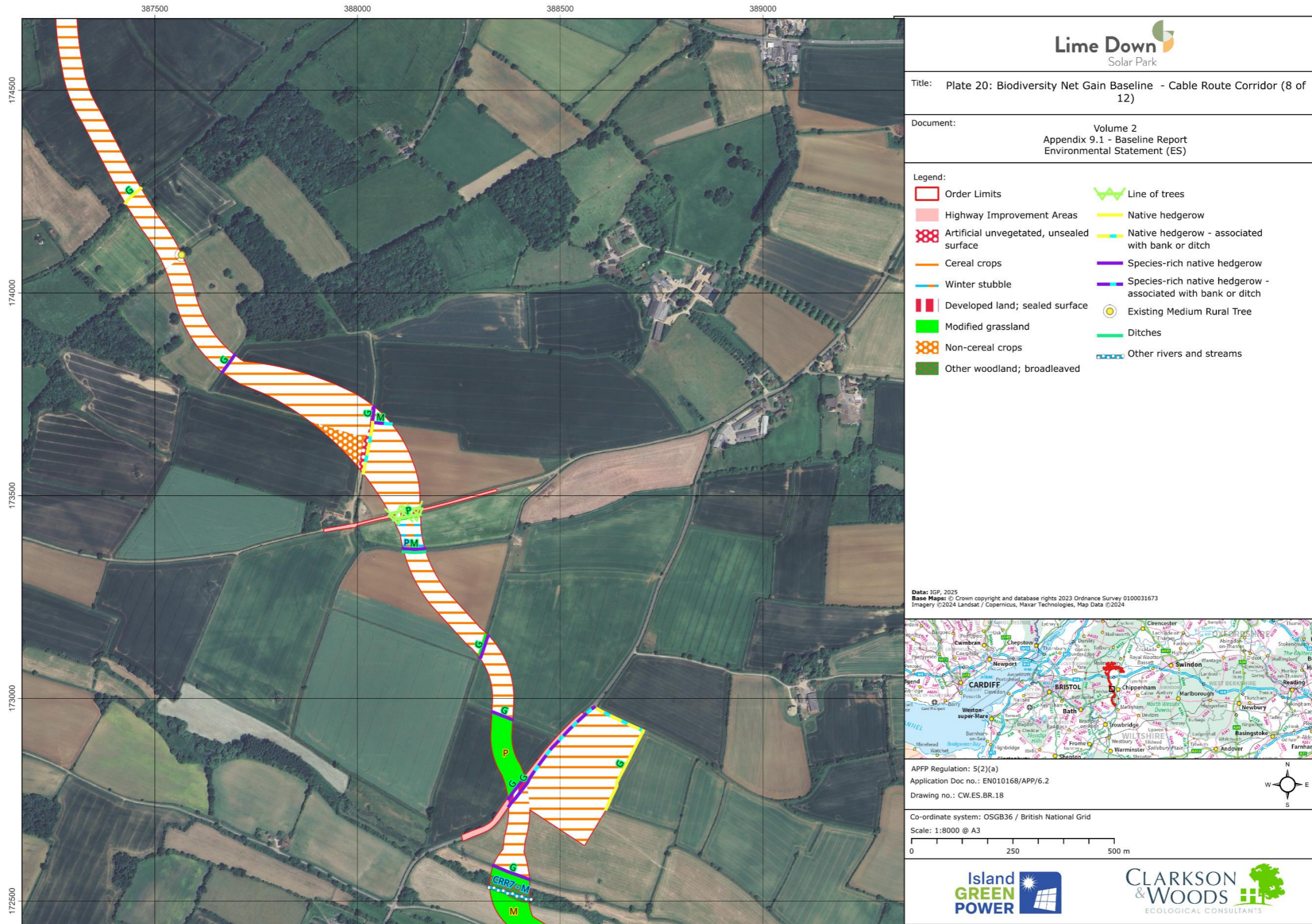
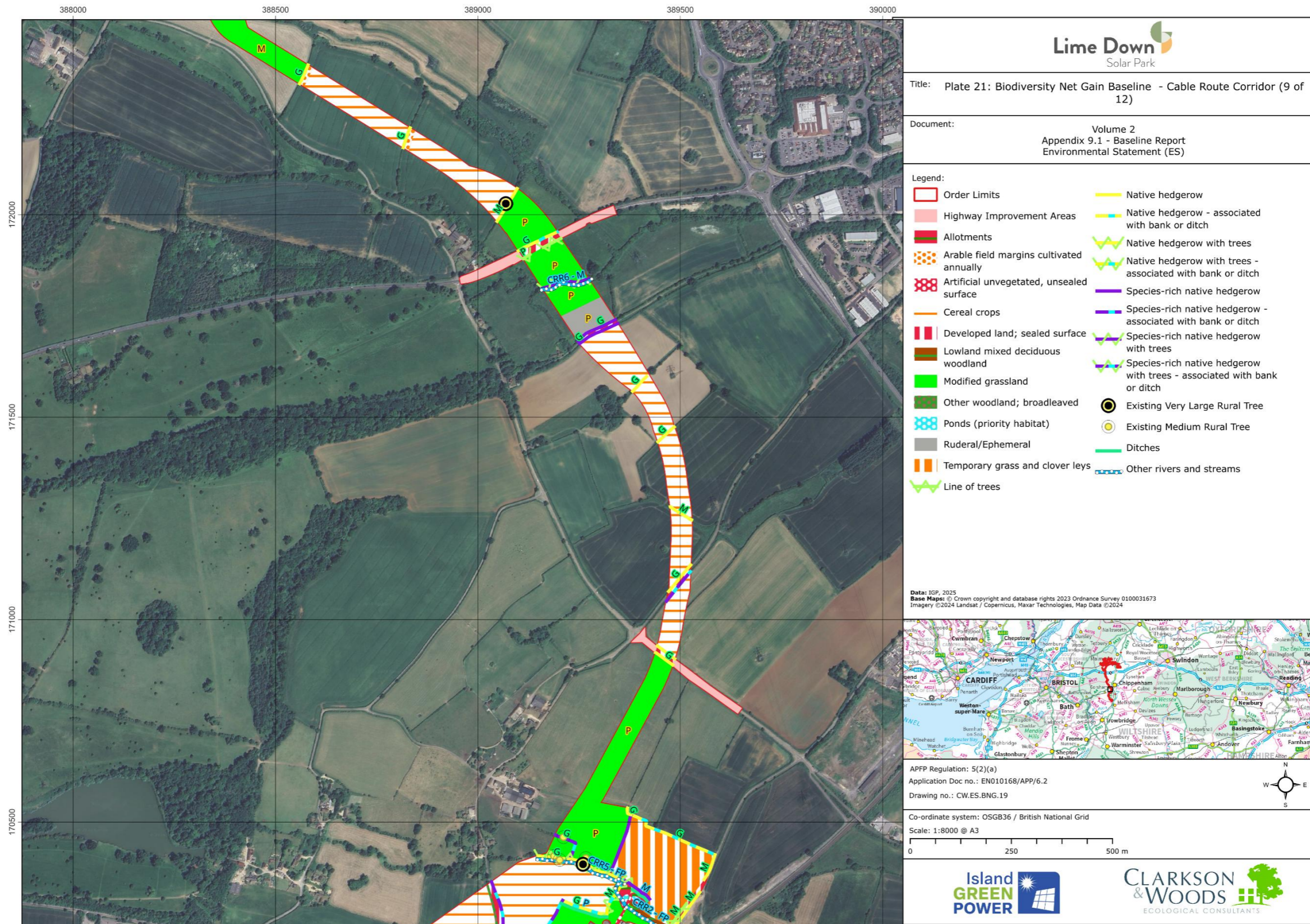


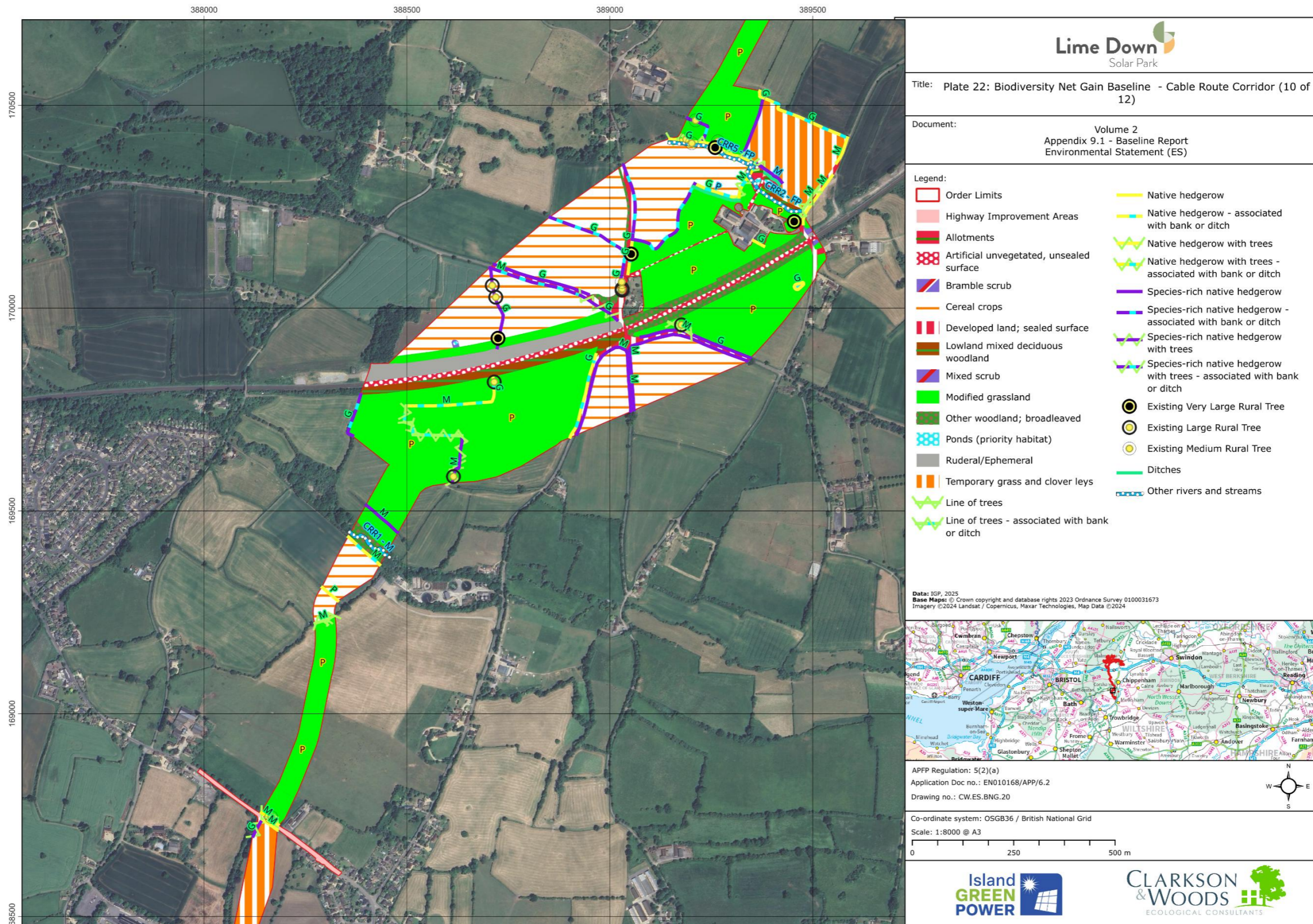
Plate 20: Biodiversity Net Gain Baseline – Cable Route Corridor (8 of 12)



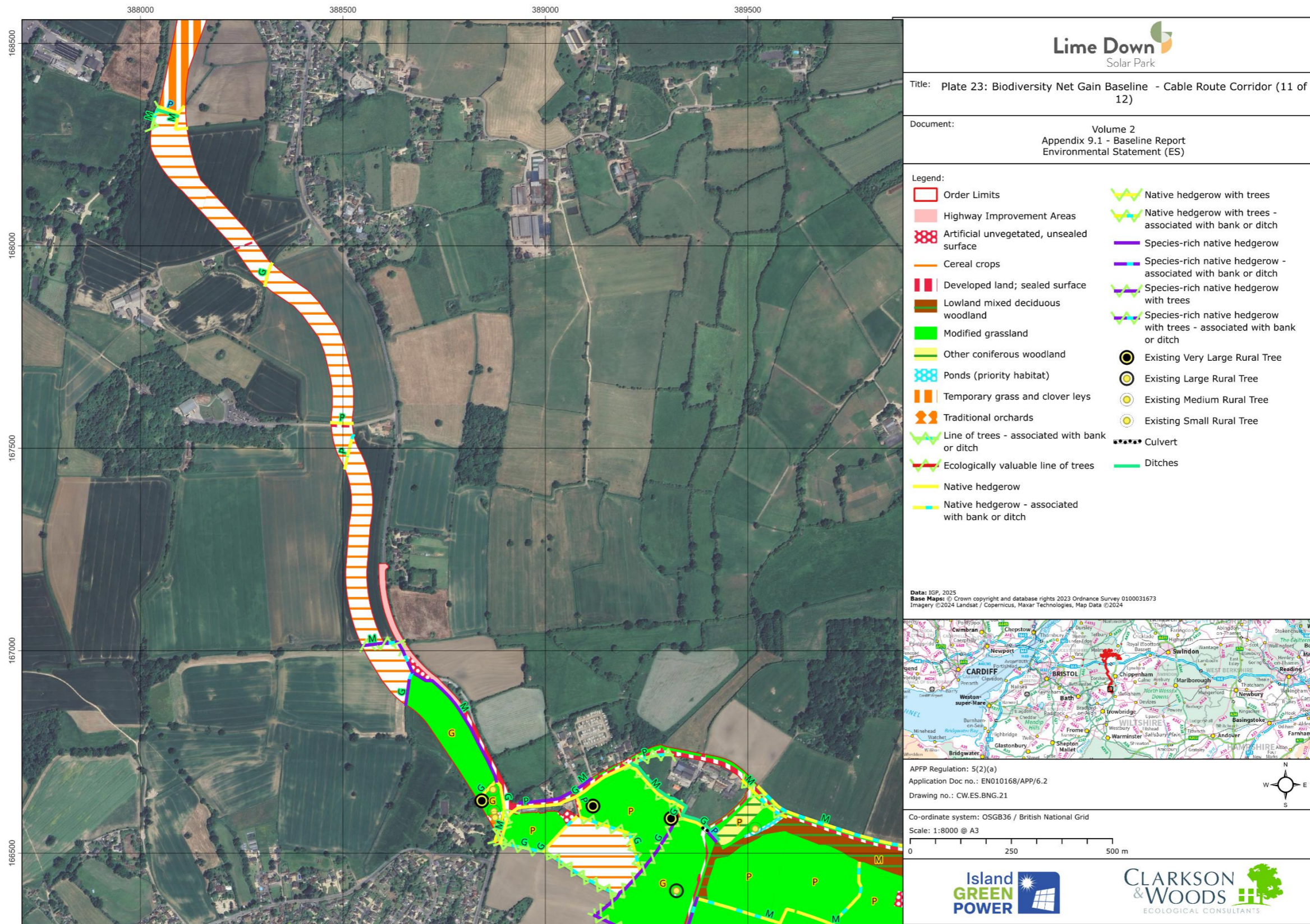
**Plate 21: Biodiversity Net Gain Baseline – Cable Route Corridor (9 of 12)**



**Plate 22: Biodiversity Net Gain Baseline – Cable Route Corridor (10 of 12)**



**Plate 23: Biodiversity Net Gain Baseline – Cable Route Corridor (11 of 12)**



**Plate 24: Biodiversity Net Gain Baseline – Cable Route Corridor (12 of 12)**

