



**CLEARSTONE
ENERGY**

DARTFORD ENERGY HUB

BIODIVERSITY NET GAIN REPORT

Prepared by Clearstone Energy & RSK Biocensus |
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Clearstone Energy

Dartford Energy Hub

Biodiversity Net Gain Design Stage Report

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RSK GENERAL NOTES

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12 December 2024

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EXECUTIVE SUMMARY

1. This document has been prepared by RSK Biocensus, on behalf of Clearstone Energy, to present the results of a Biodiversity Net Gain (BNG) assessment for the proposed Dartford Energy Hub located at on land west of Millbrook Garden Centre, Southfleet, Kent, DA13 9PA (the 'Application Site') (site central grid reference TQ61665 72126). The proposed works comprise installation of a battery energy storage system (BESS).
2. The Biodiversity Net Gain (BNG) assessment uses the results of a UK Habitat Classification (UKHab) survey undertaken at the site on 3 August 2023 and in off-Site areas on 4 December 2023, to determine the habitats present on site and their ecological condition before construction and to provide each habitat with a biodiversity value using the Statutory Biodiversity Metric. The biodiversity value of each habitat present on site is then totalled to provide an overall biodiversity value of the site before construction.
3. Proposed habitat changes after construction, are based on landscape plans provided by Liz Lake Associates and CADmando on behalf of Clearstone Energy. The biodiversity value for each habitat that will be present on site after construction and its assumed condition is totalled and then compared against the total biodiversity value of habitats present before construction to provide an indication of the net change in biodiversity value as a result of the proposed development.
4. The Statutory Biodiversity Metric measures biodiversity value of habitats in 'biodiversity units' and the BNG assessment reported here follows the methods set out in Statutory Biodiversity Metric user guide to calculate the predicted net change in biodiversity before and after construction to produce a biodiversity assessment for the proposed development. A habitat is assigned a biodiversity unit score by considering its area (or length), distinctiveness, condition and strategic significance.
5. The full BNG assessment calculation can be found in the accompanying Excel document 2486105_Statutory_Biodiversity_Metric_With_Cable_Route; however, screenshots of the main results tables are presented here in *Appendix A*, for convenience.
6. The condition assessments for all habitats present before construction are listed in *Appendix B*. This includes any deviation from standard guidance, assumptions and justifications for habitat classification and condition.
7. The site has baseline of 50.20 area habitat biodiversity units and 2.68 hedgerow biodiversity units. Additional off-site areas that will be enhanced have a baseline value of 23.34 area habitat biodiversity units. No irreplaceable or very high distinctiveness habitats are present on the site.
8. Post-development plans result in 37.19 area habitat biodiversity units and 3.46 hedgerow biodiversity units within the on-site boundary. The off-site areas will be enhanced to 42.88 area habitat biodiversity units.
9. This BNG assessment thus concludes that the current proposed development will result in a net change of 6.52 area habitat biodiversity units and 0.78 hedgerow biodiversity units. This equates to a 13.00% net gain in area biodiversity unit and 29.07% net gain in hedgerow biodiversity units. The trading rules in the Statutory Biodiversity Metric have been met for all habitat types.

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1.0 INTRODUCTION

1.1 Purpose of Document

- 1.1.1 This document has been prepared by RSK Biocensus, on behalf of Clearstone Energy (the Applicant) to present the results of a Biodiversity Net Gain (BNG) assessment for the proposed Dartford Energy Hub ('the Proposed Development') at land adjacent to Station Road, Southfleet, Gravesend, Kent, DA13 9PA ('the Application Site'). This report is being used to support a planning application to Dartford Borough Council.
- 1.1.2 The document provides:
- a detailed methodology, including assumptions, for undertaking the BNG assessment;
 - the baseline biodiversity value of habitats within the Application Site prior to construction;
 - the likely biodiversity value of habitats within the Application Site post-development based on the current design information; and
 - the relative biodiversity change of habitats within the Application Site after construction compared with before construction, determining whether the Proposed Development has achieved a 10% net gain in biodiversity.

1.2 Landscape Context

The Application Site development area is *circa* 5.68 hectares (ha) and located on land either side of the B262 Station Road, immediately west of Millbrook Garden Centre at Southfleet in north Kent. The site's central grid reference is TQ 61696 72104. The Application Site lies within the administrative boundary of Dartford Borough Council, with the cable route crossing the boundary into Gravesham Borough Council.

- 1.2.1 The Application Site lies on the northern edge of a semi-rural patchwork of fields, hedgerow, woodland and settlements. The Application Site is immediately adjacent to Millbrook Garden Centre to the east and DGP Logistics yard to the west. The A2 dual carriageway is 200 metres (m) to the north, with the town of Northfleet and the urban Thames Estuary development corridor immediately beyond. The village of Southfleet is 800 m to the south, the hamlet of Betsham is 960 m to the south-west and the villages of Bean and Instead Rise are 2 kilometres (km) to the west and south-east respectively.
- 1.2.2 The Application Site comprises two fields of permanent pasture (see *Figure 1*). The field to the north of Station Road (field 1) is grazed, improved pasture, with an area of grassland with ruderal tall herbs and patches of bramble scrub in the southwest corner. A tall hedgerow with scattered standard trees demarcates the southern field boundary of Field 1, adjacent to Station Road (and is within the Application Site). Immediately outside the field boundary, is a tall hedgerow at Millbrook Garden Centre to the east of the Application Site and there is a narrow woodland corridor immediately adjacent to the northern field boundary, with Springhead Scheduled Ancient Monument (SAM) immediately beyond. Springhead SAM is designated as a nationally important Roman site.

- 1.2.3 The field to the south of Station Road (field 2) is an area of minimally managed neutral grassland. A hedgerow comprising scattered woody hedgerow species, bramble scrub and mature standard trees, bounds the field to the north, adjacent to Station Road (and is within the Application Site). Immediately adjacent to the Application Site, south of field 2, is a railway line and its associated wooded embankments, with farmland and 9 ha of horticultural polytunnels 250m beyond. High voltage power cables cross both fields.

1.3 The Proposed Development

- 1.3.1 The Proposed Development is the construction and operation of a Battery Energy Hub. The project proposals comprise the installation of a battery energy storage system (BESS) with the indicative layout comprising;

- 72 groups of 2.6 m tall battery units each on a 15cm concrete pads, with the ground between the units to be filled with gravel.
- A new 400/33 kilovolt substation and switchgear compound, comprising two 9.6 m tall transformers on a 15 cm concrete pad and a 13 m tall switchgear building, with a substation area laid to gravel with concrete footings to equipment,
- 38 groups of medium voltage inverter/transformer stations, with each group comprising a single 2.35 m transformer connected to two 2.2 m high inverters each on 15 cm concrete pads.
- Security measures including a 2.5 m high security fencing comprising galvanized steel palisade fence with double gates and CCTV and Infrared cameras mounted on 3m high columns installed around the perimeter of the compound areas.
- Two new main and two new emergency access points with associated gates and internal access tracks.
- 750 m underground grid connection cables from the Application Site to Northfleet East Grid substation
- Other ancillary infrastructure
- Landscaping and biodiversity enhancement measures.

- 1.3.2 The development proposals are presented in drawing number CST010-DF4.0_rev10 Proposed Site Layout Plan.

1.4 Policy context

- 1.4.1 The primary aims of the BNG process are for developments to secure a measurable improvement in habitat for biodiversity, to minimise biodiversity losses and to help to restore ecological networks whilst streamlining development processes. BNG does not replace other existing legislation and policy for nature conservation. The below legislation and policy provide the context behind the need to achieve BNG.

The Environment Act

- 1.4.2 The Environment Act 2021 mandates a statutory requirement for developments to deliver a minimum 10% BNG which is mandatory from 12th February 2024.

Town and Country Planning Act

- 1.4.3 Schedule 7A of the Town and Country Planning Act 1990 (as amended) mandates a statutory requirement for developments to deliver a minimum 10% BNG which is mandatory from 12th February 2024.

National Planning Policy Framework

- 1.4.4 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied by Local Authorities within their Local Development Frameworks (LDF). The revised National Planning Policy Framework was published December 2023 (Department for Levelling Up, Housing and Communities, 2023).
- 1.4.5 Chapter 15 of the NPPF 'Conserving and enhancing the natural environment' sets out the requirements to consider BNG in planning decisions. Paragraph 170 states:
"Planning policies and decisions should contribute to and enhance the natural and local environment by minimising impacts and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures,"

Local Plans

- 1.4.6 The Dartford (Local) Plan includes policy M14: Biodiversity and Landscape which states:

Developments will be expected to protect and enhance biodiversity. In the event that development adversely affects any existing habitats, this must be replaced by compensatory habitat of a similar type, size and condition in close proximity to that which is being lost. The new national requirements for at least 10% biodiversity net gain will apply to all applicable developments. Local delivery of net gains should be made by enhancing existing habitats and/ or creating new habitats on-site or, in cases where this is not achievable, off-site within the Biodiversity Opportunity Areas or as part of agreed county-wide habitat creation, nature recovery strategies or enhancement projects. These will need to be informed by and link as best possible to the Dartford Green Grid network. Developers must be able to demonstrate that impacts on ecology and biodiversity could not reasonably be avoided or mitigated on-site before biodiversity offsetting off-site will be considered. Biodiversity Net Gain will be measured using DEFRA's latest biodiversity metric and habitats will need to be secured for at least 30 years.

2.0 METHODS

2.1 Introduction

- 2.1.1 This BNG assessment has been carried out as a desk-based exercise and has been undertaken by a competent person in accordance with best practice¹. The assessment was undertaken by Stephen Phillips, who has 10 years' experience of carrying out BNG assessments.
- 2.1.2 The results of UK Habitat Classification (UKHab) surveys and condition assessments carried out within the Application Site in August 2023 and in off-Site areas on 4 December 2024. The UKHab surveys were undertaken by Dr. Georgina Judd, an RSK Biocensus Senior Ecologist, with thirteen years' experience. These surveys have been used to determine the biodiversity value of habitats within the Application Site before construction. The UKHab Classification plan for the Application Site and off-Site areas are shown in *Figures 2 and 3* respectively.
- 2.1.3 The landscape plans provided by Liz Lake Associates and CADmando on behalf of Clearstone Energy for the Proposed Development have been used to determine the biodiversity value of habitats within the Application Site after construction.
- 2.1.4 The primary documents consulted as part of this assessment include:
- 2487210-D04 (01) Dartford Energy Hub Ecological Impact Assessment (RSK Biocensus 2024)
 - CST010-DF4.0_rev10 Proposed Site Layout Plan (CADmando)
 - 2831-LLA-ZZ-00-DR-L-0001-P02 Landscape Strategy (Liz Lake Associates)

2.2 Biodiversity Assessment Methods

- 2.2.1 This assessment was undertaken in line with guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2021), the British Standard for Biodiversity Net Gain (BS 8683) (British Standard Institute, 2021) and industry best practice (CIEEM/CIRIA/IEMA, 2016).
- 2.2.2 To calculate the baseline values for the Application Site, and assess any changes arising from the Proposed Development, this study uses methods set out the Statutory Biodiversity Metric (hereafter 'the Metric') user guide (Defra, 2024). The Metric measures biodiversity value for habitats in 'biodiversity units' (BUs)².
- 2.2.3 The Metric is designed to quantify losses and gains of biodiversity as a result of proposed development or land management to inform and improve planning, design,

¹ A competent person has the knowledge and skills to perform specified tasks to complete and review biodiversity metric calculations. This is obtained through training, qualifications, experience, or a combination of them. Competency is aligned with the British Standard 'Process for designing and implementing biodiversity net gain (BS 8683:202)'.

² 'Biodiversity units' are used to describe relative biodiversity value. There are three types of biodiversity units: area habitat units, hedgerow units and watercourse units. Each of these are calculated in separate 'modules' of the biodiversity metric.

land management and decision-making. The Metric uses habitats as a proxy to describe biodiversity.

- 2.2.4 The Metric can calculate biodiversity value of:
- existing habitats;
 - habitat enhancement; and
 - habitat creation.
- 2.2.5 The Metric can calculate different types of BUs. There are three types of biodiversity units, which are calculated in three separate 'modules' of the Metric. These are:
- area habitat units (e.g. woodland, grasslands, wetlands);
 - hedgerow units (e.g. hedgerows and lines of trees); and
 - watercourse units (e.g. culverts, canals, wet ditches, rivers and streams).
- 2.2.6 Consequently, a site can have three biodiversity unit values, which are assessed using the Metric, but which cannot be summed together or traded between.
- 2.2.7 The area or length of a habitat is multiplied by several factors in the Metric (called multipliers) that indicate its quality and value (distinctiveness, condition and strategic location), and this provides its BU value.
- 2.2.8 In addition, for those habitats that are to be created or enhanced, the risk of failure is accounted for by applying multipliers for risk factors (difficulty, time to target condition, and off-site risk).
- 2.2.9 A brief description of the different multipliers contained within the Metric are detailed below in *Table 1*.

Table 1 – Statutory Biodiversity Metric multipliers and their explanations

Biodiversity Metric multiplier	Explanation
Habitat distinctiveness	A measure based on the type of habitat and its distinguishing features. This includes: • consideration of species richness and rarity; • the extent to which the habitat is protected by designations; and • the degree to which a habitat supports species rarely found in other habitats.
Habitat condition	A measure of the habitat against its ecological optimum state. Condition is a way of measuring variation in the quality of patches of the same habitat type.
Strategic significance	Describes the local significance of the habitat based on its location and the habitat type.
Difficulty	A measure which represents the uncertainty in the effectiveness of management techniques used to enhance or create habitat.
Time to target condition	The average time taken between starting creation or enhancement of habitats and that habitat reaching its target condition or distinctiveness.
Spatial risk	Spatial risk represents the relationship between the location of biodiversity loss (on-site) and where the off-site habitat is being delivered. This is applied to off-site interventions only.

Biodiversity Metric multiplier	Explanation
Riparian zone encroachment	A measure of any feature or intervention within the riparian zone that reduces the quantity, quality or ecological function of the riparian habitat.
Watercourse encroachment	A measure of any feature that adversely affects the natural function of the watercourse, or results in localised changes in habitat, species and migratory pathways.

2.3 BNG Good Practice Principles for Development

- 2.3.1 The Metric has been designed as a tool to help inform plans and decisions; however, when undertaking BNG assessments this must be undertaken in accordance with set principles outlined in the user guide (Defra, 2024). These are outlined in *Table 2* along with a full justification regarding how each principle has been considered.

Table 2 – Defra metric good practice principles and justification

Principle	Justification of how principle has been applied
Principle 1: The metric assessment should be completed by a competent person.	This assessment has been completed by Stephen Phillips who has 10 years' carrying out BNG assessments
Principle 2: The use of this biodiversity metric does not override existing biodiversity protections, statutory obligations, policy requirements, ecological mitigation hierarchy or any other requirements. This includes consenting or licensing processes, for example woodlands.	Existing levels of protection afforded to protected species and habitats are not changed by use of this or any other metric. Statutory obligations will still need to be satisfied. The Ecological Impact Assessment (EclA) details the presence of protected and/or notable species, sites and habitats, and assesses potential impacts and outlines suitable mitigation measures to address these.
Principle 3: The biodiversity metric should be used in accordance with established good practice guidance and professional codes.	The mitigation hierarchy has been applied to the design of the Proposed Development. The area of permanent habitat loss has been kept to a minimum without compromising the development. The habitats that will be created and enhanced within the Order Limits will be appropriate, and of the correct distinctiveness, to compensate for the habitats that will be impacted.
Principle 4: The biodiversity metric is not a complex or comprehensive ecological model and is not a substitute for expert ecological advice.	RSK Biocensus acknowledges that the Defra Metric has been kept deliberately simple to be of practical use. The calculations have been undertaken by specialists and input is underpinned by robust baseline evidence and ecological knowledge and experience.
Principle 5: Biodiversity units are a proxy for biodiversity and should be treated as relative values.	RSK Biocensus acknowledges that the Defra Metric is tool to be used as a means of assessing changes in biodiversity value (losses or gains) brought about by the

Principle	Justification of how principle has been applied
	Proposed Development and is a habitat-based approach to determining a proxy biodiversity value within the Order Limits and the output does not represent absolute values.
Principle 6: This biodiversity metric is designed to inform decisions in conjunction with locally relevant evidence, expert input, or guidance.	Impacts to protected and notable species and habitats have been fully assessed as part of the ecological assessments undertaken for the Proposed Development.
Principle 7: Habitat interventions need to be realistic and deliverable within a relevant project timeframe.	The habitats chosen for creation and enhancement have been done so based on the existing on-site conditions and local context, not purely to achieve the greatest possible BNG result using the Defra Metric. The post-development habitats will be created, enhanced, managed and maintained in accordance with the HMMP which will ensure the habitats achieve their target condition. Soil samples have been taken to ensure the proposed enhancements are appropriate.
Principle 8: Created and enhanced habitats should be, where practical and reasonable, local to any impact and deliver strategically important outcomes for nature conservation.	The created and enhanced habitats to achieve the BNG requirements are all being delivered within 1km of the proposed development and are therefore local to the impacts. The landscape plan has been designed to be in keeping with the local character of the area whilst also being in accordance with the Lawton principles of 'bigger, better, more and joined up' (Lawton <i>et al.</i> , 2010).
Principle 9: The biodiversity metric does not enforce a minimum habitat size ratio for compensation of losses. Proposals should aim to: - maintain habitat extent - supporting more, bigger, better and more joined up ecological networks - ensure that proposed or retained habitat parcels are of sufficient size for ecological function	Where possible, in the first instance the same habitat type of better condition will be created. If conditions do not allow for the same habitat type to be created, consideration will be given to the creation of different habitats of the same broad type or higher and of better condition. A buffer of habitat will be either retained, created or enhanced around the perimeter of the Proposed Development which will continue to provide an ecological corridor to the wider landscape.

2.4 Irreplaceable Habitats and Very High Distinctiveness Habitats

2.4.1 Irreplaceable and very high distinctiveness habitats (as provisioned in secondary legislation for BNG³) are those that it is very difficult or would take a very long time to restore, create or replace. Irreplaceable and very high distinctiveness habitats are too

³ <https://defralanduse.blog.gov.uk/2023/10/05/irreplaceable-habitats-and-bng-what-you-need-to-know/>

ecologically valuable to be included in the standard Metric calculations and are therefore excluded from the BNG baseline assessment. Special compensation rules apply to these habitats and any impacts to them requires a bespoke compensation strategy that is agreed with the Local Planning Authority (LPA).

- 2.4.2 The Proposed Development will have no impact on any irreplaceable or very high distinctiveness habitats and therefore all applicable habitats are included in the BNG baseline assessment and no bespoke compensation strategy is required.

2.5 Assumptions and Limitations

- 2.5.1 The location of the cable route was not known at the time of the field surveys. Currently the cable will be installed via horizontal direction drilling (HDD) techniques resulting in no impact to these habitats. Open cut trenching is proposed only in roads (sealed surfaces). For this assessment the habitats have been classified using aerial photos, site photos and surveyor notes. Habitats have been assumed to be in good condition.
- 2.5.2 There are several individual trees adjacent to the site boundaries. All proposed development will be outside the tree root protection zones and therefore the boundary individual trees have been omitted from the BNG calculation.
- 2.5.3 This assessment has been carried out based on the current site location and design for the Proposed Development (shown in *2831-LLA-ZZ-00-DR-L-0001-P02 Landscape*). If future design changes of the Proposed Development affect the habitat calculations in the BNG assessment a further assessment could be required.

3.0 RESULTS

3.1 Overview

- 3.1.1 To calculate the overall biodiversity accounting position for the Proposed Development, the BU values for the existing habitats (pre-development) and the proposed newly created/enhanced habitats (post-development) have been calculated and compared.
- 3.1.2 Screenshots of the assessment are shown in *Appendix A*. The full Statutory Biodiversity Metric spreadsheet is presented separately in 2486105_Statutory_Biodiversity_Metric_With_Cable_Route. The habitat condition sheets are presented in *Appendix B* (pre-development) and *Appendix C* (post-development).

3.2 Pre-development

- 3.2.1 The Application Site comprises the following habitats; *Other neutral grassland, Modified grassland, Ponds, and Native hedgerows*. The cable route also includes an area of *Other woodland; broadleaved, Other neutral grassland, Mixed scrub and developed land; sealed surface*.
- 3.2.2 The UKHab Classification Plan shown in *Figure 2* has been used to determine all of the habitats present within the Application Site before construction.
- 3.2.3 There are additional off-site areas that will be enhanced to deliver the minimum 10% gain. These areas comprise the following habitats, *Cropland, Other neutral grassland and Bramble scrub*.

On-site area habitats

- 3.2.4 The total area of each area habitat recorded within the Application Site before construction, the condition of each habitat (i.e. its current status) and a summary of the BUs this represents, are all presented in *Table 3* below.

Table 3 – Baseline biodiversity unit values for each habitat recorded within the Application Site before construction

Habitat type (UKHab classification)	Baseline habitat condition	Area (ha)	Baseline biodiversity unit value (BU)
Modified grassland	Moderate	2.83	11.32
Other neutral grassland	Moderate	2.46	19.68
Other neutral grassland	Poor	0.24	0.96
Pond	Poor	0.03	0.12

Habitat type (UKHab classification)	Baseline habitat condition	Area (ha)	Baseline biodiversity unit value (BU)
Other neutral grassland	Good	0.18	2.16
Mixed scrub	Good	0.54	6.48
Developed land; sealed surface	N/A	2.49	0
Other woodland; broadleaved	Good	0.79	9.48
Total		9.56	50.20

Off-site area habitats

- 3.2.5 The total area of each area habitat recorded with the off-Site enhancement areas, the condition of each habitat (i.e. its current status) and a summary of the BUs this represents, are all presented in *Table 4* below.

Table 4 – Baseline biodiversity unit values for each habitat recorded within the off-site enhancement areas

Habitat type (UKHab classification)	Baseline habitat condition	Area (ha)	Baseline biodiversity unit value (BU)
Other neutral grassland	Moderate	0.87	6.96
Cropland	n/a	1.07	2.14
Other neutral grassland	Poor	0.13	0.52
Cropland	n/a	2.14	4.28
Other neutral grassland	Moderate	1.03	8.24
Other neutral grassland	Poor	0.13	0.52
Bramble scrub	n/a	0.17	0.68
Total		5.54	23.24

On-site hedgerows

- 3.2.6 The total length of each hedgerow recorded within the Site before construction, the condition of each habitat at the time of the UKHab Classification survey (i.e. its current status) and a summary of the BUs this represents, are all presented in *Table 10* below.

Table 5 – Baseline biodiversity unit values for each hedgerow recorded within the Application Site before construction

Habitat type (UKHab classification)	Baseline habitat condition	Length (km)	Baseline biodiversity unit value (BU)
Native hedgerow	Moderate	0.67	2.68
Total		0.67	2.68

Off-site hedgerows

3.2.7 There are no off-site hedgerows.

Watercourses

3.2.8 There are no on-site or off-site watercourses.

3.3 Post-development

3.3.1 The Landscape plans provided by Liz Lake Associates and CADmando on behalf of Clearstone Energy have been used to identify all the habitats that will be created, enhanced or retained within the Site after construction.

On-site area habitats

3.3.2 The total area of each existing area habitat that will be lost, retained or enhanced within the Site and a summary of the BUs this represents, are all presented in *Table 10* below.

Table 6 – Extent of baseline area habitats being lost, retained and enhanced within the Application Site along with their associated biodiversity unit values

Habitat type	Baseline habitat condition	Area lost (ha)	Area retained (ha)	Area enhanced (ha)	Forecast biodiversity units (BU) lost	Forecast biodiversity units (BU) retained	Baseline biodiversity units (BU) enhanced
Modified grassland	Moderate	2.83	0	0	11.32	0	0
Other neutral grassland	Moderate	2.46	0	0	19.68	0	0
Other neutral grassland	Poor	0.24	0	0	0.96	0	0
Pond (non-priority habitat)	Poor	0	0.03	0	0	0.12	0
Other neutral grassland	Good	0	0.18	0	0	2.16	0

Habitat type	Baseline habitat condition	Area lost (ha)	Area retained (ha)	Area enhanced (ha)	Forecast biodiversity units (BU) lost	Forecast biodiversity units (BU) retained	Baseline biodiversity units (BU) enhanced
Mixed scrub	Good	0	0.54	0	0	6.48	0
Developed land; sealed surface	N/A	0	2.49	0	0	0	0
Other woodland; broadleaved	Good	0	0.79	0	0	9.48	0
Total		5.53	4.03	0	31.96	18.24	0

- 3.3.3 Due to the groundworks required to get the Application Site to desired levels for the proposed development all habitats will be lost or damaged, with the exception of the habitats within tree root protection areas around the site boundaries. Lost or damaged areas are unlikely to recover within 2 years. The pond in the south east corner of the field 1 was assessed as dry, this feature will be retained and there are currently no plans to enhance it.
- 3.3.4 The cable will be installed via HDD techniques under the woodland and areas of grassland and scrub. There will be no impacts to these habitats.
- 3.3.5 A breakdown of areas for each proposed area habitat created post-development within the Site and a summary of the BUs this represents are presented in *Table 11*.

Table 7 – Post-development area habitat biodiversity unit values within the Application Site based on the current design

Habitat type	Forecast habitat condition	Forecast area (ha)	Forecast biodiversity unit value (BU)
Other neutral grassland	Moderate	2.54	17.00
Mixed scrub	Moderate	0.29	1.94
Developed land sealed surface	n/a	2.70	0
Total		5.53	18.95

- 3.3.6 Detailed planting schedules, seed mixes and management for each enhanced habitat will be included in the HMMP once planning permission has been granted.
- 3.3.7 Condition assessment criteria for newly created and enhanced area habitats are provided in *Appendix C*.

Off-site area habitats

- 3.3.8 The total area of each existing area habitat that will be retained or enhanced within the off-site enhancement area and a summary of the BUs this represents, are all presented in *Table 8* below.

Table 8 – Extent of baseline area habitats being lost, retained and enhanced within the off-site areas along with their associated biodiversity unit values

Habitat type	Baseline habitat condition	Area retained (ha)	Area enhanced (ha)	Forecast biodiversity units (BU) retained	Baseline biodiversity units (BU) enhanced
Other neutral grassland (eastern adjacent field)	Moderate	0	0.87	0	6.96
Cropland (northern arable field)	n/a	0	1.07	0	2.14
Other neutral grassland (access around northern arable field)	Poor	0	0.13	0	0.52
Cropland (southern arable field)	n/a	0	2.14	0	4.28
Other neutral grassland (grassland adjacent to southern arable field)	Moderate	0	1.03	0	8.24
Other neutral grassland (access track around southern arable field)	Poor	0	0.13	0	0.52
Bramble scrub (within grassland field adjacent to southern arable field)	n/a	0.17	0	0.68	0
Total		0.17	5.37	0.68	22.66

- 3.3.9 Off-site there will only be habitat enhancement, no new habitats will be created.
- 3.3.10 The two existing other neutral grassland fields will be enhanced from moderate to good condition. The two arable fields and their boundary grassland tracks will be converted to other neutral grassland targeting moderate condition.
- 3.3.11 There are no plans to enhance the bramble scrub within the grassland field adjacent to the southern arable field.

- 3.3.12 Soil samples have been taken to ensure that proposed enhancements are realistic and achievable. Detailed planting schedules, seed mixes and management for each enhanced habitat will be included in the HMMP once planning permission has been granted.
- 3.3.13 Condition assessment criteria for newly created and enhanced area habitats are provided in *Appendix C*.

Hedgerows

- 3.3.14 The total length of each existing hedgerow that will be lost, retained or enhanced within the Site and a summary of the BUs this represents, are all presented in *Table 9* below:

Table 9 – Extent of baseline hedgerows being lost, retained and enhanced within the Application Site along with their associated biodiversity unit values

Habitat type	Baseline habitat condition	Length lost (km)	Length retained (km)	Length enhanced (km)	Baseline biodiversity units (BU) lost	Baseline biodiversity units (BU) retained	Baseline biodiversity units (BU) enhanced
Native hedgerow	Moderate	0.04	0.63	0	0.16	2.52	0
Total		0.04	0.63	0	0.16	2.52	0

- 3.3.15 Four approximately 10m wide gaps will be made within the existing hedgerows to create access to the proposed development. The locations of these access points have been carefully selected to avoid any trees.
- 3.3.16 A breakdown of lengths for each proposed hedgerow created post-development within Site and a summary of the BUs this represents are presented in *Table 10*.

Table 10 – Post-development hedgerow biodiversity unit values within the Application Site based on the current design

Habitat type	Forecast habitat condition	Forecast length (km)	Forecast biodiversity unit value (BU)
Native hedgerow	Good	0.29	0.94
Total		0.24	0.94

- 3.3.17 There are two proposed hedgerows in field 1 screening either side of a grassland belt between two parts of the developments. There is a third hedgerow along the eastern boundary of the development in field 2. These three hedgerows total 240 m. There are plans for additional hedgerow planting, but operational constraints may not allow for this therefore these additional hedgerows have not been included in this calculation.
- 3.3.18 Detailed planting schedules, seed mixes and management for each enhanced habitat will be included in the HMMP once planning permission has been granted.

3.3.19 Condition assessment criteria for newly created and enhanced area habitats are provided in *Appendix C*.

3.4 Change in Biodiversity Value

3.4.1 The habitat creation and enhancement proposals as detailed in the Landscape plans is anticipated to result in a net increase of area habitat and hedgerow BUs. This is summarised in *Table 11*.

Table 11 – Change in biodiversity units as a result of the Proposed Development

Post-development area habitat biodiversity units (BU)		Baseline area habitat area biodiversity units (BU)		Change in area habitat biodiversity units (BU)	Percentage change (%)
37.19 + 42.88 (On-site + Off-site)	-	50.20 + 23.34 (On-site + Off-site)	=	6.52	13.00
Post-development hedgerow biodiversity units (BU)		Baseline hedgerow biodiversity units (BU)		Change in hedgerow biodiversity units (BU)	Percentage change (%)
3.46	-	2.68	=	0.78	29.07

3.4.2 The change in biodiversity value for the Proposed Development, as set out in Table 11, indicates that post-development:

- there would be an increase of **6.52** area habitat BUs which equates to an **13.00%** net gain in area habitats. The trading rules associated with the Metric have been met for area habitats as a result of the Proposed Development.
- there would also be an increase of **0.78** hedgerow BUs which equates to an **29.07%** net gain in hedgerows. The trading rules associated with the Metric have been met for hedgerows as a result of the Proposed Development.

3.5 Future management

3.5.1 Details of how the proposed changes in habitat condition will be implemented together with future management regime and monitoring protocol will be detailed in a Habitat Management and Monitoring Plan (HMMP) to be submitted post planning for the approval of the local planning authority.

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Defra (2024) *The Statutory Biodiversity Metric* Available: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>.

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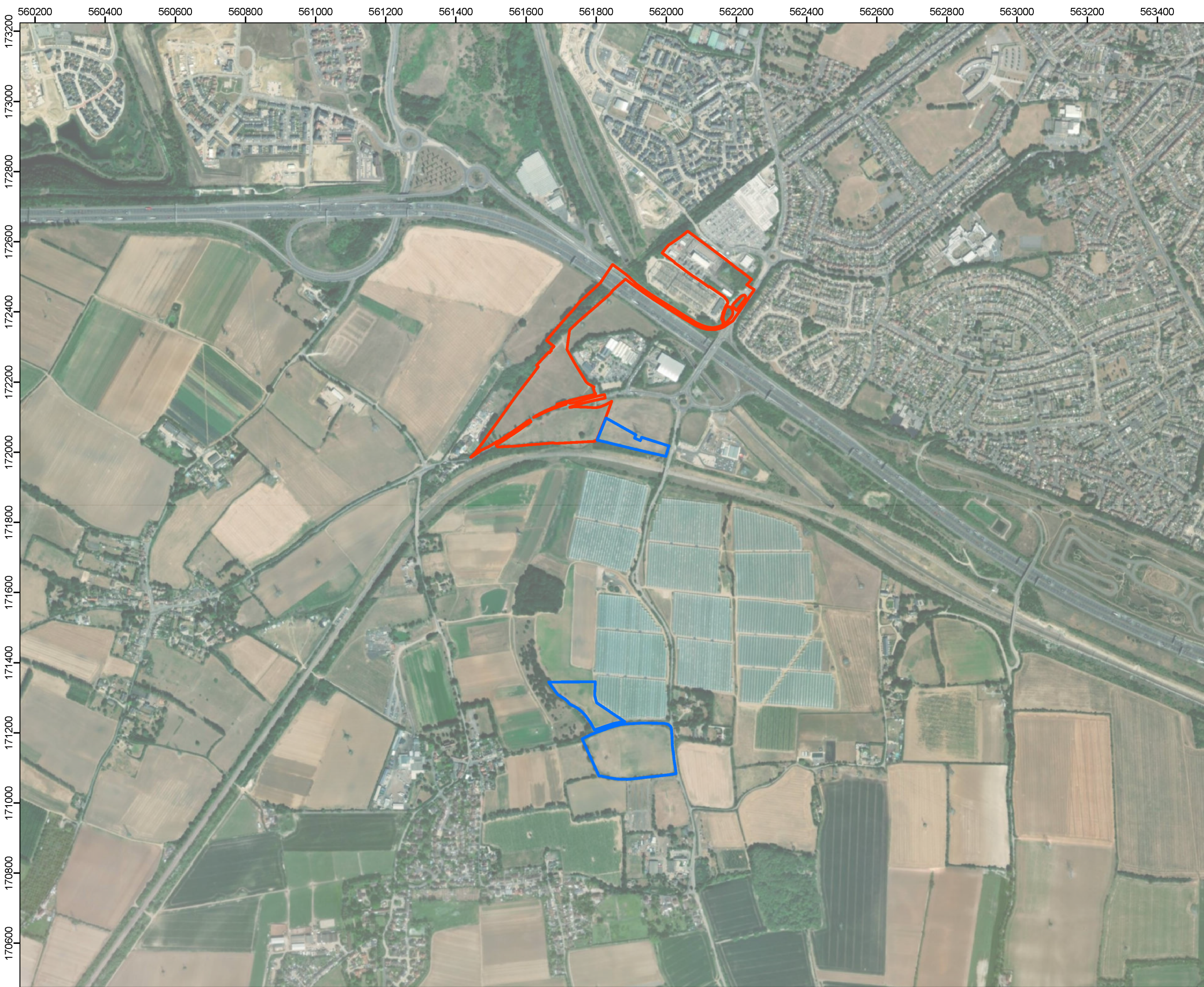
Lawton, J. et al (2010) *'Making space for nature': a review of England's wildlife sites published today* Available: <https://www.gov.uk/government/news/making-space-for-nature-a-review-of-englands-wildlife-sites-published-today>.

FIGURES

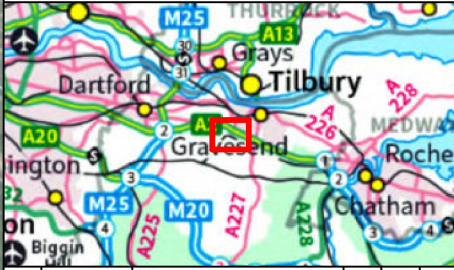
Figure 1. Site location plan

Figure 2. UKHab Plan - On-Site baseline habitats

Figure 3. UKHab Plan - Off-Site baseline habitats



- Legend:**
- Site boundary
 - Off-site enhancement areas

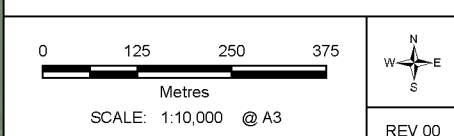


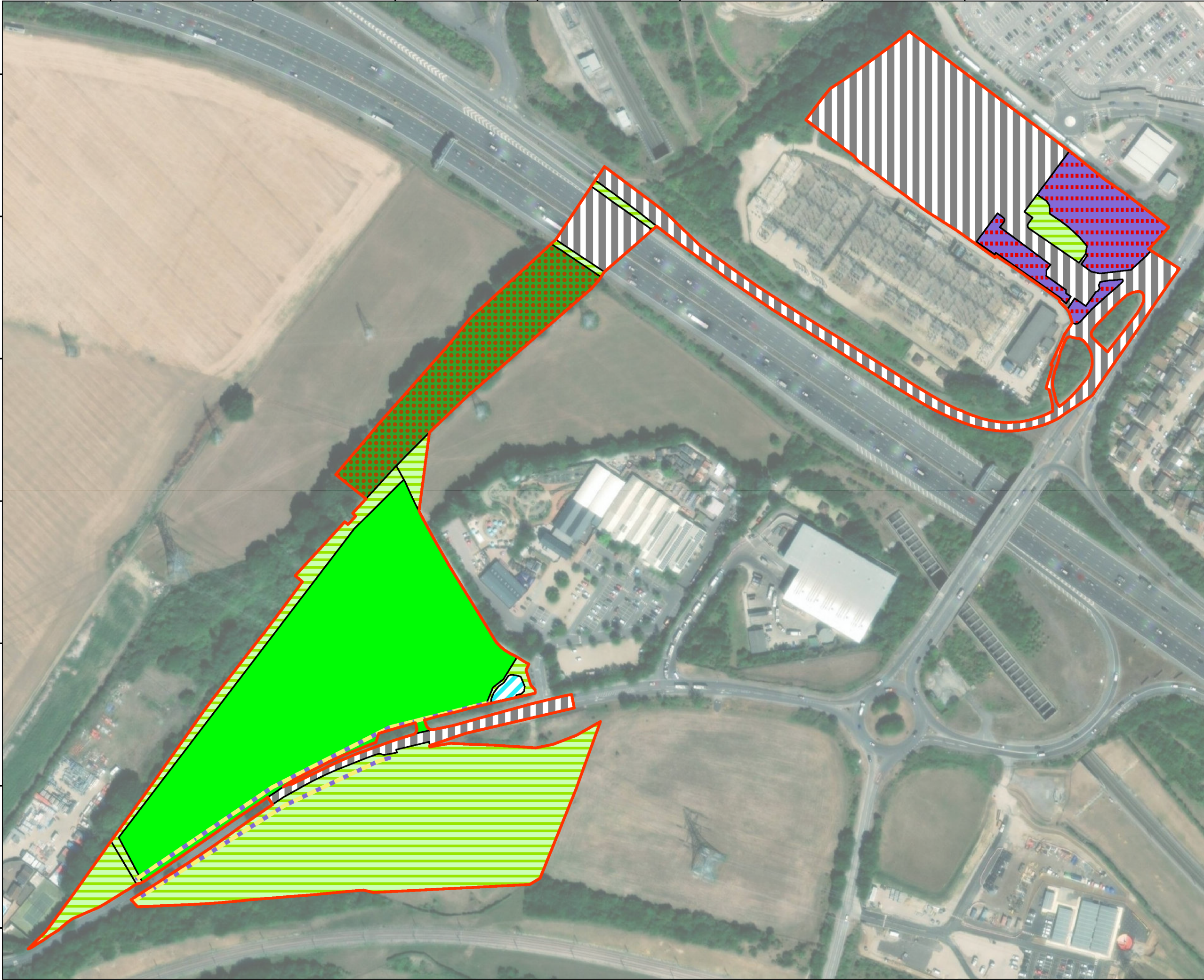
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Rev	Date	Description	Drn	Chk	App

Northfleet BESS PEA BNG Assessment



TITLE: Figure 1:
Site Location Plan





- Legend:**
- Site boundary
 - UKHab Habitats
 - Other neutral grassland
 - Modified grassland
 - Mixed scrub
 - Ponds (non-priority habitat)
 - Developed land; sealed surface
 - Other woodland; broadleaved
 - Native hedgerow

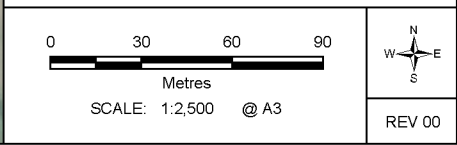


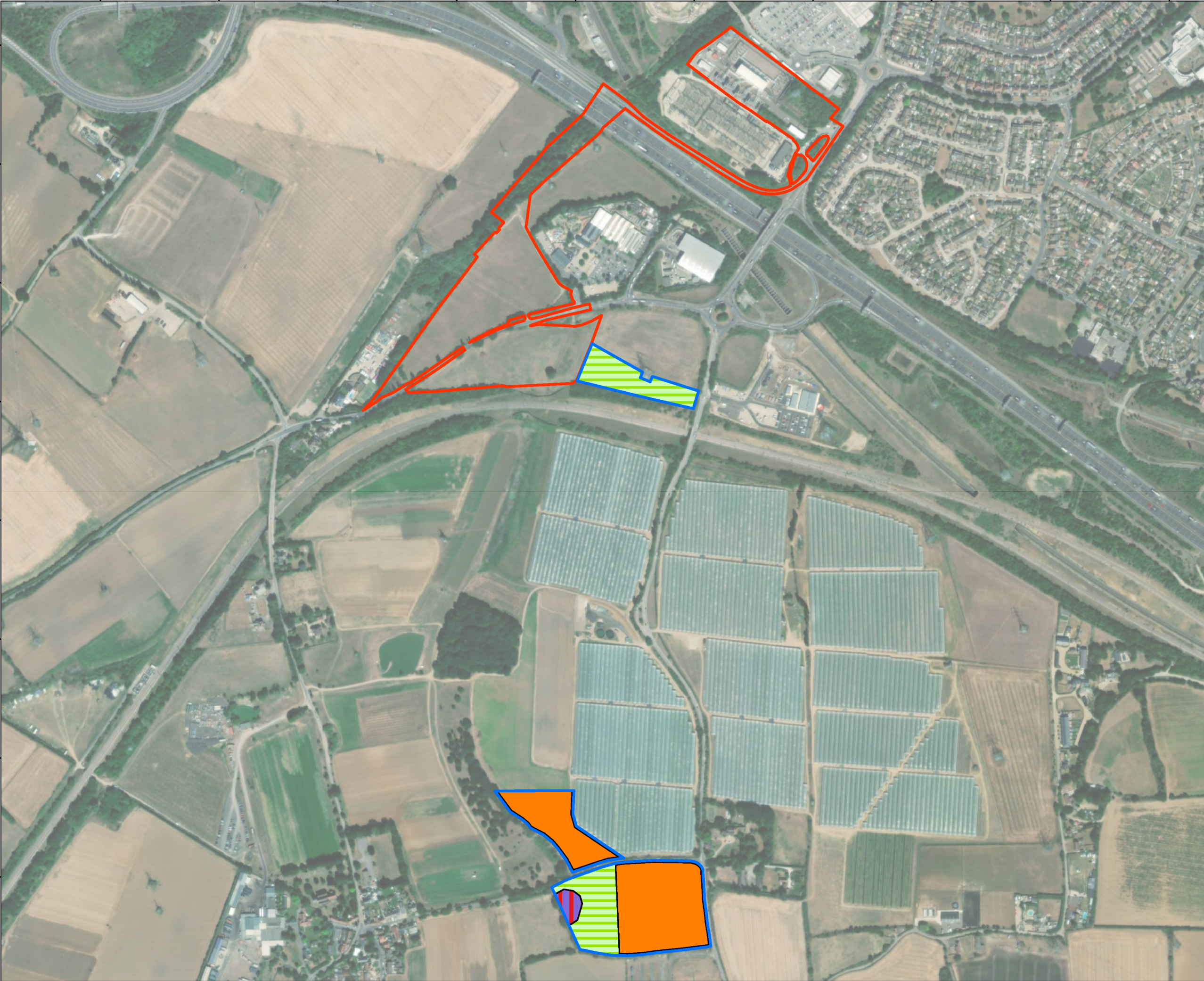
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Northfleet BESS PEA BNG Assessment

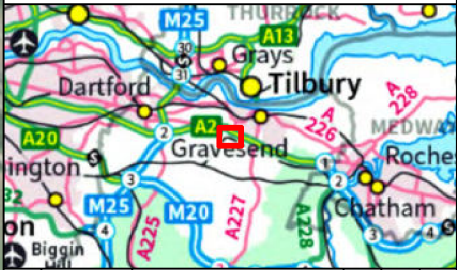


TITLE: Figure 2:
On-Site Baseline Habitats





- Legend:**
- Site boundary
 - Off-site enhancement areas
 - UKHab Habitats
 - Cropland
 - Other neutral grassland
 - Bramble scrub

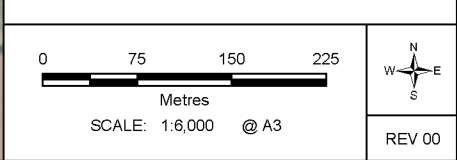


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Rev	Date	Description	Drn	Chk	App

Northfleet BESS PEA BNG Assessment



TITLE: Figure 3:
Off-Site Baseline Habitats



APPENDIX A – BNG ASSESSMENT

Please note that the full, detailed BNG calculations are provided within the Statutory Biodiversity Metric spreadsheet for the project, which is presented separately in 2486105_Statutory_Biodiversity_Metric_With_Cable_Route.

Extracts of the spreadsheet are provided on pages 26 and 27.

A. Pre-construction calculations

On-Site Area Habitats

	Existing area habitats				Distinctiveness	Condition	Strategic significance	Required Action to Meet Trading Rules	Ecological baseline								
Ref	Broad Habitat	Habitat Type	Irreplaceable habitat	Area (hectares)	Distinctiveness	Condition	Strategic significance	Required Action to Meet Trading Rules	Total habitat units	Area retained	Area enhanced	Baseline units retained	Baseline units enhanced	Area habitat lost	Units lost		
1	Grassland	Modified grassland	No	2.83	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required ²	11.32			0.00	0.00	2.83	11.32		
2	Grassland	Other neutral grassland	No	2.46	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Same broad habitat or a higher distinctiveness habitat required (2)	19.68			0.00	0.00	2.46	19.68		
3	Grassland	Other neutral grassland	No	0.24	Medium	Poor	Area/compensation not in local strategy/ no local strategy	Same broad habitat or a higher distinctiveness habitat required (2)	0.96			0.00	0.00	0.24	0.96		
4	Lakes	Ponds (non-priority habitat)	No	0.03	Medium	Poor	Area/compensation not in local strategy/ no local strategy	Same broad habitat or a higher distinctiveness habitat required (2)	0.12	0.03		0.12	0.00	0.00	0.00		
5																	
6	Grassland	Other neutral grassland	No	0.18	Medium	Good	Area/compensation not in local strategy/ no local strategy	Same broad habitat or a higher distinctiveness habitat required (2)	2.16	0.18		2.16	0.00	0.00	0.00		
7	Heathland and shrub	Mixed scrub	No	0.54	Medium	Good	Area/compensation not in local strategy/ no local strategy	Same broad habitat or a higher distinctiveness habitat required (2)	6.48	0.54		6.48	0.00	0.00	0.00		
8	Urban	Developed land; sealed surface	No	2.49	V.Low	N/A - Other	Area/compensation not in local strategy/ no local strategy	Compensation Not Required	0.00	2.49		0.00	0.00	0.00	0.00		
9	Woodland and forest	Other woodland; broadleaved	No	0.79	Medium	Good	Area/compensation not in local strategy/ no local strategy	Same broad habitat or a higher distinctiveness habitat required (2)	9.48	0.79		9.48	0.00	0.00	0.00		
10																	
11																	
12																	
13																	
14																	
Total habitat area				9.56						50.20	4.03	0.00	18.24	0.00	5.53	31.96	
Site Area (Excluding area of individual trees, green walls, intertidal hard structures)				9.56							Total area lost (excluding area of individual trees, green walls and intertidal hard structures)						5.53
M² to hectares conversion tool:				Select a unit	Hectares	M²											

B. Post development calculations

On-Site Area Habitats

	Post intervention habitats										
Ref	Broad Habitat	Proposed habitat	Area (hectares)	Distinctiveness	Condition	Strategic significance	Temporal multiplier	Difficulty		Habitat units delivered	
				Distinctiveness	Condition	Strategic significance	Standard or adjusted time to target condition	Final time to target condition (years)	Final difficulty of creation		
1	Grassland	Other neutral grassland	2.54	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	5	Low	17.00	
2	Heathland and shrub	Mixed scrub	0.29	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	5	Low	1.94	
3	Urban	Developed land; sealed surface	2.7	V.Low	N/A - Other	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	0	Low	0.00	
4											
5											
6											
7											
8											
Total habitat area			5.53								18.95
Site Area (Excluding area of individual trees, green walls, intertidal hard structures)			5.53								

Off-Site Area Habitats

Baseline ref	Baseline habitat	Proposed Habitat (Broad habitat pre-populated but can be overridden)		Change in distinctiveness and condition		Area (hectare)	Distinctiveness	Condition	Strategic significance	Temporal multiplier		Difficulty	Spatial risk category	Habitat units delivered
	Baseline habitat	Proposed Broad Habitat	Proposed Habitat	Distinctiveness change	Condition change				Strategic significance	Standard or adjusted time to target condition	Final time to target condition (years)			
	Baseline habitat	Proposed Broad Habitat	Proposed Habitat	Distinctiveness change	Condition change				Strategic significance	Standard or adjusted time to target condition	Final time to target condition (years)			
1	Grassland - Other neutral grassland	Grassland	Other neutral grassland	Medium - Medium	Moderate - Good	0.11	Medium	Good	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	19	Low	Compensation within LPA boundary or NCA of importance	8.60
2	Grassland - Horticulture	Grassland	Other neutral grassland	Low - Medium	Lower Distinctiveness Habitat - Moderate	1.67	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	19	Low	Compensation within LPA boundary or NCA of importance	8.64
3	Grassland - Other neutral grassland	Grassland	Other neutral grassland	Medium - Medium	Peer - Moderate	0.10	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	19	Low	Compensation within LPA boundary or NCA of importance	8.33
4	Grassland - Horticulture	Grassland	Other neutral grassland	Low - Medium	Lower Distinctiveness Habitat - Moderate	2.14	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	19	Low	Compensation within LPA boundary or NCA of importance	12.27
5	Grassland - Other neutral grassland	Grassland	Other neutral grassland	Medium - Medium	Moderate - Good	1.43	Medium	Good	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	19	Low	Compensation within LPA boundary or NCA of importance	11.0
6	Grassland - Other neutral grassland	Grassland	Other neutral grassland	Medium - Medium	Peer - Moderate	0.10	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	19	Low	Compensation within LPA boundary or NCA of importance	8.33
Total habitat area						5.22								42.28

Hedgerows

		Proposed habitats		Distinctiveness	Condition	Strategic significance	Temporal multiplier		Difficulty risk multipliers	Hedge units delivered
Ref	New hedge number	Habitat type	Length (km)	Distinctiveness	Condition	Strategic significance	Standard or adjusted time to target condition	Final time to target condition (years)	Final difficulty of creation	
1		Native hedgerow	0.24	Low	Good	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	12	Low	0.94
2										
3										
4										
5										
6										
			0.24							0.94

C. Summary Results

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	6.52
	<i>Hedgerow units</i>	0.78
	<i>Watercourse units</i>	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	13.00%
	<i>Hedgerow units</i>	29.07%
	<i>Watercourse units</i>	0.00%
Trading rules satisfied?	Yes ✓	

APPENDIX B – PRE-DEVELOPMENT HABITAT CONDITION SURVEY RESULTS

On-site habitats

Habitat Ref 1: Modified Grassland

Condition Assessment Criteria	Pass/Fail
There are 6-8 vascular plant species per m ² present, including at least 2 forbs. Note - this criterion is essential for achieving Moderate or Good condition.	Pass
Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	Fail
Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble <i>Rubus fruticosus</i> agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Pass
Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Fail
Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	Pass
Cover of bracken <i>Pteridium aquilinum</i> is less than 20%.	Pass
There is an absence of invasive non-native plant species (as listed on Schedule 9 of Wildlife and Countryside Act 1981).	Pass
Overall Condition Assessment	
5 of 7 passes resulting in Moderate condition. Photos can be found in the EcIA.	

Habitat Ref 2: Other neutral grassland

Condition Assessment Criteria	Pass/Fail
The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type. Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	Pass
Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Fail
Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	Pass
Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus agg.</i>) is less than 5%.	Pass
Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species (as listed on Schedule 9 of WCA5) are present, this criterion is automatically failed.	Pass
There are 10 or more vascular plant species per m2 present, including forbs that are characteristic of the habitat type. Note - this criterion is essential for achieving Good condition for non-acid grassland types only.	Pass
Overall Condition Assessment	
5 of 6 passes resulting in Moderate condition. Photos can be found in the EcIA.	

Habitat Ref 3: Other neutral grassland

Condition Assessment Criteria	Pass/Fail
The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type. Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	Fail
Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Pass
Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	Pass
Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus agg.</i>) is less than 5%.	Pass
Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species (as listed on Schedule 9 of WCA5) are present, this criterion is automatically failed.	Pass
There are 10 or more vascular plant species per m ² present, including forbs that are characteristic of the habitat type. Note - this criterion is essential for achieving Good condition for non-acid grassland types only.	Fail
Overall Condition Assessment	
Fails first essential criteria resulting in Poor condition. Photos can be found in the EcIA.	

Habitat Ref 4: Pond (non-priority habitat)

Condition Assessment Criteria	Pass/Fail
The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	Fail
There is semi-natural habitat (moderate distinctiveness or above) completely surrounding the pond, for at least 10 m from the pond edge for its entire perimeter.	Fail
Less than 10% of the water surface is covered with duckweed <i>Lemna spp.</i> or filamentous algae.	Pass
The pond is not artificially connected to other waterbodies, such as agricultural ditches or artificial pipework.	Pass
Pond water levels can fluctuate naturally throughout the year. No obvious artificial dams, pumps or pipework.	Pass
There is an absence of listed non-native plant and animal species.	Pass
The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	Pass
Emergent, submerged or floating plants (excluding duckweed) cover at least 50% of the pond area which is less than 3 m deep.	Fail
The pond surface is no more than 50% shaded by adjacent trees and scrub.	Fail
Overall Condition Assessment	
5 of 9 passes resulting in Poor condition. Photos can be found in the EclA.	

Habitat Ref 6: Other neutral grassland

Condition Assessment Criteria	Pass/Fail
The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type. Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	Pass
Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Pass
Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	Pass
Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus agg.</i>) is less than 5%.	Pass
Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species (as listed on Schedule 9 of WCA5) are present, this criterion is automatically failed.	Pass
There are 10 or more vascular plant species per m ² present, including forbs that are characteristic of the habitat type. Note - this criterion is essential for achieving Good condition for non-acid grassland types only.	Pass
Overall Condition Assessment	
This area of grassland has been classified using aerial imagery and assumed to be in good condition. There are no plans to impact the habitat as the cables will be installed via HDD techniques.	

Habitat Ref 7: Mixed scrub

Condition Assessment Criteria	Pass/Fail
The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range). - At least 80% of scrub is native, - There are at least three native woody species, - No single species comprises more than 75% of the cover (except hazel <i>Corylus avellana</i> , common juniper <i>Juniperus communis</i> , sea buckthorn <i>Hippophae rhamnoides</i> or box <i>Buxus sempervirens</i> , which can be up to 100% cover).	Pass
Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	Pass
There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA5) and species indicative of suboptimal condition make up less than 5% of ground cover.	Pass
The scrub has a well-developed edge with scattered scrub and tall grassland and/or forbs present between the scrub and adjacent habitat.	Pass
There are clearings, glades or rides present within the scrub, providing sheltered edges.	Pass
Overall Condition Assessment	
This area of mixed scrub has been classified using aerial imagery and assumed to be in good condition. There are no plans to impact the habitat as the cables will be installed via HDD techniques.	

Habitat Ref 8: Developed land; sealed surface

Condition Assessment Criteria	Pass/Fail
N/A	N/A
Overall Condition Assessment	
Roads and areas of hardstanding with no biodiversity value	

Habitat Ref 9: Other woodland; broadleaved

Condition Assessment Criteria	Score
Age distribution of trees	3
Wild, domestic and feral herbivore damage	3
Invasive plant species	3
Number of native tree species	3
Cover of native tree and shrub species	3
Open space within woodland	3
Woodland regeneration	3
Tree health	3
Vegetation and ground flora	3
Woodland vertical structure	3
Veteran trees	3
Amount of deadwood	3
Woodland disturbance	3
Total	39
Overall Condition Assessment	
This area of other woodland; broadleaved has been classified using aerial imagery and assumed to be in good condition. There are no plans to impact the habitat as the cables will be installed via HDD techniques.	

Hedgerow Ref 1: Native hedgerow

Condition Assessment Criteria	Pass/Fail
A1 >1.5 m average along length	Pass
A2 >1.5 m average along length	Pass
B1 Gap between ground and base of canopy <0.5 m for >90% of length	Fail
B2 Gaps make up <10% of total length; and No canopy gaps >5 m	Fail
C1 >1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	Pass
C2 Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	Pass
D1 >90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA3) and recently introduced species.	Pass
D2 >90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	Pass
Overall Condition Assessment	
Fails both criteria in one functional group resulting in Moderate condition. Photos can be found in the EcIA.	

Off-site habitats

Habitat Ref 1: Other neutral grassland

Condition Assessment Criteria	Pass/Fail
The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type. Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	Pass
Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Fail
Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	Pass
Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5%.	Pass
Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species (as listed on Schedule 9 of WCA5) are present, this criterion is automatically failed.	Pass
There are 10 or more vascular plant species per m2 present, including forbs that are characteristic of the habitat type. Note - this criterion is essential for achieving Good condition for non-acid grassland types only.	Pass
Overall Condition Assessment	
5 of 6 passes resulting in Moderate condition	

Habitat Ref 3: Cropland

Condition Assessment Criteria	Pass/Fail
N/A	N/A
Overall Condition Assessment	
Cropland has a default Poor condition	

Habitat Ref 4: Other neutral grassland

Condition Assessment Criteria	Pass/Fail
The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type. Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	Fail
Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Pass
Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	Pass
Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus agg.</i>) is less than 5%.	Pass
Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.	Pass
If any invasive non-native plant species (as listed on Schedule 9 of WCA5) are present, this criterion is automatically failed.	
There are 10 or more vascular plant species per m2 present, including forbs that are characteristic of the habitat type. Note - this criterion is essential for achieving Good condition for non-acid grassland types only.	Fail
Overall Condition Assessment	
Fails first essential criteria resulting in Poor condition	

Habitat Ref 6: Cropland

Condition Assessment Criteria	Pass/Fail
N/A	N/A
Overall Condition Assessment	
Cropland has a default Poor condition	

Habitat Ref 7: Other neutral grassland

Condition Assessment Criteria	Pass/Fail
The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type. Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	Pass
Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Pass
Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	Pass
Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus agg.</i>) is less than 5%.	Pass
Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species (as listed on Schedule 9 of WCA5) are present, this criterion is automatically failed.	Pass
There are 10 or more vascular plant species per m ² present, including forbs that are characteristic of the habitat type. Note - this criterion is essential for achieving Good condition for non-acid grassland types only.	Fail
Overall Condition Assessment	
5 of 6 passes resulting in Moderate condition	

Habitat Ref 8: Other neutral grassland

Condition Assessment Criteria	Pass/Fail
The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type. Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	Fail
Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Pass
Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	Pass
Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus agg.</i>) is less than 5%.	Pass
Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.	Pass
If any invasive non-native plant species (as listed on Schedule 9 of WCA5) are present, this criterion is automatically failed.	
There are 10 or more vascular plant species per m2 present, including forbs that are characteristic of the habitat type. Note - this criterion is essential for achieving Good condition for non-acid grassland types only.	Fail
Overall Condition Assessment	
Fails first essential criteria resulting in Poor condition	

Habitat Ref 9: Bramble scrub

Condition Assessment Criteria	Pass/Fail
N/A	N/A
Overall Condition Assessment	
Bramble scrub has a default Poor condition	

APPENDIX C - POST-DEVELOPMENT CONDITION ASSESSMENTS

On-site habitat creation

Habitat Ref 1: Developed land

Condition Assessment Criteria	Pass/Fail
N/A	N/A
Overall Condition Assessment	
Developed land has no BNG value	

Hedgerow Ref 1: Native hedgerow

Condition Assessment Criteria	Pass/Fail
A1 >1.5 m average along length	Pass
A2 >1.5 m average along length	Pass
B1 Gap between ground and base of canopy <0.5 m for >90% of length	Pass
B2 Gaps make up <10% of total length; and No canopy gaps >5 m	Pass
C1 >1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	Pass
C2 Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	Pass
D1 >90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA3) and recently introduced species.	Pass
D2 >90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	Pass
Overall Condition Assessment	
The proposed hedgerow is expected to pass all criteria resulting in Good condition	

On-site habitat enhancement

Baseline Ref 1: Modified grassland enhanced to other neutral grassland

Condition Assessment Criteria	Pass/Fail
The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type. Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	Pass
Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Pass
Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	Pass
Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5%.	Pass
Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species (as listed on Schedule 9 of WCA5) are present, this criterion is automatically failed.	Pass
There are 10 or more vascular plant species per m2 present, including forbs that are characteristic of the habitat type. Note - this criterion is essential for achieving Good condition for non-acid grassland types only.	Fail
Overall Condition Assessment	
Following the completion of the development some areas of retained / temporarily damaged modified grassland will be enhanced to other neutral grassland. It is expected that these areas will achieve Moderate condition.	

Baseline Ref 3: Enhanced other neutral grassland

Condition Assessment Criteria	Pass/Fail
The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type. Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	Pass
Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Pass
Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	Pass
Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus agg.</i>) is less than 5%.	Pass
Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species (as listed on Schedule 9 of WCA5) are present, this criterion is automatically failed.	Pass
There are 10 or more vascular plant species per m ² present, including forbs that are characteristic of the habitat type. Note - this criterion is essential for achieving Good condition for non-acid grassland types only.	Fail
Overall Condition Assessment	
Following the completion of the development some areas of retained / temporarily damaged other neutral grassland in poor condition will be enhanced to Moderate condition.	

Habitat Ref 4: Enhanced Pond (non-priority habitat)

Condition Assessment Criteria	Pass/Fail
The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	Pass
There is semi-natural habitat (moderate distinctiveness or above) completely surrounding the pond, for at least 10 m from the pond edge for its entire perimeter.	Fail
Less than 10% of the water surface is covered with duckweed <i>Lemna spp.</i> or filamentous algae.	Pass
The pond is not artificially connected to other waterbodies, such as agricultural ditches or artificial pipework.	Pass
Pond water levels can fluctuate naturally throughout the year. No obvious artificial dams, pumps or pipework.	Pass
There is an absence of listed non-native plant and animal species.	Pass
The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	Pass
Emergent, submerged or floating plants (excluding duckweed) cover at least 50% of the pond area which is less than 3 m deep.	Fail
The pond surface is no more than 50% shaded by adjacent trees and scrub.	Pass
Overall Condition Assessment	
Following the completion of the development the mostly dry pond will be enhanced to Moderate condition as part of the drainage strategy.	

On-site habitat enhancement

Baseline Ref 1 and 7: Enhanced other neutral grassland

Condition Assessment Criteria	Pass/Fail
The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type. Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	Pass
Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Pass
Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	Pass
Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5%.	Pass
Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species (as listed on Schedule 9 of WCA5) are present, this criterion is automatically failed.	Pass
There are 10 or more vascular plant species per m2 present, including forbs that are characteristic of the habitat type. Note - this criterion is essential for achieving Good condition for non-acid grassland types only.	Pass
Overall Condition Assessment	
Two offsite grassland fields will be enhanced from moderate condition to Good condition.	

Baseline Ref 3 and 6: Cropland enhanced to other neutral grassland

Condition Assessment Criteria	Pass/Fail
The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type. Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	Pass
Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Pass
Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	Pass
Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus agg.</i>) is less than 5%.	Pass
Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species (as listed on Schedule 9 of WCA5) are present, this criterion is automatically failed.	Pass
There are 10 or more vascular plant species per m ² present, including forbs that are characteristic of the habitat type. Note - this criterion is essential for achieving Good condition for non-acid grassland types only.	Fail
Overall Condition Assessment	
Two offsite cropland fields will be enhanced to other neutral grassland targeting Moderate condition.	

Baseline Ref 4 and 8: Enhanced other neutral grassland

Condition Assessment Criteria	Pass/Fail
The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type. Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	Pass
Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Pass
Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	Pass
Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus agg.</i>) is less than 5%.	Pass
Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.	Pass
If any invasive non-native plant species (as listed on Schedule 9 of WCA5) are present, this criterion is automatically failed.	
There are 10 or more vascular plant species per m ² present, including forbs that are characteristic of the habitat type. Note - this criterion is essential for achieving Good condition for non-acid grassland types only.	Fail
Overall Condition Assessment	
Two grass tracks around cropland fields (Baseline Ref 3 and 6) will be enhanced from Poor condition to Moderate condition.	



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