

PLANNING APPLICATION FOR PROPOSED SOLAR FARM

SEQUENTIAL ANALYSIS STUDY

SHEEPWASH SOLAR FARM, LITTLE CHEVENEY FARM, MARDEN, KENT

ON BEHALF OF STATKRAFT UK LTD

**TOWN & COUNTRY PLANNING ACT 1990 (AS AMENDED)
PLANNING AND COMPULSORY PURCHASE ACT 2004**

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 **DESIGN**  **ENVIRONMENT**  **PLANNING**  **ECONOMICS**  **HERITAGE**

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1. INTRODUCTION

- 1.1 This Sequential Analysis Study (SAS) has been prepared by Pegasus Group on behalf of Statkraft UK Ltd to accompany its planning application for the construction of a 50 MW solar farm and 15MW battery energy storage on land at Little Cheveney Farm, Marden, Kent.
- 1.2 Section 38(6) of the Planning and Compulsory Purchase Act 2004 requires that all planning applications be determined in accordance with the Development Plan unless material considerations indicate otherwise. This study has been carried out to support the assessment of compliance with extant and emerging planning policy, and other material considerations, specifically with regards to the national Planning Practice Guidance (PPG): Renewable and Low Carbon Energy, issued on 6 March 2014.
- 1.3 Paragraph 013¹ of this guidance sets out a number of factors that should be considered by the Local Planning Authority (LPA) in the determination of a planning application for large-scale solar farms. The second bullet of which states that:
- **“where a proposal involves greenfield land, whether (i) the proposed use of any agricultural land has been shown to be necessary and poorer quality land has been used in preference to higher quality land; and (ii) the proposal allows for continued agricultural use where applicable and/or encourages biodiversity improvements around arrays. See also a speech by the Minister for Energy and Climate Change, the Rt Hon Gregory Barker MP, to the solar PV industry on 25 April 2013”².**
- 1.4 The Application Site relates to undeveloped land which is currently in agricultural use and therefore represents greenfield land. Accordingly, an assessment against the above criteria is required to be carried out as part of the determination of the planning application and given due weight and balanced against other material planning considerations.
- 1.5 This SAS provides demonstration of compliance with this material consideration.

¹ NPPG: Renewable and Low Carbon Energy, Paragraph 013, reference ID:5-013-2040306 (as at 30/05/2014)

² Speech by the Minister for Energy and Climate Change:
www.gov.uk/government/speeches/gregory-barker-speech-to-the-large-scale-solar-conference

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- 1.6 The SAS first sets out the methodology by which the study has been carried out and the assumptions made and their rationale (Chapter 2). This is followed by a detailed discussion of the study findings (Chapter 3) which are summarised with conclusions (Chapter 4).

2. METHODOLOGY

2.1 The assessment criteria comprise two distinct parts:

- i. the proposed use of any agricultural land has been shown to be necessary and poorer quality land has been used in preference to higher quality land; and
- ii. the proposal allows for continued agricultural use where applicable and/or encourages biodiversity improvements around arrays.

2.2 In summary, the SAS has been carried out according to the following stages:

- iii. Definition of the Study Area;
- iv. Assessment that the use of agricultural land is necessary;
- v. Assessment that there is no poorer quality land available; and
- vi. Assessment of the potential for continued agricultural use and/or biodiversity improvements.

Study Area

2.3 In order to undertake the SAS, it is necessary to identify an appropriate and reasonable study area. However, there is no national or local guidance with regards to the definition of the study area against which the above criteria should be assessed.

2.4 Accordingly, the definition of the study area for this SAS is made with reference to the local authority's administrative area within which the Application Site is situated.

2.5 The Application Site is located within the administrative area of Maidstone Borough Council (MBC).

2.6 In order to ascertain whether there is sufficient grid capacity and an appropriate point of connection, a prospective developer needs to apply for a grid connection to the relevant Distribution Network Operator (DNO). The available capacity can change on a daily basis as new energy schemes connect to the grid and as capacity is reserved for emerging schemes being brought forward. Therefore, even where a grid connection is available at a given time, this could change

within a very short period unless the prospective developer reserves capacity for their scheme.

- 2.7 In addition to this making multiple requests to the DNO for potential grid capacity on a grid line could in itself lead to all grid capacity being “allocated” as the DNO works on a first come first served basis and each request (even if it not built out) is allocated grid capacity. Allocated grid capacity is only released by the DNO if formally notified by the developer that it is no longer required. Therefore, 10 enquiries for 10 different 10MW sites whilst undertaking the sequential test would result in the DNO assessing if 100MW of capacity were available on the grid. If 100MW was not available some sites would be advised that there was no capacity, as the DNO assumes all sites will become operational. This could lead to failure of a site, based on a perceived lack of grid capacity.
- 2.8 To avoid this distortion in the assessment, distance to the grid line is used within this sequential assessment to ensure that the DNO’s allocation system does not distort the findings of the report. An application for capacity has only been made for the application site once it had been deemed suitable. The DNO has confirmed that there is capacity for the proposed 50MW solar farm with 15MW of battery energy storage.
- 2.9 The study area for spatial assessment is not defined within the 2014 PPG. The methodology for this assessment has therefore defined the study area as Maidstone Borough Council. This study area has not been agreed in advance with the Local Authority. The study area as defined is shown in **Appendix 1- Study Area Plan**.

APPENDIX 1: STUDY AREA PLAN

Site Assessment Constraints

- 2.10 As well as determining the area of assessment further constraints have been applied to the land within Maidstone Borough Council. These constraints are based on the knowledge of the parameters that any solar energy farm development would have to consider and assess to secure a planning consent as well as technical constraints for a solar energy farm development. The constraints that were applied in this SAS are:

Maximum 500m distance from a 132kV;

Site gradient no greater than 15 degrees;

Site aspect facing south-east through to south-west;

Allocated sites;

Proximity to residential development;

Ecological designations such as SSSI, SAC, SPA, Ancient Woodlands, Woodland and RAMSAR;

Landscape and Heritage assets such as Conservation Areas, AONB, Schedule Monuments, Listed Buildings, Open Access Land, Country Parks and Registered Park/ Gardens;

Agricultural Land Classification - sites that are solely Grade 1 or 2 are excluded;

Sufficient land for the development; and

Flood Risk Zone 2 or 3.

- 2.11 **Appendix 2 – The Constraints Plan** shows the extent of land that has been considered when these constraints have been applied.

APPENDIX 2: CONSTRAINTS PLAN

Assessment that uses of agricultural land is necessary

- 2.12 The assessment also includes the identification and assessment of previously developed land and the potential for utilising commercial roof-space.

Previously Developed Land

- 2.13 The assessment is made with reference to statistics produced by the Ministry of Housing Communities & Local Government (MHCLG) at a national level with regards to available undeveloped land and the MHCLG's grouping assessment as to the proportion of undeveloped land without constraints³.
- 2.14 Further detail is provided in the MBC's published Brownfield Register⁴ of previously developed land at a local scale.
- 2.15 Statistics produced by the MHCLG with reference to land use are instructive, although it is important to note these figures refer to the entire land area within the whole district.

³ Land Use Statistics England 2018

⁴ MBC Brownfield Land Register (2019): Part 1

2.16 Accordingly, it is necessary to undertake a qualitative assessment of the potential use of non-agricultural land with reference to:

- The composition of land use within the district;
- Availability of the land/other land use;
- Available grid capacity (noting the previously stated grid capacity conditions); and
- Other site related issues including potential for contamination resulting from a previous use.

Commercial Roof Space

2.17 Consideration of the potential for the use of commercial roof-space has been made with reference to:

- The orientation of the roof space;
- The relative presence of urban/rural land within the study area; and
- The opportunities and constraints (barriers) to retro-fitting large-scale solar photo-voltaic schemes to existing structures.

2.18 No areas of previously developed/brownfield land or roof space under 2.5 hectares will be considered because this land or roof top would only be suitable for a solar development of < 1MW. If found such sites will be identified in **Appendix 2**, but their size alone will be reasoning for them not being considered in any further detail.

2.19 Where it is shown that there is no previously developed land or commercial roof-space that is both available and suitable, it is deemed that compliance with these criteria has been demonstrated.

Assessment that there is no poorer quality land

2.20 The identification of potential alternative sites is generally carried out with reference to constraints maps showing the Agricultural Land Classification and environmental constraints.

2.21 The Application Site is Grade 2, Subgrade 3a and Subgrade 3b land and is therefore considered to be a mix of moderate to very good agricultural land, with the Grade 2 and 3a classified as best and most versatile (BMV) agricultural land.

Agricultural Land Classification

2.22 This study defines 'Poorer Quality Land' in the context of this SAS and how this is assessed. These are summarised as:

- vii. Poorer Quality Land comprises land classified according to the Department of Environment, Food and Rural Affairs (Defra's) Agricultural Land Classification (ALC) as being of Grades 3b, 4 or 5. This approach is demonstrated to be consistent with the National Planning Policy Framework (NPPF) and the recently published on-line Planning Policy Guidance (PPG).
- viii. The assessment of agricultural land has been made with reference to Defra's ALC dataset. It is acknowledged that the published ALC maps are not a sufficiently accurate guarantee of soil quality. It is conceivable that soil sampling may demonstrate that a site may be of a higher or lower grading than the published ALC maps. However, undertaking soil sampling across all potential alternative sites in order to confirm their ALC grading would be unreasonable in terms of the potential extent, cost, timescale, land ownership negotiations etc, and is therefore outside the scope of this assessment. Therefore in order to provide consistency in the application of the SAS, the assessment of whether there are potential alternative sites of a poorer quality has been based on the Defra published maps.

Sequential Assessment

- 2.23 The National Planning Policy Guidance states that 'poorer quality land has been used in preference to higher quality land'. This site is Grade 2, Subgrade 3a and Subgrade 3b land, and therefore the Application Site has elements of poorer and higher quality land. This has been confirmed by the Reading Agricultural Consultants soil report.
- 2.24 As a result, land of lower grade and quality than what is present at the Application Site, constituting of Grade 4, 5, non-agricultural and urban, will be reviewed as part of the sequential analysis study.
- 2.25 **Appendix 3 – Agricultural Land Classification Plan** shows the extent of land that has been considered when these constraints have been applied.

APPENDIX 3 – AGRICULTURAL LAND CLASSIFICATION PLAN

Assessment of continued agricultural use and/or biodiversity improvements

- 2.26 The third element of the criteria (part ii) requires demonstration of the continued agricultural use and/or biodiversity improvements.

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- 2.27 With respect to the continued agricultural use within the site it is proposed that sheep will graze the land under the panels.
- 2.28 With respect to biodiversity improvements, the mitigation and enhancement measures proposed within the scope of the Proposed Development are set out in the Landscape and Habitat Management Plan.
- 2.29 Where it is shown that continued agricultural use can be achieved and that biodiversity improvements can be delivered, it is deemed that compliance with this criterion has been demonstrated.

3. SPATIAL ANALYSIS FINDINGS

Assessment that uses of agricultural land is necessary

- 3.1 The most recent figures regarding undeveloped land are from the MHCLG statistical dataset, 'Land Use Statistic England 2018', published the 16th of July 2020. The dataset confirms that at the time there were 321.2 hectares of undeveloped land in total in the borough.
- 3.2 The undeveloped land is not specified in terms of location and whether it is immediately available. There is also no indication of location in relation to grid both connection and capacity and historic contamination, which could render a site unviable. This land is therefore disregarded from this assessment.
- 3.3 Furthermore, the MBC's Brownfield Register (2019) details location, size, and allocation potential of parcels of land allocated as 'brownfield' and therefore previously developed land.
- 3.4 108 brownfield sites are noted in this dataset with the parcels of land ranging between 0.03ha to 47.73ha in size. The majority of sites average less than 1 hectare. These brownfield site areas are too small for an economically viable renewable energy development.
- 3.5 In all cases, the 108 brownfield sites are also allocated for other forms of development in the Brownfield Register, in particular residential purposes. Therefore, all brownfield sites on the MBC Brownfield Register (2019) are disregarded as potential alternative sites.
- 3.6 No further GIS assessment is required to assess any of the undeveloped and previously developed land related to MHCLG and MBC dataset.

Commercial Roof Space

- 3.7 As stated in Section 2 of this report any commercial roof space or land which has an area of less than 2.5ha has been deemed to be below the threshold for a large- scale solar development and therefore sits outside of the scope of this sequential assessment. A 1MW scheme on average requires 2.5ha of land.
- 3.8 Where roof-space may be available, there are currently significant barriers to its deployment as recognised by the Government in the UK Solar Strategy Part 2: Delivering a Brighter Future, published by DECC in April 2014.

- 3.9 Paragraph 34 of the UK Solar Strategy confirms the barriers which currently restrict the wider take up of solar on commercial roofs as:
- The ability to access capital;
 - Transaction costs;
 - Prioritisation of other issues;
 - Suitability of the building stock (structural stability, wind loading, orientation etc);
 - Landlord and tenant issues;
 - On-going maintenance liabilities; and
 - Environmental issues, including the visual impact of the exposed roofs.
- 3.10 It can therefore be concluded that, although the Government strongly encourages solar deployment on commercial roof-space, this is rarely viable.
- 3.11 The GIS assessment has determined that areas of land classified in the Agricultural Land Classification as non-agricultural and urban, that could accommodate ground mount solar or roof top solar is significantly smaller than the proposed development of 74.5 hectares. This land is therefore disregarded (**see Appendix 2- Constraints Plan**).

Previously Developed Land

- 3.12 Within the MBC Brownfield Register (2019) dataset, there are 108 brownfield registered sites within the Maidstone Borough. 70 of these sites have been granted permission for development. 37 of the remaining 38 brownfield registered sites that have not been granted planning permission have a site area of between 0.03ha to 1.83ha. The Proposed Development requires approximately 74.5 hectares of land and therefore these 37 sites would not meet the land requirements for a solar energy farm of similar scale.
- 3.13 The remaining brownfield site from the MBC Brownfield Register (2019) dataset is Invicta Park Barracks, 47.73ha of land identified by Maidstone Borough Local Plan (adopted October 2017) as a location for future housing growth (Policy SS1). The site is located north of the town centre of Maidstone, comprising a range of military buildings including army accommodation set within expansive parkland. The site will be released from the MOD by 2027 and has the potential to deliver 1,300 new homes. The Council is working with the MOD to encourage an early delivery of the site.

3.14 Therefore, although the land area of the Invicta Park Barracks site is of comparable size to the Proposed Development site area, as it has been allocated as a broad location for housing development in the Local Plan, it is assumed that this alternative site is not available.

Assessment that there is no poorer quality land

Policy

3.15 Maidstone Borough Council has no targets for the level of renewable energy that will be installed in the borough but aims to support and encourage renewable energy developments where it meets national guidance.

3.16 The current Local Plan⁵ references 'Policy DM24 Renewable and Low Carbon Energy Schemes'. This policy states:

Applications for larger scale renewable or low carbon energy projects will be required to demonstrate that the following have been taken into account in the design and development of the proposals:

- i. The cumulative impact of such proposals in the local area;*
- ii. The landscape and visual impact of development;*
- iii. The impact on heritage assets and their setting;*
- iv. The impact of proposals on the amenities of local residents, e.g., noise generated;*
- v. The impact on the local transport network; and*
- vi. The impact on ecology and biodiversity including the identification of measures to mitigate impact and provide ecological or biodiversity enhancement.*

Preference will be given to existing commercial and industrial premises, previously developed land, or agricultural land that is not classified as the best and most versatile.

Provision for the return of the land to its previous use must be made when the installations have ceased operation.

⁵ Maidstone Borough Local Plan (adopted October 2017)

- 3.17 The supporting environmental assessments for this application have shown that this proposal is compliant with this policy.

Agricultural Land Classification

- 3.18 The soil assessment has shown that the land is a mix of Grade 2 (3.4ha, 5% of the land area). Grade 3a (23ha, 36% of the land area) and Grade 3b (37.2ha, 59% of the land area). Therefore, the majority of the site is considered to be of poorer quality land, with a lesser proportion considered as best and most versatile land. As the proposed development includes Grade 2 and 3a, higher quality land, this sequential assessment does not assess other potential sites with a similar agricultural land grade profile.
- 3.19 The assessment has analysed sites with poorer land grade quality than on the Application Site i.e Grade 3b, 4, 5 and also Previously Developed Land. In addition, any sites of a size < 74.5 hectares have been disregarded as they are unsuitable for a solar energy farm of a similar scale.
- 3.20 From the GIS assessment using these constraints, there are alternative sites of a similar size as shown in **Appendix 4- Potential Sites**.

APPENDIX 4: POTENTIAL SITES

- 3.21 A large site estimated between 50-60ha of Grade 3 land quality is noted within a 500m distance of the 132kV grid line. For the purpose of this sequential analysis study this site has been further analysed.
- 3.22 The potential site is a geometric, parcel of land (approximately 54 hectares collectively) of Grade 3 agricultural land quality (see **Appendix 5- Site Assessment**).

APPENDIX 5: SITE ASSESSMENT

- 3.23 Analysis of this potential site area suggests that 23.1 hectares of land may be suitable for development. 30.9 hectares are unsuitable due to the presence of multiple mature trees which give rise to shading and commercial orchards in active production. 10.9ha parcel, identified partially within and outside of the site, is of Grade 2 and Grade 3 land quality, and therefore BMV land and is disregarded. 5.7ha has a PRow bisecting the site which further reduces the site area in size further.

3.24 The remaining 23.1 hectares of land is significantly smaller than the Proposed Development site and would not be viable for a solar energy farm of a similar scale.

3.25 This study therefore finds the potential site alternative in as unsuitable.

Appendix 5

Assessment of continued agricultural use and/or biodiversity improvements

3.26 With reference to continued agricultural use, the Application Site will be seeded with a grass mixture to enable continued agricultural use of the land for sheep grazing.

3.27 The land will therefore not be wholly lost to agricultural during the period of temporary consent (30-40 years).

3.28 In the context of BMV land the Proposed Development is only a temporary removal from agricultural production. At the end of the operational life of the solar energy farm, it can revert to an agricultural use. The Proposed Development enables the soil to have a long-term break without intensive arable production. This will enable the soils to regenerate bringing about improvements in soil health, structure and levels of organic matter. Whilst the extent of these improvements will depend on the management of the site whilst the solar farm is operational, it is a fact that when the land returns to agricultural used the soils it will be at least as productive as currently.

3.29 Grazing sheep not only contributes to the UK's food production and offsets reliance on imports, low intensity grazing is also a valuable management tool for achieving wider environmental benefits.

3.30 In addition, the Proposed Development will provide considerable ecological and biodiversity benefits including new native species tree and hedgerow planting, tree planting, a wildflower meadow, the installation of bird and bat boxes around the site and specific areas set aside for biodiversity.

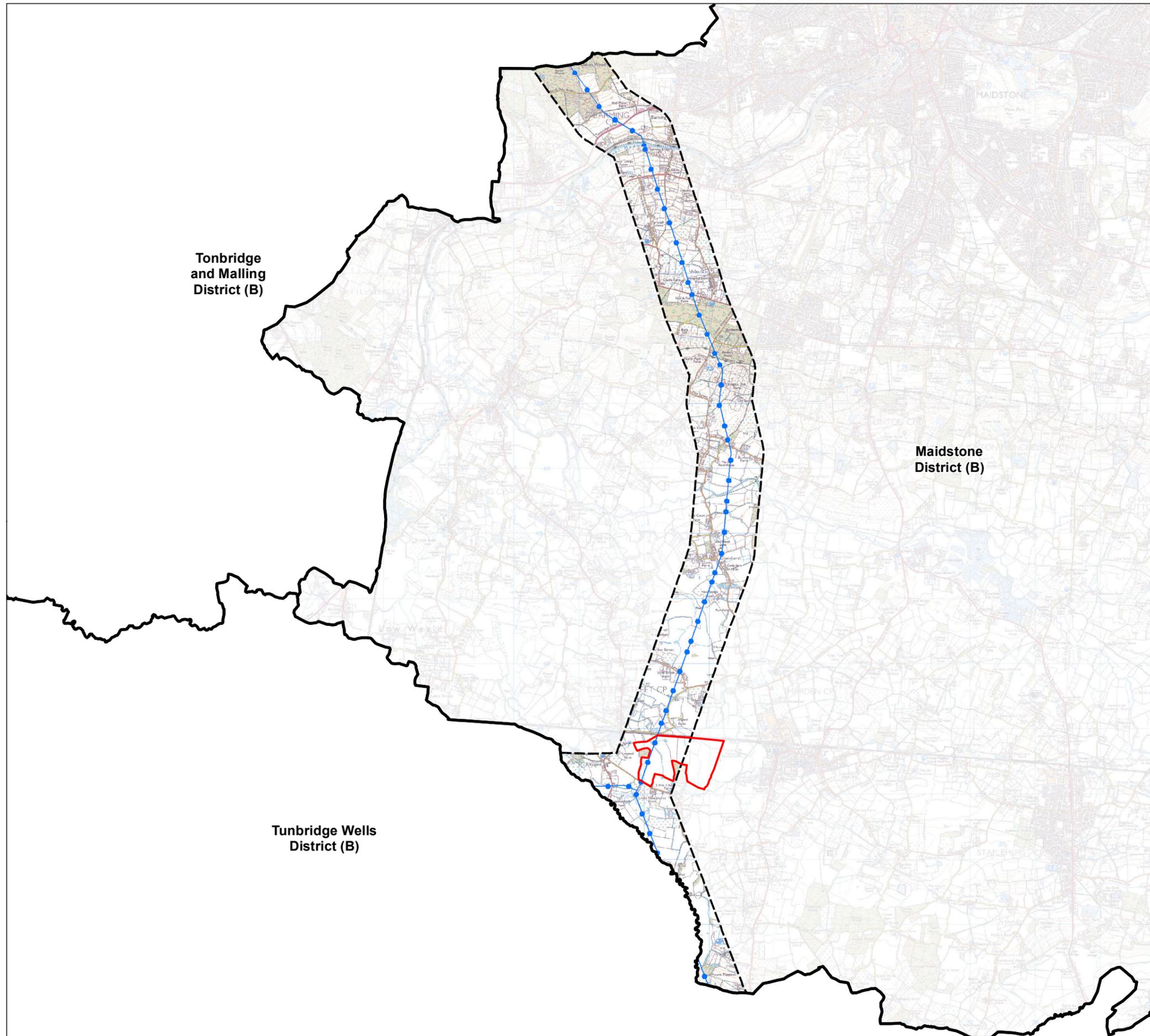
3.31 It is therefore concluded that the Application Site would remain in agricultural use and that biodiversity improvements would be delivered. Accordingly, compliance has been demonstrated with part (ii).

4. SUMMARY AND CONCLUSIONS

- 4.1 This Sequential Analysis Study (SAS) has been prepared on behalf of Statkraft UK Ltd to accompany a planning application for the construction of a solar energy farm on land at Little Cheveney Farm, Marden, Kent.
- 4.2 This Study has been carried out to support the assessment of compliance with extant and planning policy, and other material considerations, specifically National Planning Practice Guidance (PPG): Renewable and Low Carbon Energy, Paragraph 013 which sets out a number of factors that should be considered by in the determining a planning application for a large-scale solar farm.
- 4.3 The SAS considers compliance with regards to the second bullet of Paragraph 013 and concludes that:
- a) The use of agricultural/greenfield land is necessary in the absence of previously developed land and barriers to the deployment of large-scale commercial roof-space for solar photovoltaic development;
 - b) There are no potential alternative sites of poorer agricultural quality land and subject to any less environmental constraints than the Application Site within the study area; and
 - c) That the Application Site would remain in agricultural use and that biodiversity improvements would be delivered as part of the Proposed Development.
- 4.4 Accordingly, this SAS demonstrates compliance with the criteria set out within Paragraph 013 (bullet 1 and 3) of the Planning Policy Guidance.

APPENDIX 1

STUDY AREA PLAN



KEY

- Site Boundary
- Search Area - 500m Grid Buffer
- Local Authority Boundary
- 132kV Overhead Line

Tonbridge and Malling District (B)

Maidstone District (B)

Tunbridge Wells District (B)

Revisions:
First Issue- 18/08/2021 AD

**Sequential Analysis-
Study Area Plan**

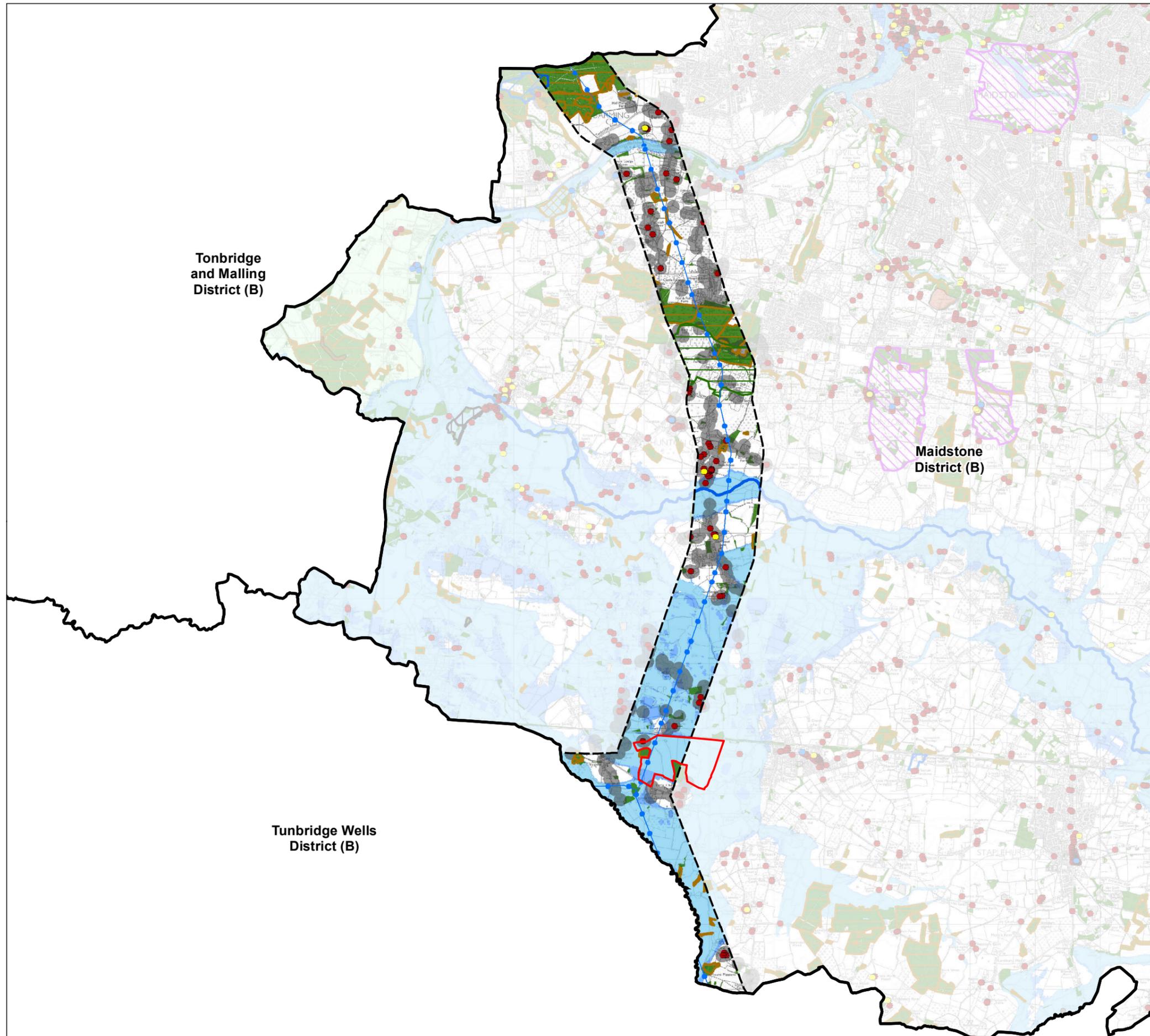
Little Cheveney Farm

Client: Origin Power Services Ltd
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 Drawn by: AD Approved by: IH
 Date: 18/08/2021
 Scale: 1:60,000 @ A3



APPENDIX 2

CONSTRAINTS PLAN



KEY

- Site Boundary
- Search Area - 500m Grid Buffer
- Local Authority Boundary
- 132kV Overhead Line
- Grade I Listed Building
- Grade II* Listed Building
- Grade II Listed Building
- Landscapes of Local Value
- Area of Outstanding Natural Beauty (AONB)
- Open Access Land / Registered Common Land
- Country Park
- Registered Park / Garden
- Scheduled Monument
- Local Nature Reserve (LNR)
- Special Area of Conservation (SAC)
- Site of Special Scientific Interest (SSSI)
- Ancient Woodland
- Residential Buffer - 100m
- Woodland
- EA Flood Zone 3
- EA Flood Zone 2
- Green Belt

Revisions:
First Issue- 18/08/2021 AD

**Sequential Analysis-
Constraints Plan**

Little Cheveney Farm

Client: Origin Power Services Ltd
 DRWG No: **P21-1517_02** Sheet No: - REV: -
 Drawn by: AD Approved by: IH
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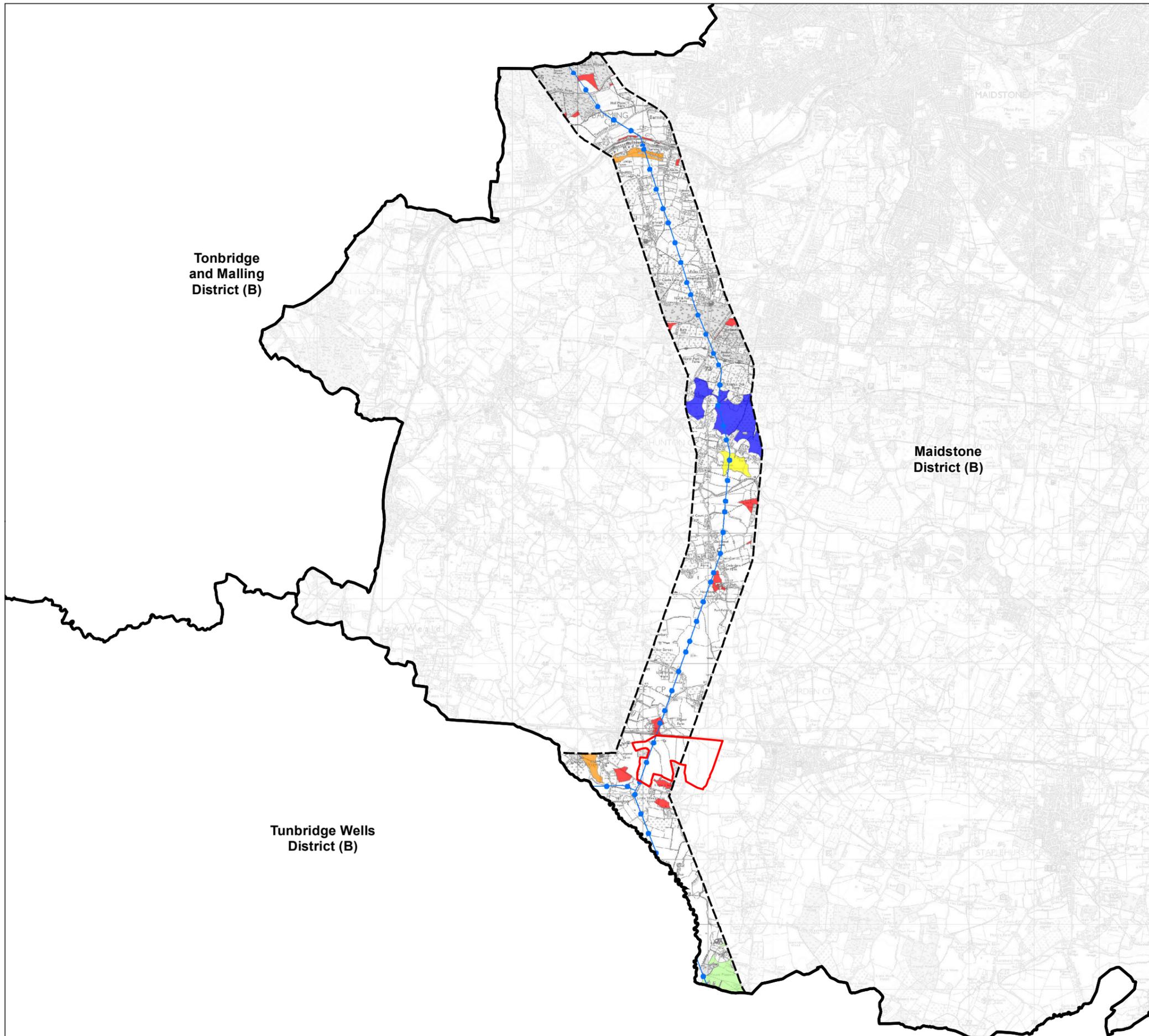


APPENDIX 3

AGRICULTURAL LAND CLASSIFICATION PLAN

APPENDIX 4

POTENTIAL SITES



KEY

- Site Boundary
- Search Area - 500mm Grid Buffer
- Local Authority Boundary
- 132kV Overhead Line

Size of Unconstrained Areas - Hectares

- 0.000000 - 5.000000
- 5.000001 - 10.000000
- 10.000001 - 20.000000
- 20.000001 - 30.000000
- 30.000001 - 40.000000
- 40.000001 - 50.000000
- 50.000001 - 60.000000

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**Sequential Analysis-
Potential Sites**

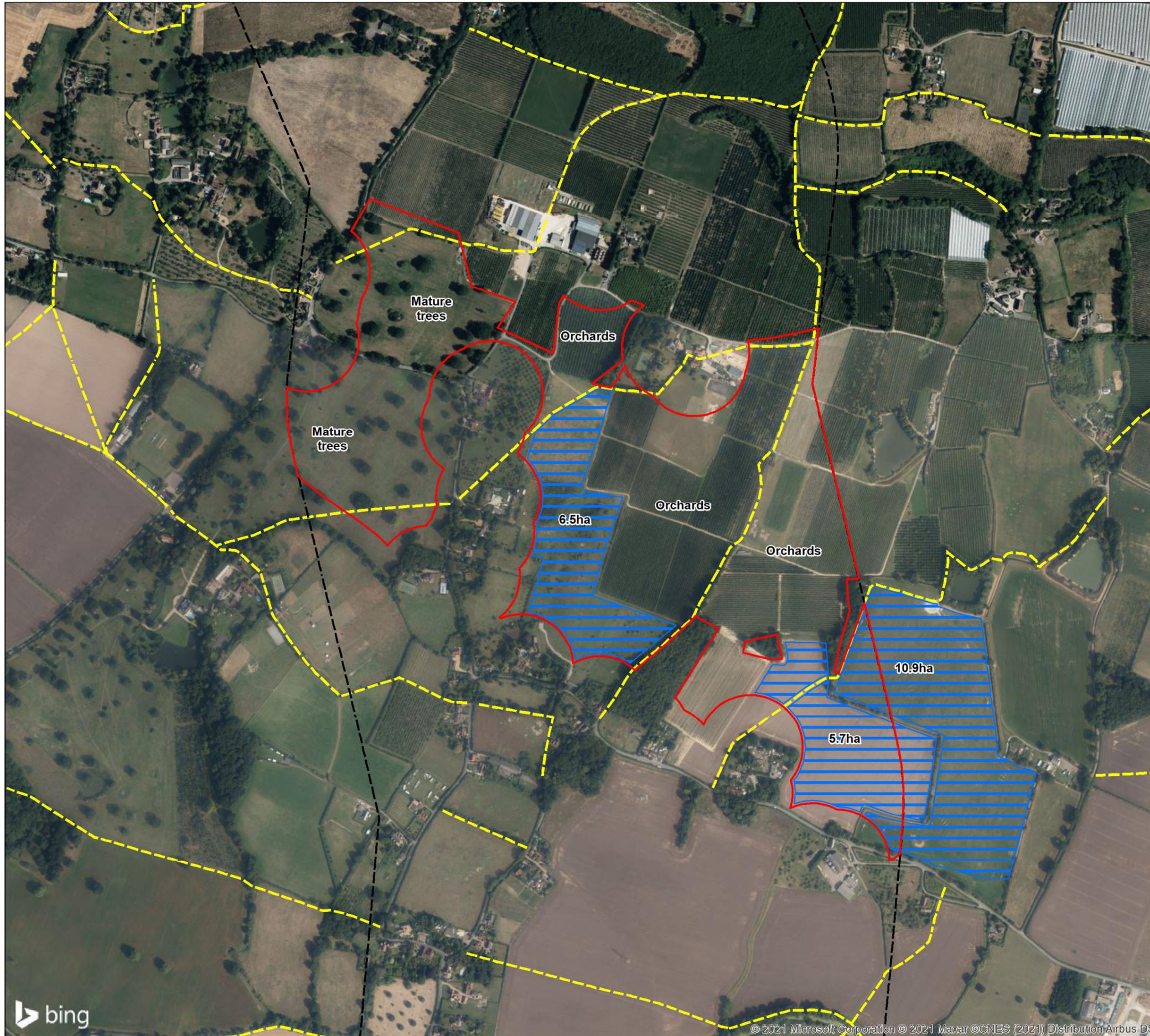
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 Drawn by: AD Approved by: IH
 Date: 18/08/2021
 Scale: 1:60,000 @ A3



APPENDIX 5

SITE ASSESSMENT



- KEY**
- Potential Unconstrained Area
 - Search Area - 500mm Grid Buffer
 - Potential Developable Areas
 - Public Right of Way

Revisions:
First Issue- 18/08/2021 AD

Sequential Analysis- Site Assessment

Little Cheveney Farm

Client: Origin Power Services Ltd
 DRWG No: **P21-1517_05** Sheet No: - REV: -
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 Scale: 1:7,500 @ A3

