

Technical Note 04

Project: Land To The North-West Of Bishops Stortford, Farnham Road, Farnham

Planning Reference: UTT/24/1417/PINS

Date: 23/08/2024

Response to Consultation Comments

1 Introduction

- 1.1 Aspect Ecology is advising Endurance Energy Wickham Hall Ltd on ecological matters in respect of the planning application (LPA Reference: UTT/24/1417/PINS), for the erection of a Solar Photovoltaic Farm with supporting infrastructure and battery storage, inverters and transformers, fencing, landscaping works and connecting cable, at land to the North-West of Bishops Stortford, Farnham Road, Farnham.
- 1.2 Consultee comments on the application were received from Place Services on 19th July 2024. This document provides clarification in respect of the comments received. The comments are separated into three key points, namely the classification of the grassland within the solar array, classification of the solar panels, and provision of condition assessment sheets. The ecological matters raised are reviewed in turn and responded to below.

2 Response to Place Services Comments

Classification of Grassland within the Solar Array:

“It is highlighted that post-intervention habitat creation will also be required to be updated as part of the biodiversity gain condition. The proposals currently indicate that 29.1475ha of Other neutral grassland will be achieved in medium condition where the solar array will be located. However, the Solar Panels will cause shading of the grassland, potentially reducing the floristic diversity.....As a result, it is recommended that the post-intervention calculations are updated to highlight that the Strips of grassland beneath the Solar panels will be of a lower ecological value.”

- 2.1 Whilst it is acknowledged that the solar arrays will cause shading, it is considered that the seeding of more shade-tolerant grassland species will ensure it should be readily achievable to create a grassland with more than 8 species per m², as required to classify the grassland as other neutral grassland. Nonetheless, in accordance with recommendations received from Place Services, Aspect Ecology has completed an update Biodiversity Net Gain (BNG) assessment for the proposals. The anticipated change in biodiversity value as a result of the proposals has been calculated using the Statutory Biodiversity Metric. A copy of the Metric is

- provided separately as an Excel workbook (Reference: 5940 Statutory Metric vf4, dated 22nd August 2024).
- 2.2 The classification of 24.03ha of grassland located beneath the solar panels has been updated to ‘Modified grassland’ (see Plan 5940/BNG2a at Appendix 1). Modified grassland is a low distinctiveness habitat of lower ecological value.
 - 2.3 Modified Grassland is defined with the UK Habitats Classification as ‘*species-poor vegetation (<9 species per m²) dominated by a few fast-growing grasses on fertile neutral soils. It is frequently characterised by an abundance of Rye-grasses *Lolium* spp. and White Clover *Trifolium repens*. Most broadleaved species present will be associated with high fertility¹.*’
 - 2.4 The metric calculates that this habitat will achieve a moderate condition within four years. Management of the grassland will be designed to maintain a species diversity of at least 6-8 vascular plant species per m², as well as prevent the encroachment of scrub, Bracken *Pteridium aquilinum* and any invasive species to enable this habitat to achieve at least moderate condition in accordance with Metric Condition Assessment².
 - 2.5 Accounting for the reclassification of the grassland beneath the solar panels to Modified grassland as required by Place Services, the Statutory Metric calculator indicates a net habitat biodiversity unit change for the proposals within the site boundary of +69.54 Habitat Units (representing a calculated gain of 104.31%) and +15.85 Hedgerow Units (representing a calculated gain of 96.57%) within the site boundary, as shown in Figure 1 below.

Figure 1. Statutory Metric Headline Results

FINAL RESULTS		
Total net unit change <small>(Including all on-site & off-site habitat retention, creation & enhancement)</small>	<i>Habitat units</i>	69.54
	<i>Hedgerow units</i>	15.85
	<i>Watercourse units</i>	0.00
Total net % change <small>(Including all on-site & off-site habitat retention, creation & enhancement)</small>	<i>Habitat units</i>	104.31%
	<i>Hedgerow units</i>	96.57%
	<i>Watercourse units</i>	0.00%
Trading rules satisfied?	Yes ✓	

- 2.6 Accordingly, regardless of the classification of the grassland beneath the solar arrays (subject to appropriate implementation), the proposals will achieve calculated gains significantly in excess of 10% in line with the relevant legislative and policy requirements. The management and monitoring of the post-development habitats can be secured by planning condition.
- 2.7 It should be noted that the creation of Modified grassland of moderate condition beneath solar panels has been accepted for a similar solar scheme in Uttlesford District for Land West Of A120, Chelmsford Road, Little Dunmow (LPA Reference: UTT/23/2136/FUL).
- 2.8 In respect of the consented development UTT/23/2136/FUL, Place Services note “We are also satisfied that the post-development baseline is realistic and deliverable and reflects the

¹ UKHab Ltd (2023). *UK Habitat Classification Version 2.0* (at <https://www.ukhab.org>)

² DEFRA (July 2024) *Statutory Biodiversity Metric Condition Assessments 23.07.24* (at <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>)

proposals. In particular, we are pleased that the grassland underneath the panels has referred to as 'Modified grassland' in moderate condition, as it is often not realistic to deliver floristic diverse habitats for solar farm applications."

Classification of Solar Panels:

"UK Habitats Classification v2 states that ground mounted solar panels should be recorded as U1B6 (Other Developed Land), rather than simply classifying this as grassland."

- 2.9 The UK Habs definition for u1b6 is *"Developed land that does not meet the definition of u1B5 i.e. any developed land that is not a permanently enclosed construction (i.e. buildings)."* The main purpose of a UK Habs survey is to record the main habitat types present, and whilst this may inform a Biodiversity Net Gain assessment, the objective of the Biodiversity Net Gain assessment is to quantify the biodiversity value of these habitats and calculate the change between pre-development and post-development habitats. As part of the Biodiversity Net Gain assessment it would not seem appropriate to assign the area located beneath the solar panels the equivalent biodiversity value in the Metric which would be assigned to habitats including buildings and concrete i.e. Developed land; sealed surface, which has a value of zero.
- 2.10 Nonetheless, Aspect Ecology has completed a separate Statutory Metric whereby the individual solar arrays are classified as Developed land; sealed surface, the equivalent categorisation in the Statutory Metric for UK Habs u1b6, and the strips of grassland between solar panels are classified as Modified grassland (see Plan 5940/BNG2b at Appendix 3). The headline results are set out within Table 2 below. A copy of the Metric is provided separately as an Excel workbook (Reference: 5940 Statutory Metric vf3, dated 22nd August 2024).

Figure 2. Statutory Metric Headline Results

FINAL RESULTS		
Total net unit change <small>(Including all on-site & off-site habitat retention, creation & enhancement)</small>	<i>Habitat units</i>	24.26
	<i>Hedgerow units</i>	15.85
	<i>Watercourse units</i>	0.00
Total net % change <small>(Including all on-site & off-site habitat retention, creation & enhancement)</small>	<i>Habitat units</i>	36.39%
	<i>Hedgerow units</i>	96.57%
	<i>Watercourse units</i>	0.00%
Trading rules satisfied?	Yes ✓	

- 2.11 The Statutory Metric calculator still indicates a net habitat biodiversity unit change for the proposals within the site boundary to the amount of +24.26 Habitat Units (representing a calculated gain of 36.39%) and it is clear that even in this scenario the proposals will achieve calculated gains in excess of 10% in line with the relevant legislative and policy requirements.

Condition Assessment Sheets:

“Condition Assessment sheets are submitted for each existing habitat type so that the habitat conditions used can be confirmed by the LPA.”

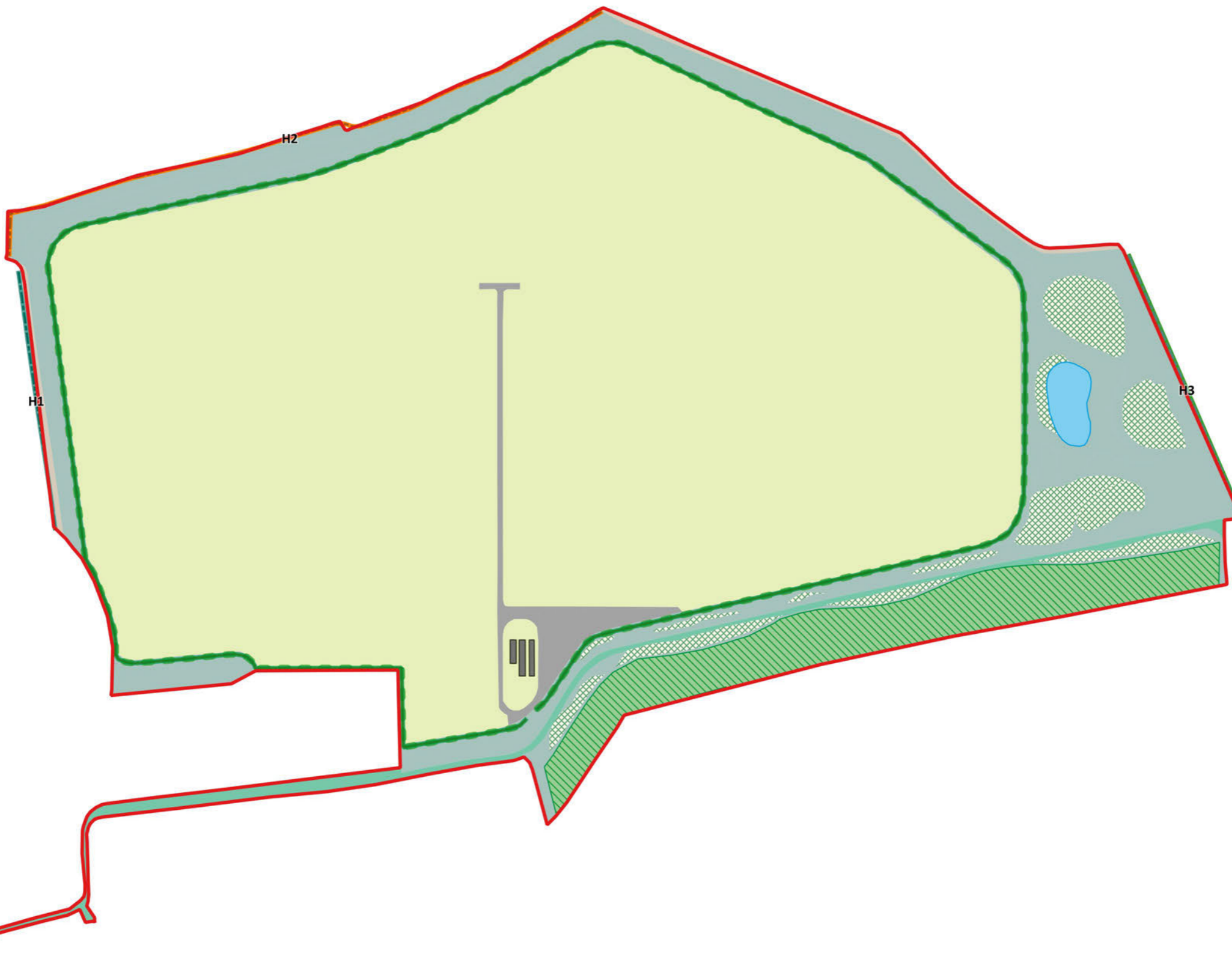
- 2.12 Copies of the Condition Assessment sheets for each existing habitat, as applicable, have been provided to Place Services on 22nd August 2024 and are included at Appendix 2.

3 Summary & Conclusions

- 3.1 Aspect Ecology have modelled two Biodiversity Net Gain assessment scenarios using the Statutory Metric in line with the comments raised by Place Services, whereby the classification of the grassland within the solar array and classification of the solar panels has been altered. Whilst there may be disagreement between the classifications of post-development habitats recommended for use within the Metric, as set out above, in both Metric testing scenarios following Place Services recommendations, it can be assured that gains in excess of 10% are calculated in line with the relevant legislative and policy requirements. Accordingly, it is considered that there is no ecological impediment to the grant of planning permission.

Appendix 5940/1:

Plan 5940/BNG2a - Post-development Habitat Measurements



- Key:**
- Site Boundary
 - Proposed Developed land; sealed surface: Building (0.0300ha)
 - Proposed Developed land; sealed surface: Hardstanding (0.4325ha)
 - Proposed Mixed scrub (1.1025ha)
 - Proposed Modified grassland - Moderate Condition (24.0300ha)
 - Proposed Other neutral grassland (5.1975ha)
 - Proposed Other woodland; broadleaved (1.8450ha)
 - Proposed Ponds (Priority Habitat) (0.1600ha)
 - Retained Developed land; sealed surface: Hardstanding (0.5775ha)
 - Retained Vacant/derelict land/ bare ground (0.2100ha)
 - Proposed Native Species Rich Hedgerow (2.025km)
 - Retained Native Hedgerow with trees - Associated with bank or ditch (0.49km)
 - Retained Native Hedgerow (0.205km)
 - Retained Native Species Rich Hedgerow - Associated with bank or ditch (0.19km)

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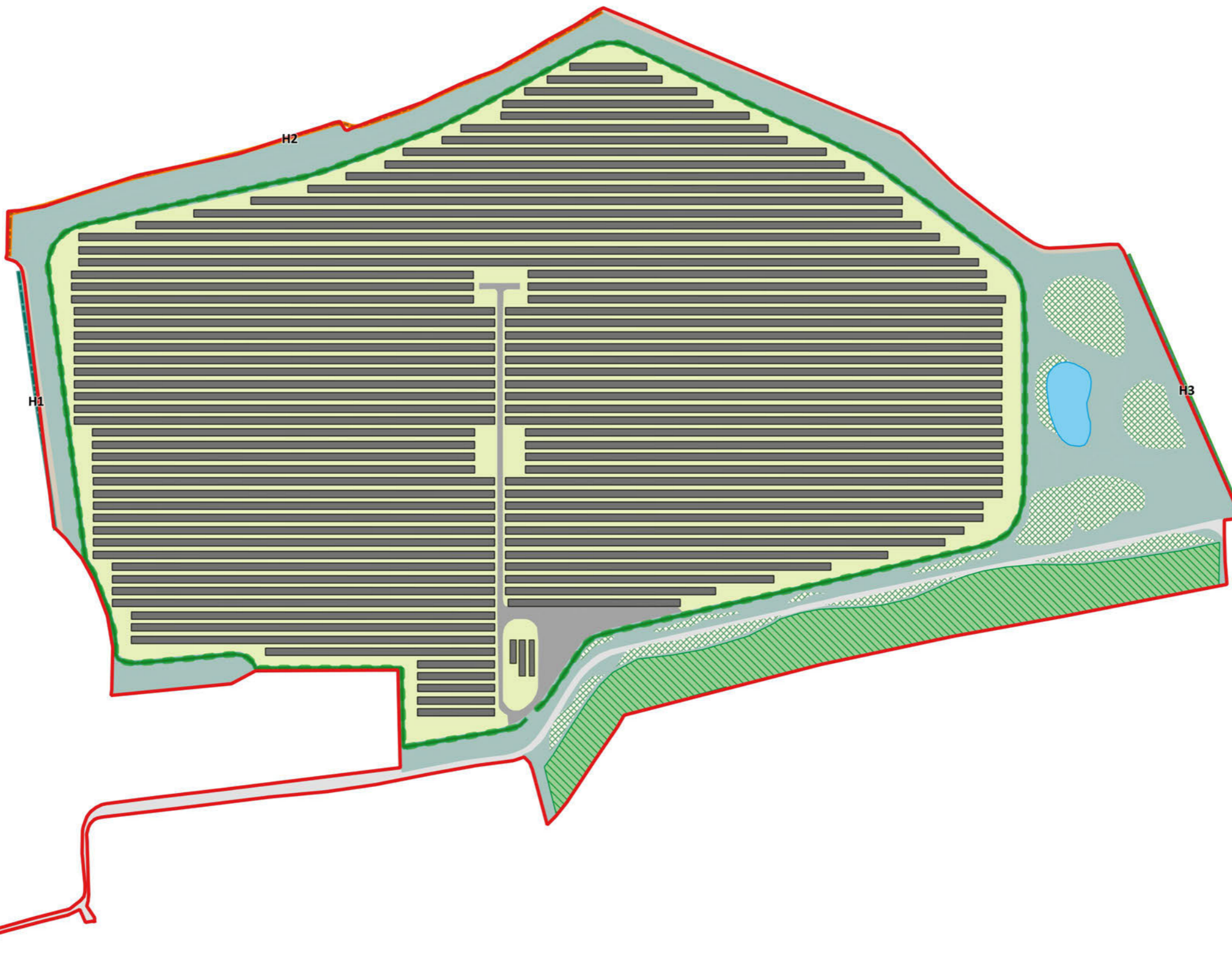
<p>Wickham Hall Estate, Bishops Stortford</p> <p>Post-development Habitat Measurements</p>	<p>PROJECT</p> <p>TITLE</p> <p>DRAWING NO.</p> <p>REV</p> <p>DATE</p>
<p>5940/BNG2a</p> <p>F/BG</p> <p>August 2024</p>	<p>5940/BNG2a</p> <p>F/BG</p> <p>August 2024</p>



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Appendix 5940/2:

Plan/BNG2b - Post-development Habitat Measurements



- Key:**
- Site Boundary
 - Proposed Developed land; sealed surface: Building (13.0850ha)
 - Proposed Developed land; sealed surface: Hardstanding (0.4325ha)
 - Proposed Mixed scrub (1.1025ha)
 - Proposed Modified grassland - Moderate Condition (10.9750ha)
 - Proposed Other neutral grassland (5.1975ha)
 - Proposed Other woodland; broadleaved (1.8450ha)
 - Proposed Ponds (Non-Priority Habitat) (0.1600ha)
 - Retained Developed land; sealed surface: Hardstanding (0.5775ha)
 - Retained Vacant/derelict land/ bare ground (0.2100ha)
 - Proposed Species Rich Native Hedgerow (2.025km)
 - Retained Native Hedgerow (0.205km)
 - Retained Native Hedgerow with trees - Associated with bank or ditch (0.49km)
 - Retained Species Rich Native Hedgerow - Associated with bank or ditch (0.19km)

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Appendix 5940/3:

Condition Assessment Sheets

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)			
UK Habitat Classification (UKHab) Habitat Type			
Grassland - Modified grassland			
On-site or off-site, site name and location	Wickham Hall Solar (Uttlesford)	Survey date and Surveyor name	Jan-22
Limitations (if applicable)	The latest Phase 1 Habitat survey was undertaken outside the optimal season, albeit the nature of the habitats within the site and previous survey data (collected within the optimal season) allowed for the broad habitat types to be identified and for a robust assessment of the intrinsic ecological interest of the site	Survey reference (if relating to a wider survey)	
Grid reference	Narrow uncultivated margins of grassland approximately 0.5m-1m with the dominate grass species being Perennial Rye-grass <i>Lolium perenne</i>	Habitat parcel reference	Modified Grassland
Habitat Description			
ukhab – UK Habitat Classification			
Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	There are 6-8 vascular plant species per m ² present, including at least 2 forbs (these may include those listed in Footnote 1). Note - this criterion is essential for achieving Moderate or Good condition. Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m ² (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	Yes	A conservative estimate has been applied and it is assumed that grassland averages between 6-8 species per m2 and the criterion is passed.
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	No	The grasland is subject to management and therefore exhibits a largely uniformly short-sward height.
C	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.	Yes	No scrub is present within the grassland.
D	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.	No	Erosion of the grassland has occurred as a result of continued use by pedestrians. The damage equates >5% of the total grassland area.
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens) ² .	Yes	Areas of bare ground are present as a result of erosion of the grassland by pedestrians.
F	Cover of bracken <i>Pteridium aquilinum</i> is less than 20%.	Yes	No Bracken is present.
G	There is an absence of invasive non-native plant species ³ (as listed on Schedule 9 of WCA ⁴).	Yes	No invasive non-native species are present.
Essential criterion achieved (Yes or No)			Yes

Number of criteria passed			5
Condition Assessment Result (out of 7 criteria)	Condition Assessment Score	Score Achieved x/√	
Passes 6 or 7 criteria including passing essential criterion A	Good (3)		
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)	x	
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)		
Suggested enhancement interventions to improve condition score			
Footnotes			
<p>Footnote 1 – Creeping thistle <i>Cirsium arvense</i>, spear thistle <i>Cirsium vulgare</i>, curled dock <i>Rumex crispus</i>, broad-leaved dock <i>Rumex obtusifolius</i>, common nettle <i>Urtica dioica</i>, creeping buttercup <i>Ranunculus repens</i>, greater plantain <i>Plantago major</i>, white clover <i>Trifolium repens</i> and cow parsley <i>Anthriscus sylvestris</i>.</p> <p>Footnote 2 – For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover.</p> <p>Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.</p> <p>Footnote 4 – Wildlife and Countryside Act 1981 (as amended).</p>			

B2.	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	This is the horizontal 'gappiness' of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall 'gappiness' but are not subject to the >5 m criterion (as this is the typical size of a gate).	Yes	Yes	Yes												
C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow. Undisturbed ground is present for at least 90% of the hedgerow length, greater than 1 m in width and must be present along at least one side of the hedgerow. This criterion recognises the value of the hedgerow base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	Yes	Yes	Yes												
C2.	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	The indicator species used are nettles <i>Urtica</i> spp., cleavers <i>Galium aparine</i> and docks <i>Rumex</i> spp. Their presence, either singly or together, does not exceed the 20% cover threshold.	Yes	Yes	YEs												
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA ³) and recently introduced species.	Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives. For information on archaeophytes and neophytes see the JNCC website ⁴ , as well as the BSBI website ⁵ where the 'Online Atlas of the British and Irish Flora' ⁶ contains an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website ⁷ .	Yes	Yes	Yes												
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (for example, excessive hedgerow cutting).	Yes	Yes	Yes												

Additional group - applicable to hedgerows with trees only

E1.	Tree class	There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and/or ancient ⁸), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	This criterion addresses if there are a range of age-classes or morphologies which allow for replacement of trees and provide opportunities for different species.	N/A	No	N/A												
E2.	Tree health	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens.	N/A	Yes	N/A												

The hedgerow condition assessment generates a weighting (score) ranging from 1 - 3, which is used within the Statutory Biodiversity Metric. The scores for each are set out in the tables below.

Condition categories for hedgerows without trees

Category	Category Requirements	Metric Score
Good	No more than 2 failures in total; AND No more than 1 failure in any functional group.	3

Moderate	No more than 4 failures in total; AND Does not fail both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and C2 = Moderate condition).	2
Poor	Fails a total of more than 4 attributes; OR Fails both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	1

Score achieved:

Condition categories for hedgerows with trees

Category	Category Requirements	Metric score
Good	No more than 2 failures in total; AND No more than 1 failure in any functional group.	3
Moderate	No more than 5 failures in total; AND Does not fail both attributes in more than one functional group (for example, fails attributes A1, A2, B1, C2 and E1 = Moderate condition).	2
Poor	Fails a total of more than 5 attributes; OR Fails both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	1

Score achieved:

Suggested enhancement interventions to improve condition score

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