PDAS Appendix A – Alternative Site Assessment

Grove Farm Solar, Bentley

Alternative Site Assessment

Prepared for

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October 2023
3223-01-ASA-01

Document Control

Revision	Date	Prepared By	Reviewed / Approved By
3223-01-ASA-01	October 2023	TR	PR

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CONTENTS

1.0 INTRODUCTION 1

1.1 Introduction 1

2.0 POLICY, GUIDANCE, AND APPROACH 2

2.1 Policy 2
2.2 Guidance 3
2.3 Approach 4

3.0 STEP 1 – IDENTIFY THE SEARCH AREA 6

3.1 Overview 6
3.2 Establishing a Point of Connection 6
3.3 Establishing a Search Area 7

4.0 STEP 2 – IDENTIFY SHORT LIST OPTION AREAS 8

4.1 Overview 8
4.2 Statutory Environmental Constraints 9
4.3 Land Type and Agricultural Land Classification 9
4.4 Long List Option Areas 10
4.5 Short List Option Areas 12

5.0 STEP 3 – IDENTIFY AND APPRAISE ALTERNATIVE SITES 13

5.1 Overview 13
5.2 Appraisal of Alternative Site C1 13
5.3 Appraisal of Alternative Site C2 15
5.4 Appraisal of Alternative Site F2 17
5.5 Appraisal of Alternative Site H3 19

6.0 CONCLUSION 21

FIGURES

Figure 1 – Search Area
Figure 2 – AONB Constraint
Figure 3 – Provisional Agricultural Land Classification
Figure 4 – Long List Option Areas
Figure 5 – Short List Option Areas
Figure 6 – Alternative Sites
Figure 7 – Site C1 Environmental Constraints
Figure 8 – Site C2 Environmental Constraints
Figure 9 – Site F2 Environmental Constraints
Figure 10 – Site H3 Environmental Constraints

1.0 INTRODUCTION

1.1 Introduction

1.1.1 This Alternative Site Assessment (ASA) has been prepared in support of the Planning Application to Babergh District Council for the construction and operation of a photovoltaic solar array, associated infrastructure and landscaping (the 'Proposed Development') on Land at Grove Farm, Bentley.

1.1.2 The ASA identifies and appraises potential alternative development areas that are of a size and location suitable for a commercial solar development, and as such could be viable alternatives to the Proposed Development. There is no statutory methodology or requirement for undertaking an ASA for a commercial solar array; however, the Applicant has taken a methodical approach to the ASA in line with guidance set at a national level, summarised in Section 2 section of this report.

1.1.3 The ASA is structured under the following headings:

- Section 1: Introduction
- Section 2: Policy, Approach and Guidance
- Section 3: Step 1 – Identify a Search Area
- Section 4: Step 2 – Identify Short List Option Areas
- Section 5: Step 3 – Identify and Appraise Alternative Sites
- Section 6: Conclusion

1.1.4 The ASA is supported by figures which are appended to the end of this report.

2.0 POLICY, GUIDANCE, AND APPROACH

2.1 Policy

2.1.1 The emerging Babergh and Mid Suffolk Joint Local Plan (JLP) Part 1 (Consolidated Modifications Document, March 2023) has undergone examination by an independent Inspector and in September 2023 was considered sound and capable of adoption. At the time of writing the JLP has not been adopted, but is expected to be adopted in November 2023, and may be adopted prior to submission of the Application.

2.1.2 Emerging JLP Policy LP25 Energy Sources, Storage and Distribution is broadly supportive of renewable and low carbon energy projects providing their impacts have been taken into consideration and where appropriate, effectively mitigated.

2.1.3 Item 3 of Policy LP25 states that:

Where proposals for renewable and low carbon energy impact on nature conservation sites, the Area of Outstanding Natural Beauty, or the setting of heritage assets (including conservation areas), the applicant must be able to convincingly demonstrate that potential harm resultant from development can be effectively mitigated ***and that there are no alternative sites available within the District*** *or for community initiatives within the area which it is intended to serve. This includes providing underground power lines and cabling.*

2.1.4 The Proposed Development would not adversely impact on nature conservation sites or the Area of Outstanding Natural Beauty (AONB), but would have an impact on the setting of a heritage asset.

2.1.5 Policy LP25 requires an Applicant to demonstrate there are ***no alternative sites available within the District***, however, this is not considered a feasible approach due to the nature of renewable energy generation connections which have a specific requirement to be proximate to a part of the National Grid with capacity to accept a connection. Therefore, this ASA considers alternative locations within the District that could utilise the same point of connection as the Proposed Development. This approach is considered reasonable and proportionate, and in the Applicant's opinion is in accordance with the intent of Item 3 of Policy LP25.

2.2 Guidance

2.2.1 There is no standard approach or statutory procedure for undertaking an ASA for a commercial solar development. However, it is important that any ASA follows a clear and transparent approach that is tailored to the specific sensitivities of the project to ensure that suitable alternative sites are identified.

2.2.2 Planning Practice Guidance (PPG) for Renewable and Low Carbon Energy[1] provides guidance on the "particular planning considerations that relate to large-scale ground-mounted solar photovoltaic farms" (Paragraph: 013 Reference ID: 5-013-20150327). The PPG identifies 'factors' that local authorities need to consider when determining applications for solar farms. The following factors are judged to be of most relevance to guiding the strategic site selection for a project:

- Encourage the effective use of land by focussing large scale solar farms on previously developed land and non-agricultural land, provided that it is not of high environmental value; and
- Where a proposal involves greenfield land, consider 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;

2.2.3 The draft National Policy Statement (NPS) for Renewable Energy Infrastructure (EN-3) sets out a series of factors that influence site selection for commercial solar farms. These include:

- Irradiance and site topography;
- Proximity of a site to dwellings;
- Agricultural land classification and land;
- Accessibility;
- Public rights of way;
- Security and lighting; and
- Network connection.

[1] https://www.gov.uk/guidance/renewable-and-low-carbon-energy

2.2.4 Emerging JLP Policy LP25 does not provide any specific guidance or criteria for how the Council expect alternative sites to be identified and ruled out, however, Item 3 of the Policy does refer specifically to nature conservation sites, the AONB, and the setting of heritage assets. The Applicant therefore considers the landscape and visual impact, biodiversity impact, and cultural heritage impact to be relevant matters for consideration as part of any appraisal of alternative sites.

2.3 Approach

2.3.1 Informed by the guidance set out in Section 2.2 above, the approach taken by the Applicant for this ASA is as follows:

- Step 1 – Identify an Initial Search Area
- Step 2 – Identify Short List Option Areas
- Step 3 – Identify and Appraise Alternative Sites

2.3.2 Step 1 involves identifying a suitable initial search area based on the specific requirements of the project. For a commercial solar development this involves establishing the point of connection, before determining the furthest distance the development could be from the point of connection whilst remaining viable.

2.3.3 Step 2 involves refining the initial search area to establish 'Short List Option Areas' by ruling out areas of land that are considered to be of a higher environmental value with regards to statutory environmental constraints, land type, and agricultural land classification.

2.3.4 Step 3 involves the identification of potential Alternative Sites within the short-listed option areas, followed by an appraisal of whether a commercial solar development at these potential Alternative Sites would be likely to result in greater or lesser impacts than at the Application Site.

2.3.5 It should be noted that the identification of Alternative Sites does not consider landowners and whether or not such land would be commercially available for development by agreement with the landowner. The purpose of identifying Alternative Sites is simply to make a comparable assessment of theoretical alternative sites within the search area.

2.3.6 The appraisal of each suitable Alternative Site at Step 3 has been tabulated and considers the following criteria informed by the guidance set out in Section 2.2[2]:

- Irradiance and topography;
- Proximity to dwellings;
- Accessibility;
- Public rights of way;
- Network connection;
- Landscape impact;
- Cultural heritage impact;
- Biodiversity impact; and
- Noise impact.

2.3.7 The tabulated appraisal includes a qualitative comparison of each Alternative Site with the Application Site, and rates each of the above criteria on a scale as follows:

+ +	Alternative Site has notable advantage(s) compared to the Application Site
+	Alternative Site has some advantage(s) compared to the Application Site
=	Alternative Site does not appear to have notable advantage(s) or disadvantage(s) compared to the Application Site
-	Alternative Site has some disadvantage(s) compared to the Application Site
- -	Alternative Site has notable disadvantage(s) compared to the Application Site

2.3.8 The purpose of rating each Alternative Site in this way is to give an illustrative indication of the likely advantages and disadvantages, and should not be taken as a quantitative scoring exercise. It should be noted that a single notable advantage or

[2] *The draft NPS EN-3 criterion for 'Agricultural land classification and land type' has not been used for the tabulated appraisal as it has been used to define the option areas earlier in the process at Step 2. The draft NPS EN-3 criterion for 'Security and lighting' has also not been used as it is considered this is addressed by a consideration of the potential for landscape and visual impacts.*

disadvantage could be enough to justify an Alternative Site as better or worse than the Application Site.

2.3.9 There are limitations to the depth of analysis which can reasonably be undertaken in an ASA. The appraisal of Alternative Sites is therefore high-level, using data from readily available published sources.

2.3.10 The overall approach to this ASA is considered to be compliant with Overarching National Policy Statement for Energy EN-1, which at paragraph 4.4.3 states "*the consideration of alternatives in order to comply with policy requirements should be carried out in a proportionate manner*".

3.0 STEP 1 – IDENTIFY THE SEARCH AREA

3.1 Overview

3.1.1 To identify a suitable initial search area requires firstly a consideration of the specific requirements of the project. For a commercial solar development this involves establishing the point of connection, before determining the furthest distance the development could be from the point of connection not accounting for any further constraints.

3.2 Establishing a Point of Connection

3.2.1 The starting point for any renewable energy generation project is identifying a part of the National Grid where there is available grid capacity to connect a renewable energy project. To identify suitable sites for solar farms, two principal criteria must both be satisfied:

- Firstly, and most importantly, any solar scheme must be located proximate to an existing substation which has the available capacity to import the required amount of power into the National Grid, either directly into the substation or via a point of connection into the nearby transmission network;
- Secondly, solar schemes must be located close enough to the identified substation or transmission line to remain viable both in terms of cable deployment for the grid connection, and to ensure that minimum transmission losses occur.

3.2.2 These principals are supported by the draft NPS for Renewable Energy EN-3[3], which at paragraph 2.48.11 states that:

'Most solar farms are connected into the local distribution network. The capacity of the local grid network to accept the likely output from a proposed solar farm is critical to the technical feasibility of a development and as such some larger developments may seek connection to the transmission network if there is available network capacity and/or supportive infrastructure. The connection voltage, availability of network capacity, and the distance from the solar farm to the existing network can have a significant effect on the commercial feasibility of a development proposal.' [emphasis added]

3.2.3 Furthermore, paragraph 2.48.12 of draft NPS EN-3 states that:

'The applicant may choose a Site based on nearby available grid export capacity. Locating solar farms at places with grid connection capacity enables the applicant to maximise existing grid infrastructure, minimise disruption to local community infrastructure or biodiversity and reduce overall costs.'

3.2.4 The Applicant established through discussion with the DNO that there was available capacity in the local transmission network to import renewable energy. Specifically, this capacity relates to an overhead high voltage 132kV power line that crosses the District and connects to the Cliff Quay Grid substation.

3.2.5 The Applicant therefore undertook this ASA to establish the most suitable location within a proximate location to this 132kV power line.

3.3 Establishing a Search Area

3.3.1 It is an essential requirement for solar schemes to be proximate to an existing substation or part of the transmission network which has the available capacity to import the required amount of power into the National Grid. In addition, schemes must be located close to the identified substation or transmission network to remain

[3] https://www.gov.uk/government/consultations/planning-for-new-energy-infrastructure-revisions-to-national-policy-statements

viable both in terms of cable deployment for the grid connection, and to ensure that minimum transmission losses occur.

3.3.2 The Applicant has determined that for a connection into a 132kV overhead power line in this region and local geography, the maximum distance a project can be from the point of connection before a scheme is no longer likely to be viable is approximately 3km, with costs increasing as distance from the point of connection increases within this 3km.

3.3.3 The Search Area for Alternative Sites has therefore been set at a 3km radius from the 132kV overhead power line being used as the point of connection.

3.3.4 The initial Search Area is shown on **Figure 1**.

3.3.5 A review has been undertaken of Babergh District's Brownfield Land Register to identify any potential land likely to be of a suitable size within the Search Area. No sites on the Brownfield Land Register likely to be of a suitable size have been identified, and a review of aerial imagery did not identify any suitable areas of previously developed land within the Search Area. Therefore, brownfield and previously developed land are not considered a viable alternative for the Proposed Development.

4.0 STEP 2 – IDENTIFY SHORT LIST OPTION AREAS

4.1 Overview

4.1.1 Step 2 involves refining the initial Search Area down to a series of 'Short List Option Areas'.

4.1.2 Firstly, 'Long List Option Areas' have been identified based on ruling out land which is judged to be of a higher environmental value than the Application Site based on a consideration of spatial designations as follows:

- Statutory Environmental Constraints; and
- Agricultural Land Classification.

4.1.3 Secondly, Long List Option Areas have been reviewed in relation to their size and whether they would be sufficiently large to be a viable alternative for a commercial solar development of the scale of the Proposed Development.

4.1.4 Finally, the Long List Option Areas have been further refined to 'Short List Option Areas' through a consideration of the existing land uses within the LLOA.

4.2 Statutory Environmental Constraints

4.2.1 Statutory planning and environmental constraints have been reviewed within the 3km Search Area where they are of a spatial extent large enough to influence site selection. In this regard, smaller features such as listed buildings or scheduled monuments have not been considered owing to their very small scale in the context of the Search Area.

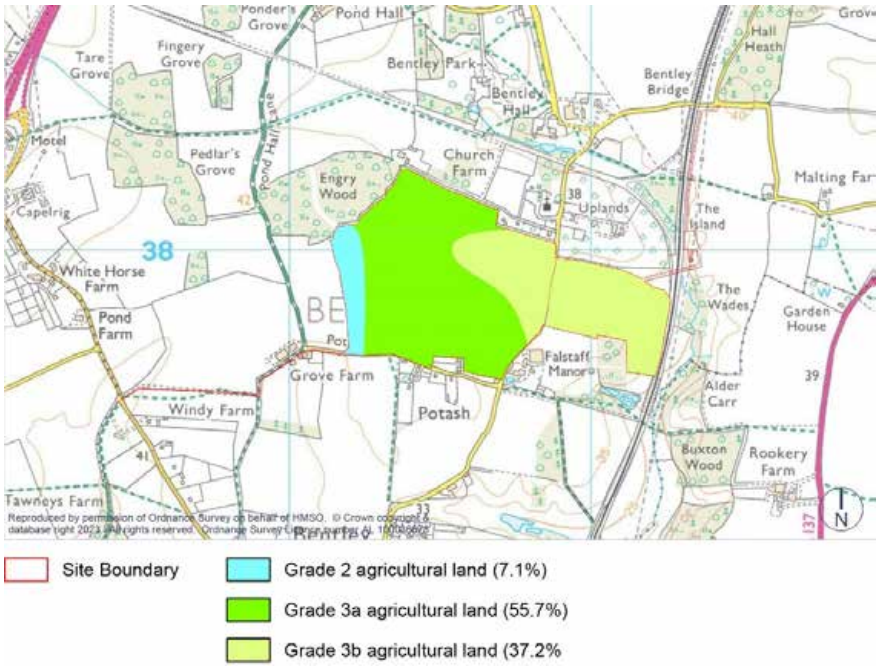
4.2.2 The primary constraint across the Search Area is the Suffolk Coast and Heaths AONB, as shown on **Figure 2**. Other statutory constraints including Sites of Special Scientific Interest (SSSI), Special Protection Areas (SPA), and Special Areas of Conservation (SAC) either sit within the AONB in the Search Area, or are of a very small spatial extent. They have therefore not been shown on **Figure 2** and the AONB is judged to be the only relevant spatial statutory constraint in the Search Area.

4.2.3 The Search Area was updated to remove land within the Suffolk Coast and Heaths AONB, as shown on **Figure 2**.

4.3 Land Type and Agricultural Land Classification

4.3.1 The Agricultural Land Classification survey undertaken for the Site found that it is predominantly Grade 3 agricultural land, with 92.9% of the Site being Grade 3 land. This is shown on Image 1 below.

Image 1: Agricultural Land Classification of the Application Site



4.3.2 Natural England's Provisional Agricultural Land Classification has been reviewed across the Search Area in order to try and avoid land of a higher environmental value, which in this case (as the Site is Grade 3) is taken to be land of agricultural Grades 1 and 2 only.

4.3.3 Any land that is provisionally Grades 1 and 2 has been removed from the Search Area, as shown on **Figure 3**.

4.3.4 Land identified as non-agricultural or urban has been reviewed for its potential to support a commercial solar array, however no areas are considered suitable and therefore these areas have also been removed from the Search Area.

4.3.5 The resultant areas are identified as the 'Long List Option Areas' and are reviewed further below.

4.4 Long List Option Areas

4.4.1 The Long List Option Areas (LLOAs) are shown on **Figure 4**. The LLOAs have been assigned an identification marker on **Figure 4**, in this case a letter of the alphabet A through to K.

4.4.2 To determine the minimum size of a LLOA, consideration has been given to draft NPS EN-3 which states at paragraph 3.10.8 that:

Along with associated infrastructure, ***a solar farm requires between 2 to 4 acres for each MW of output****. A typical 50MW solar farm will consist of around 100,000 to 150,000 panels and cover between 125 to 200 acres. However, this will vary significantly depending on the site, with some being larger and some being smaller. This is also expected to change over time as the technology continues to evolve to become more efficient. Nevertheless, this scale of development will inevitably have impacts, particularly if sited in rural areas.*

4.4.3 In the Applicant's experience, a 40MW solar farm such as the Proposed Development typically requires between 3 to 4 acres (1.2 to 1.6 hectares) per MW of output. The size of a potential site is a critical consideration in ensuring the required solar capacity can be installed, but also needs to allow for proposed landscaping and suitable buffers to be taken from residents around a site boundary and public rights of way.

4.4.4 The LLOAs have been reviewed to discount any areas that are not a minimum of 48ha in size. Consideration has also been given to the land type within each LLOA, and whether there are any clear and obvious constraints that would make an Alternative Site wholly unviable.

4.4.5 **Table 1** below sets out the review of each of the LLOAs and determines whether they should be taken forward as Short List Option Areas, or discounted.

Table 1: High level appraisal of Long List Option Areas

Long List Option Area	High Level Appraisal	Taken forward / Discounted
A	Option A is 41 hectares and therefore not of sufficient size.	Discounted
B	Option B is of an overall suitable size but covers the western extent of Ipswich, the A14 dual carriageway, and the village of Washbrook. Whilst the area isn't identified as urban in the Provisional Agricultural Land Classification it is predominantly built-up with no internal land parcels that meet the required 48ha threshold.	Discounted
C	Option C is of a suitable size, contains land potentially suitable for solar, and is proximate to the point of connection.	Taken forward

Long List Option Area	High Level Appraisal	Taken forward / Discounted
D	Option D is 3 hectares and therefore not of sufficient size.	Discounted
E	Option E is of an overall suitable size but covers the south-east of Ipswich, the A14 and a local park. Whilst the area isn't identified as urban in the Provisional Agricultural Land Classification it is predominantly built-up with no internal land parcels that meet the required 48ha threshold.	Discounted
F	Option F is of a suitable size, contains land potentially suitable for solar, and is proximate to the point of connection.	Taken forward
G	Option G is 37 hectares and therefore not of sufficient size.	Discounted
H	Option H is of a suitable size, contains land potentially suitable for solar, and is proximate to the point of connection.	Taken forward
I	Option G is 36 hectares and therefore not of sufficient size.	Discounted
J	Option G is 12 hectares and therefore not of sufficient size.	Discounted
K	Option K is of an overall suitable size but is predominantly built-up in character with the settlements of Brantham and Manningtree. There is some potential land in the far south of Option K that could be suitable, however providing a grid connection through the centre of Manningtree to reach the point of connection would be prohibitive economically and in terms of disruption to the local community.	Discounted

4.4.6 The Long List Option Areas taken forward as Short List Option Areas are therefore Areas C, F and H.

4.5 Short List Option Areas

4.5.1 The Short List Option Areas (SLOAs) taken forward for further assessment are shown on **Figure 5**. The SLOAs have been further refined to remove areas of land that would be unsuitable for solar development (such as urban areas or large water bodies) as follows:

- SLOA C is to the south of Ipswich, straddling the A14 dual carriageway. The south of the Area is potentially suitable for solar development, but the north of the area and the A14 are unsuitable. These parts of SLOA C were therefore discounted from further appraisal and removed from the SLOA, with reference to Figure 5.
- SLOA F is north of Bentley and south of Area C. It covers predominantly agricultural land and was therefore suitable for further appraisal without modification.
- SLOA H is to the south of Bentley and extends towards Alton Water reservoir to its east. The village of Tattingstone and the reservoir were both judged to be unsuitable for solar development. These areas were therefore discounted from further appraisal and removed from the SLOA, with reference to **Figure 5**.

5.0 STEP 3 – IDENTIFY AND APPRAISE ALTERNATIVE SITES

5.1 Overview

5.1.1 Alternative Sites have been identified within the SLOAs, as shown on **Figure 6**. The Alternative Sites are based on connected field groups suitable for a commercial solar development. Sites less than 48ha have still been shown on **Figure 6** to demonstrate the scale of all potential alternative sites achievable within the SLOAs.

5.1.2 The Alternative Sites on **Figure 6** have been assigned a reference in relation to the SLOA that they are within. In total eight Alternative Sites have been identified. Of these eight Alternative Sites, only four meet the threshold of 48 ha required for a 40MW solar farm, these are:

- Alternative Site C1;
- Alternative Site C2;
- Alternative Site F2; and
- Alternative Site H3.

5.1.3 An appraisal of each of these Alternative Sites is set out below.

5.2 Appraisal of Alternative Site C1

5.2.1 **Table 2** below presents a high-level appraisal of Alternative Site C1, considering the criteria set out in Section 2.3 of this ASA.

5.2.2 **Figure 7** illustrates the statutory planning and environmental constraints in proximity to Site C1.

Table 2: Appraisal of Alternative Site C1

Criteria	Appraisal of Alternative Site C1	Comparison with Application Site
Irradiance and Topography	Site C1 is likely to receive similar levels of irradiance as the Application Site. The topography of Site C1 is slightly less favourable than the Application Site due to being more strongly sloping from west to east and from south to north.	-
Proximity to Dwellings	Site C1 is proximate to several properties, but less than the Application Site.	+
Accessibility	Access to Site C1 would need to be taken from J56 of the A14, before following the A137 and then 'The St'. The St is a narrow single track access that would likely be highly unsuitable for construction traffic of the magnitude required for a 40MW solar farm. Temporary passing places would be required, or other traffic management. The Application Site is not constrained in this way.	- -
Public Rights of Way	Site C1 is crossed by a number of public rights of way that would be incorporated into the Scheme, however the routes would be channelised through the solar farm and consequently there would be a notable loss of amenity. The Application Site is not constrained in this way.	- -
Network Connection	Site C1 benefits from the 132kV power line crossing the landholding, and therefore the grid connection could be delivered slightly more easily than at the Application Site.	+
Landscape and Visual Impact	Site C1 is across sloping topography, crossed by public footpaths, but in close proximity to a dual carriageway and crossed by overhead pylons. Overall the receiving landscape character is likely to be of slightly reduced sensitivity than the Application Site. The topography of Site C1 is likely to notably increase its zone of visual influence compared to the Application Site, and reduces options for using planting to provide screening. There are also public footpaths crossing the Site where recreational users of the countryside will have their experience of views across the landscape substantially changed.	-

	Mitigation is not likely to be effective in reducing all significant effects, principally due to the topography and the footpaths crossing the site. The Application Site is judged to be a slightly better option than Site C1.	
Cultural Heritage Impact	Site C1 is in the wider setting to a number of Grade II listed buildings at Thorington Hall. The Application Site is in the wider setting of a Grade II* listed building, although with limited intervisibility. Overall ,cultural heritage is judged to be a neutral differentiator.	=
Biodiversity Impact	It is assumed that hedgerows and trees would be retained across Site C1 and that a biodiversity net gain could be achieved. Overall, biodiversity is judged to be a neutral differentiator.	=
Noise Impact	The existing background noise levels at Site C1 are likely to be greater than at the Application Site. However, both sites could be designed to meet noise requirements and avoid unacceptable impacts to nearby residents. Overall, noise is judged to be a neutral differentiator.	=
Conclusion:	Overall, Site C1 has some benefits over the Application Site due to being proximate to less residential properties, and the east of its grid connection. However, the constraints and potential adverse effects from development at Site C1 are considered to be greater than at the Application Site due to significant challenges with construction access, the topography, public right of way network, and potential for increased visual impact.	

5.3 Appraisal of Alternative Site C2

5.3.1 **Table 3** below presents a high-level appraisal of Alternative Site C2, considering the criteria set out in Section 2.3 of this ASA.

5.3.2 **Figure 8** illustrates the statutory planning and environmental constraints in proximity to Site C2.

Table 3: Appraisal of Alternative Site C2

Criteria	Appraisal of Alternative Site C2	Comparison with Application Site
Irradiance and Topography	Site C2 is likely to receive similar levels of irradiance as the Application Site. The topography of Site C2 is comparable to the Application Site in	=

	that it is broadly flat. Irradiance and topography are a neutral differentiator.	
Proximity to Dwellings	Site C2 is proximate to several properties with existing open views across the Site, which is comparable to the Application Site. Therefore, the proximity to dwellings is judged to be a neutral differentiator.	=
Accessibility	Access to Site C2 would need to be taken from J56 of the A14, before following the A137 and then 'The St'. The St is a narrow single track access that would likely be highly unsuitable for construction traffic of the magnitude required for a 40MW solar farm. Temporary passing places would be required, or other traffic management. The Application Site is not constrained in this way.	- -
Public Rights of Way	Site C2 is crossed by a number of public rights of way that would be incorporated into the Scheme, however the routes would be channelised through the solar farm and consequently there would be a notable loss of amenity. The Application Site is not constrained in this way.	- -
Network Connection	Site C2 is separated from the 132kV line by a railway line in a comparable way to the Application Site, however, access to the land to install the grid connection would be notably more challenging due to the surrounding woodland, and the agricultural overbridge to the railway unlikely to be suitable for the small number of HGVs required.	-
Landscape and Visual Impact	Site C2 is flat topography of arable fields crossed by public footpaths, and crossed by overhead power lines. The receiving landscape character is likely to be of similar sensitivity as the Application Site. The zone of visual influence is likely to be slightly greater than the Application Site due to the more open boundaries to the north and west. There are public footpaths crossing the Site where recreational users of the countryside will have their experience of views across the landscape substantially changed. Mitigation planting has the potential to be effective in reducing some significant effects due to the flat topography in the medium- to long-term, however the visual experience for footpaths crossing the Site would be fundamentally different. The Application Site is judged to be a slightly better option than Site C2.	-
Cultural Heritage Impact	Site C2 is in the setting to a number of Grade II listed buildings which sit around its boundary to the	-

	north and west, with open views from the assets across the Site. The Application Site is in the wider setting of a Grade II* listed building, although with limited intervisibility. The Application Site is judged to be a slightly better option than C2.	
Biodiversity Impact	It is assumed that hedgerows and trees would be retained across Site C2 and that a biodiversity net gain could be achieved. Overall, biodiversity is judged to be a neutral differentiator.	=
Noise Impact	The existing background noise levels at Site C2 are likely to be comparable or slightly greater than at the Application Site. However, both sites could be designed to meet noise requirements and avoid unacceptable impacts to nearby residents. Overall, noise is judged to be a neutral differentiator.	=
Conclusion:	Overall, Site C2 does not have any obvious benefits over the Application Site, with a number of neutral differentiators between the sites. There are notable disadvantages to Site C2 in relation to construction access, the grid connection, and the public right of way network, and further disadvantages in relation to visual impact and heritage harm.	

5.4 Appraisal of Alternative Site F2

5.4.1 **Table 4** below presents a high-level appraisal of Alternative Site F2, considering the criteria set out in Section 2.3 of this ASA.

5.4.2 **Figure 9** illustrates the statutory planning and environmental constraints in proximity to Site F2.

Table 4: Appraisal of Alternative Site F2

Criteria	Appraisal of Alternative Site F2	Comparison with Application Site
Irradiance and Topography	Site F2 is likely to receive similar levels of irradiance as the Application Site. The topography of Site F2 is comparable to the Application Site in that it is broadly flat. Irradiance and topography are a neutral differentiator.	=
Proximity to Dwellings	Site C1 is proximate to several properties, but less than the Application Site.	+
Accessibility	Access to Site F2 could come from either the A12 or A137, however from either direction this would	- -

	be down narrow single track roads that would likely be highly unsuitable for construction traffic of the magnitude required for a 40MW solar farm. Temporary passing places would be required, or other traffic management. The Application Site is not constrained in this way.	
Public Rights of Way	Site F2 is not crossed by public rights of way, but has footpaths around its boundary in a similar way to the Application Site. Public rights of way are a neutral differentiator.	=
Network Connection	Site F2 is separated from the 132kV line by a railway line in a comparable way to the Application Site, and therefore the grid connection is a neutral differentiator.	=
Landscape and Visual Impact	Site F2 has flat topography of arable fields, and is crossed by overhead lines to its south-west. There are important heritage assets to the north and south of the Site. The site boundaries are open to the road to the south, and to Old Hall Lane to the west, which increases its visibility. The Site is overall likely to be of a comparable or slightly higher sensitivity than the Application Site. The zone of visual influence is likely to be slightly greater than the Application Site due to the more open boundaries to the south and west. There would be open views from the public footpaths to the west and north where recreational users of the countryside will have their experience of views across the landscape changed. Mitigation planting has the potential to be effective in reducing some significant effects due to the flat topography in the medium- to long-term, however the visual experience for nearby footpaths would be altered. The Application Site is judged to be a slightly better option than Site C2 due to its greater existing enclosure and limited visibility.	-
Cultural Heritage Impact	Site F2 is in the setting to Grade I and Grade II* listed buildings, with the Grade I listed building on its southern boundary. Due to open views between the Grade I listed building (Bentley Hall Barn) and the clear relationship that agricultural land to the north has with the asset, it is likely that there would be a notable level of heritage harm. The Application Site is in the wider setting of a Grade II* listed building, although with limited intervisibility. The Application Site is judged to be a better option than F2.	- -

Biodiversity Impact	It is assumed that hedgerows and trees would be retained across Site F2 and that a biodiversity net gain could be achieved. Overall, biodiversity is judged to be a neutral differentiator.	=
Noise Impact	The existing background noise levels at Site F2 are likely to be comparable to the Application Site. However, both sites could be designed to meet noise requirements and avoid unacceptable impacts to nearby residents. Overall, noise is judged to be a neutral differentiator.	=
Conclusion:	Overall, Site F2 has a slight benefit in regards its proximity to less residential dwellings. However, there are notable disadvantages to Site F2 in relation to heritage impacts and construction access, and further disadvantages in relation to visual impact.	

5.5 Appraisal of Alternative Site H3

5.5.1 **Table 5** below presents a high-level appraisal of Alternative Site H3, considering the criteria set out in Section 2.3 of this ASA.

5.5.2 **Figure 10** illustrates the statutory planning and environmental constraints in proximity to Site H3.

Table 5: Appraisal of Alternative Site H3

Criteria	Appraisal of Alternative Site H3	Comparison with Application Site
Irradiance and Topography	Site H3 is likely to receive similar levels of irradiance as the Application Site. The topography of Site H3 is comparable to the Application Site in that it is broadly flat. Irradiance and topography are a neutral differentiator.	=
Proximity to Dwellings	Site H3 is proximate to several properties with existing open views across the Site, which is comparable to the Application Site. Therefore, the proximity to dwellings is judged to be a neutral differentiator.	=
Accessibility	Access to Site H3 would come via the A137 to the west, and would have to then utilise either Church Road to the north or Stutton Lane to the south. Church Road is closely fronted by a number of properties near the junction with the A137 and therefore likely to result in adverse impact from the	-

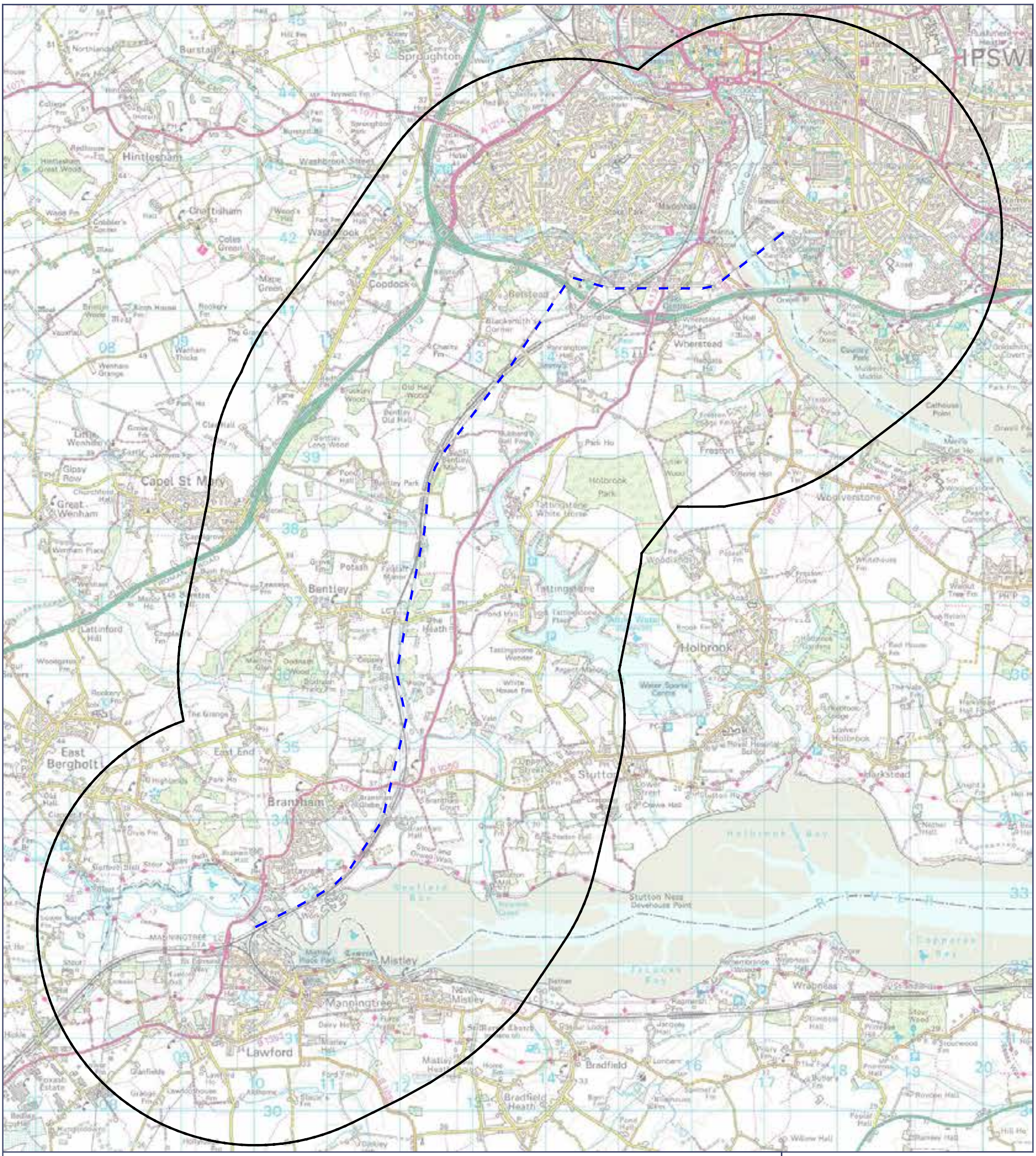
	magnitude of construction traffic required for a 40MW solar farm. Stutton Lane may be suitable but is currently marked unsuitable for HGVs. Overall, the Application Site is less constrained to construction access than Site H3.	
Public Rights of Way	Site H3 is crossed by public rights of way that would be incorporated into the Scheme, however the routes would be channelised through the solar farm and consequently there would be a notable loss of amenity. The Application Site is not constrained in this way.	**- -**
Network Connection	The grid connection from Site H3 to the 132kV power line would likely need to follow the A137 and Station Road which would cause local disruption whilst trenching took place. At the intersection between the power line and Station Road the nearest pylons are significantly constrained by existing habitats, trees, and woodland. The Application Site is not constrained to the same extent.	**- -**
Landscape and Visual Impact	Site H3 is adjacent to the AONB to its southern boundary, and it is therefore potentially within the setting of the AONB for purpose of NPPF Paragraph 176. Site H3 is also in close proximity to Tattingstone and Alton Water to its east. Aerial imagery suggests that Site H3 comprises a patchwork of small to large-scale arable fields. Smaller fields are more susceptible to change from solar development. The sensitivity of Site H3 would be higher than the Application Site. Development of solar at Site H3 would result in adverse impact in relation to the Site's position in the setting of the AONB, and Alton Water to its east (which likely has many of the characteristics of a 'valued landscape'). Development at Site H3 would likely detract from peoples experience of visiting these areas, including for footpaths across the Site. Mitigation planting has the potential to be effective in reducing some significant effects due to the broadly flat topography in the medium- to long-term, however the visual experience for nearby footpaths would be altered. The Application Site is judged to be a better option than Site H3 due to its greater existing enclosure, limited visibility, and separation from the AONB and Alton Water.	**- -**
Cultural Heritage Impact	Site H3 has several listed buildings along its eastern boundary, including the Grade II* listed Tattingstone Wonder. It is likely that a degree of mitigation could be provided to offset boundaries between the solar area and these features,	**-**

	however there would likely be residual effects on setting. The Application Site is in the wider setting of a Grade II* listed building, although with more limited intervisibility. The Application Site is judged to be a better option than H3.	
Biodiversity Impact	It is assumed that hedgerows and trees would be retained across Site H3 and that a biodiversity net gain could be achieved. Overall, biodiversity is judged to be a neutral differentiator.	=
Noise Impact	The existing background noise levels at Site H3 are likely to be comparable to the Application Site. However, both sites could be designed to meet noise requirements and avoid unacceptable impacts to nearby residents. Overall, noise is judged to be a neutral differentiator.	=
Conclusion:	Overall, Site H3 does not have any obvious benefits over the Application Site, with a number of neutral differentiators between the sites. There are notable disadvantages to Site H3 in relation to landscape and visual impact, providing the grid connection, and the public right of way network, and further disadvantages in relation to heritage harm and construction access.	

6.0 CONCLUSION

6.1.1 This ASA provides a review of potential alternative development sites to the Application Site that are of a size and location suitable for a commercial solar development. The ASA demonstrates that there are no better alternative locations within Babergh District for a commercial solar array with a generating capacity of 40 MW to connect into the 132kV power line identified as the point of connection with the National Grid.

6.1.2 The Application Site is therefore in the best possible location to provide the requisite essential renewable energy, whilst avoiding or minimising environmental harm. In addition, the characteristics of the Application Site are well suited to accommodating a commercial solar array due to the broadly flat underlying topography and the existing landscape framework of hedgerows and trees that provide opportunities for integration, visual screening, and biodiversity enhancement.



------- 132kV Power Line

Search Area

N

0 1 2 3 4 5km

0344 8700 007
axis.co.uk

Project

Grove Farm Solar

Figure Number

Figure 1

Figure Title

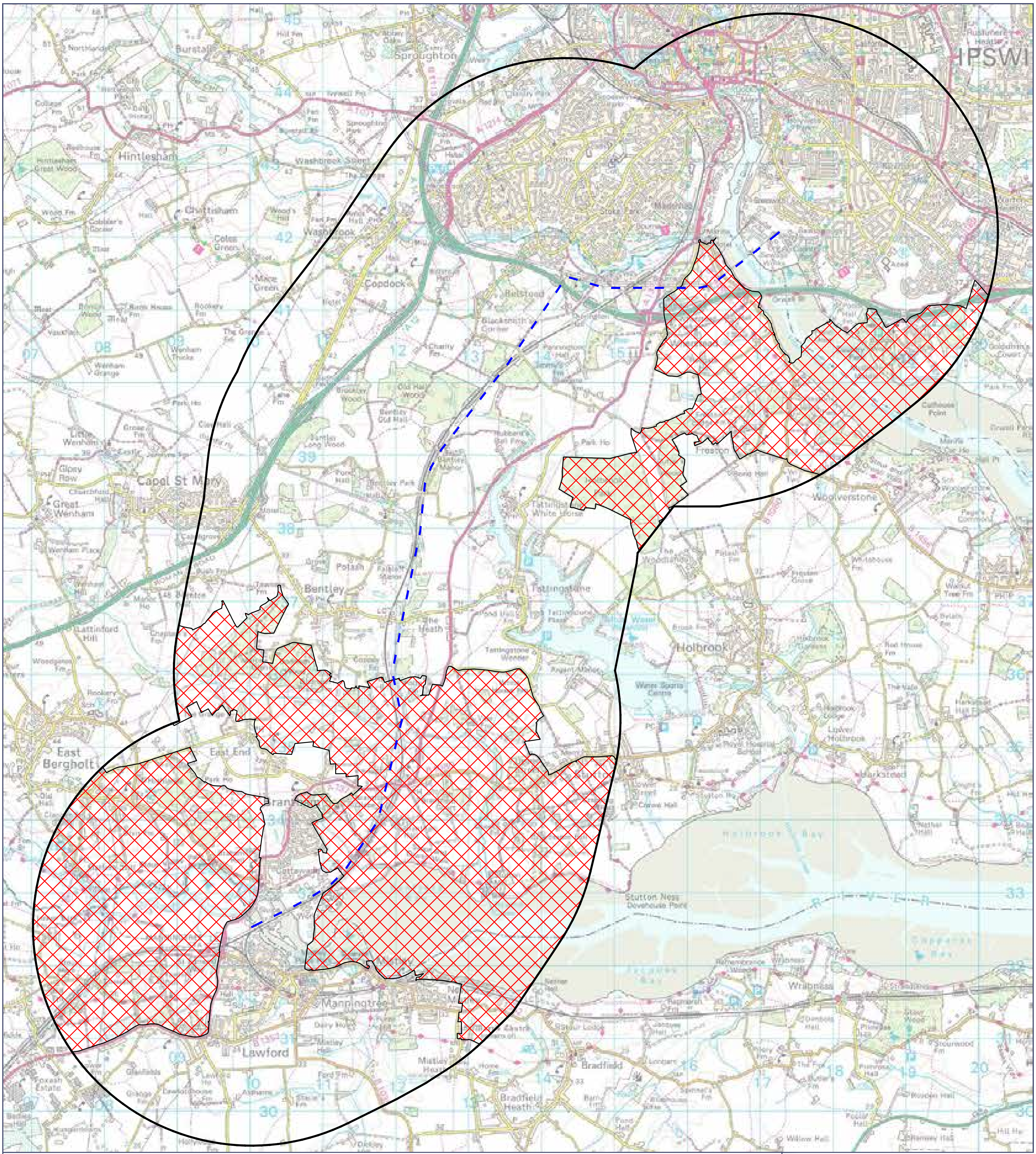
Search Area

Scale

1:50,000 @A3

Date

July 2023



- - - - - - - 132kV Power Line

Search Area

Land removed from search area for statutory constraint (AONB)

N

0 1 2 3 4 5km

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axis.co.uk

Project

Grove Farm Solar

Figure Number

Figure 2

Figure Title

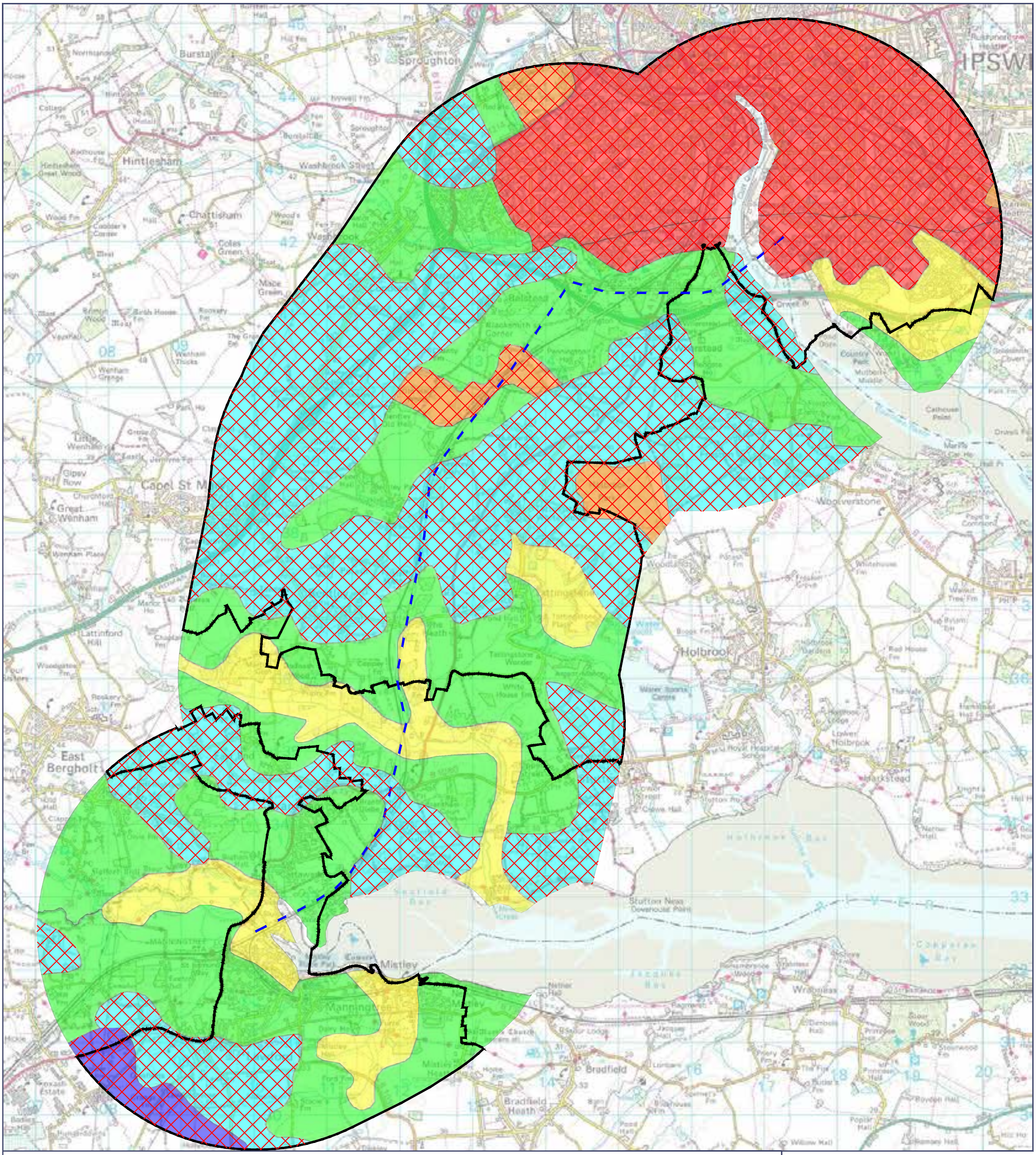
AONB Constraint

Scale

1:50,000 @A3

Date

July 2023



- 132kV Power Line
- Search Area
- Land removed from search area (Grade 1 & 2, Non-Agricultural, Urban)
- Grade 1 Agricultural Land
- Grade 2 Agricultural Land
- Grade 3 Agricultural Land
- Grade 4 Agricultural Land
- Non-Agricultural
- Urban

N

0 1 2 3 4 5km

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axis

Project

Grove Farm Solar

Figure Number

Figure 3

Figure Title

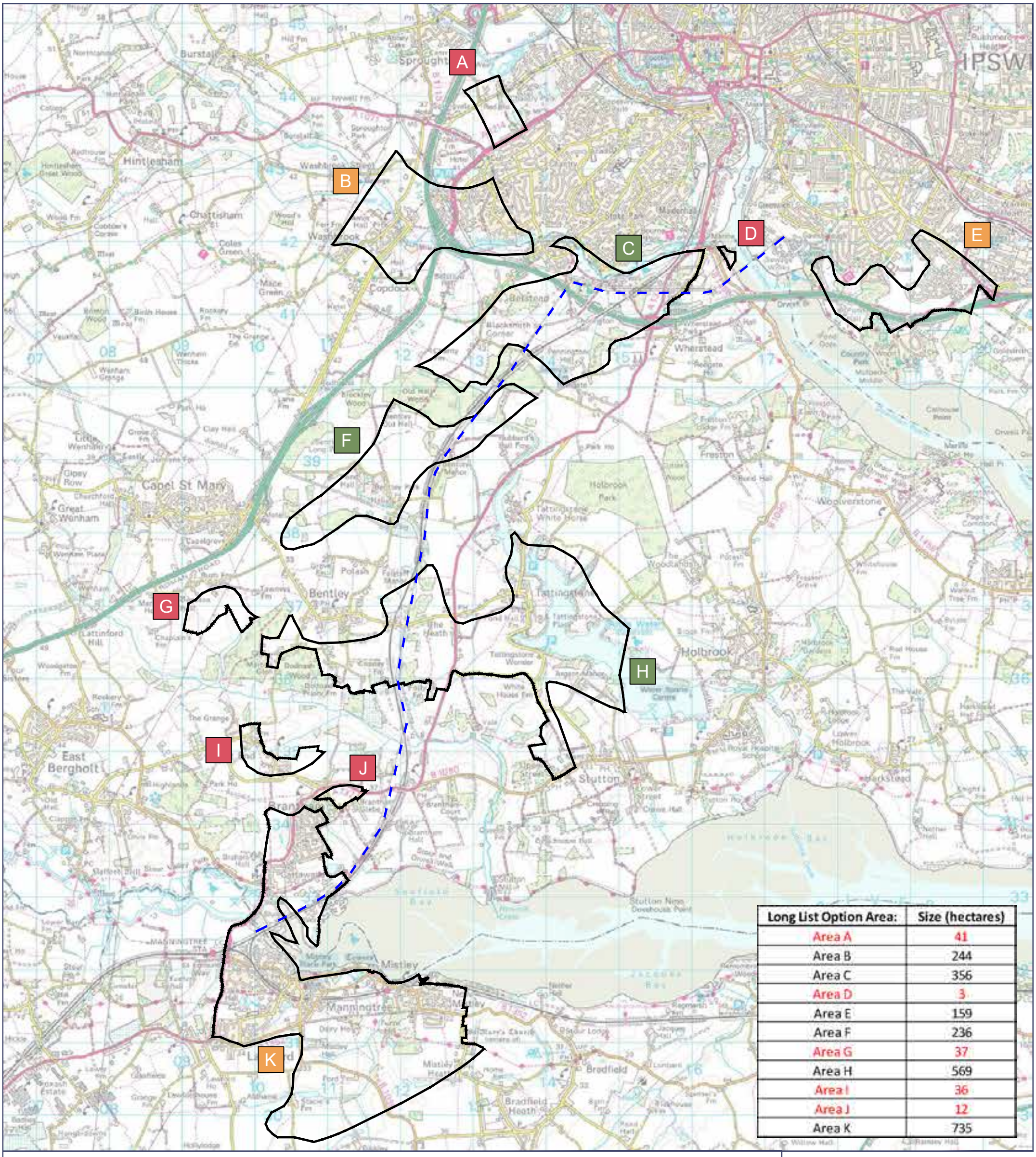
Provisional Agricultural Land Classification

Scale

1:50,000 @A3

Date

July 2023



Long List Option Area:	Size (hectares)
Area A	41
Area B	244
Area C	356
Area D	3
Area E	159
Area F	236
Area G	37
Area H	569
Area I	36
Area J	12
Area K	735

132kV Power Line

Long List Option Areas

Long list option area taken forward

Long list option area discounted on size

Long list option area discounted for other constraint (refer to report)

N

0 1 2 3 4 5km

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axis.co.uk

axis

Project

Grove Farm Solar

Figure Number

Figure 4

Figure Title

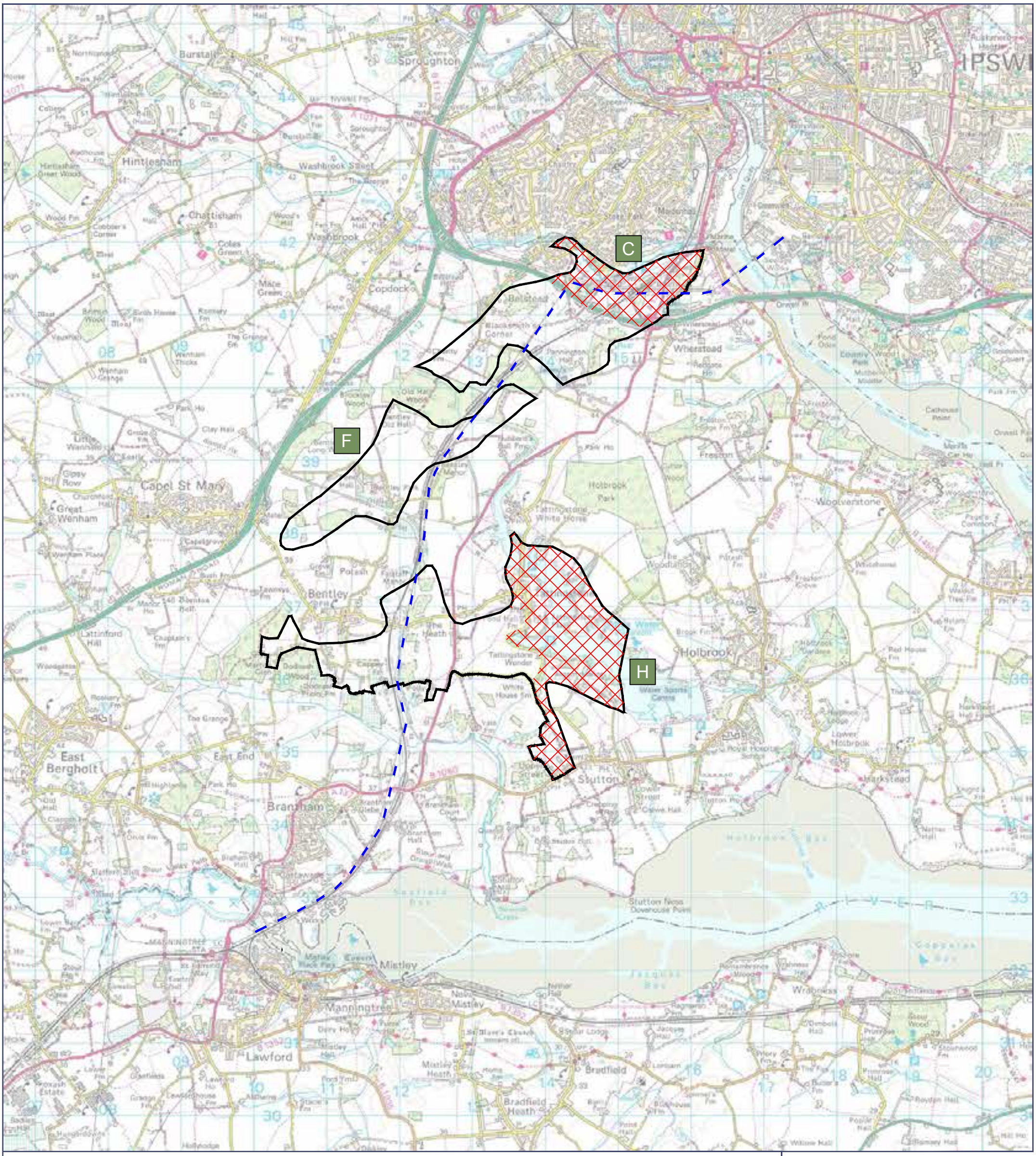
Long List Option Areas

Scale

1:50,000 @A3

Date

July 2023



132kV Power Line

Short List Option Areas

Short List Option Area

Land removed from short list option area (refer to report)

N

0 1 2 3 4 5km

0344 8700 007
axis.co.uk

Project

Grove Farm Solar

Figure Number

Figure 5

Figure Title

Short List Option Areas

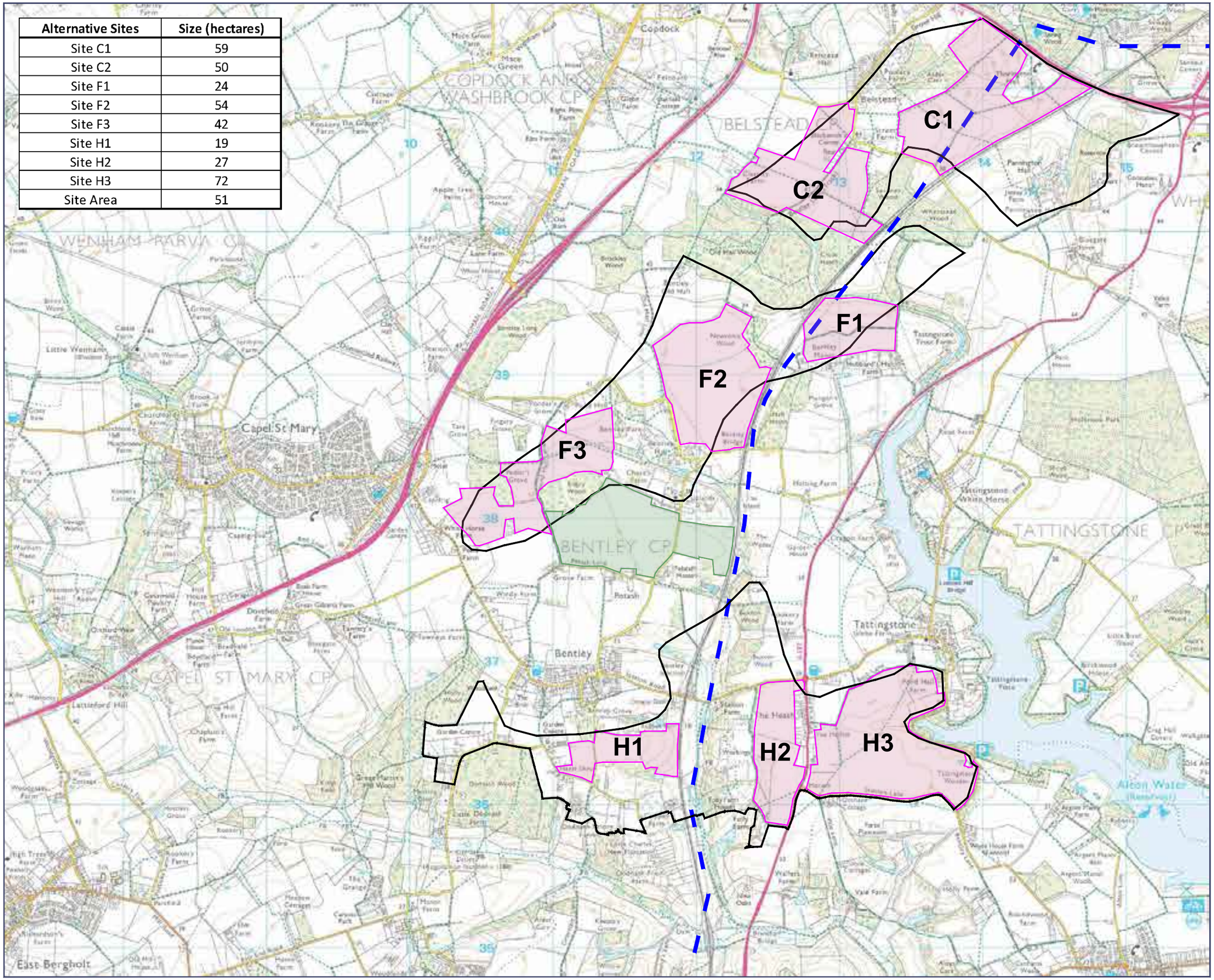
Scale

1:50,000 @A3

Date

July 2023

Alternative Sites	Size (hectares)
Site C1	59
Site C2	50
Site F1	24
Site F2	54
Site F3	42
Site H1	19
Site H2	27
Site H3	72
Site Area	51



132kV Power Line

Short List Option Areas

Alternative Sites

Site Area

N

0 0.5 1 1.5 2 2.5km

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Project

Grove Farm Solar

Figure Number

Figure 6

Figure Title

Alternative Sites

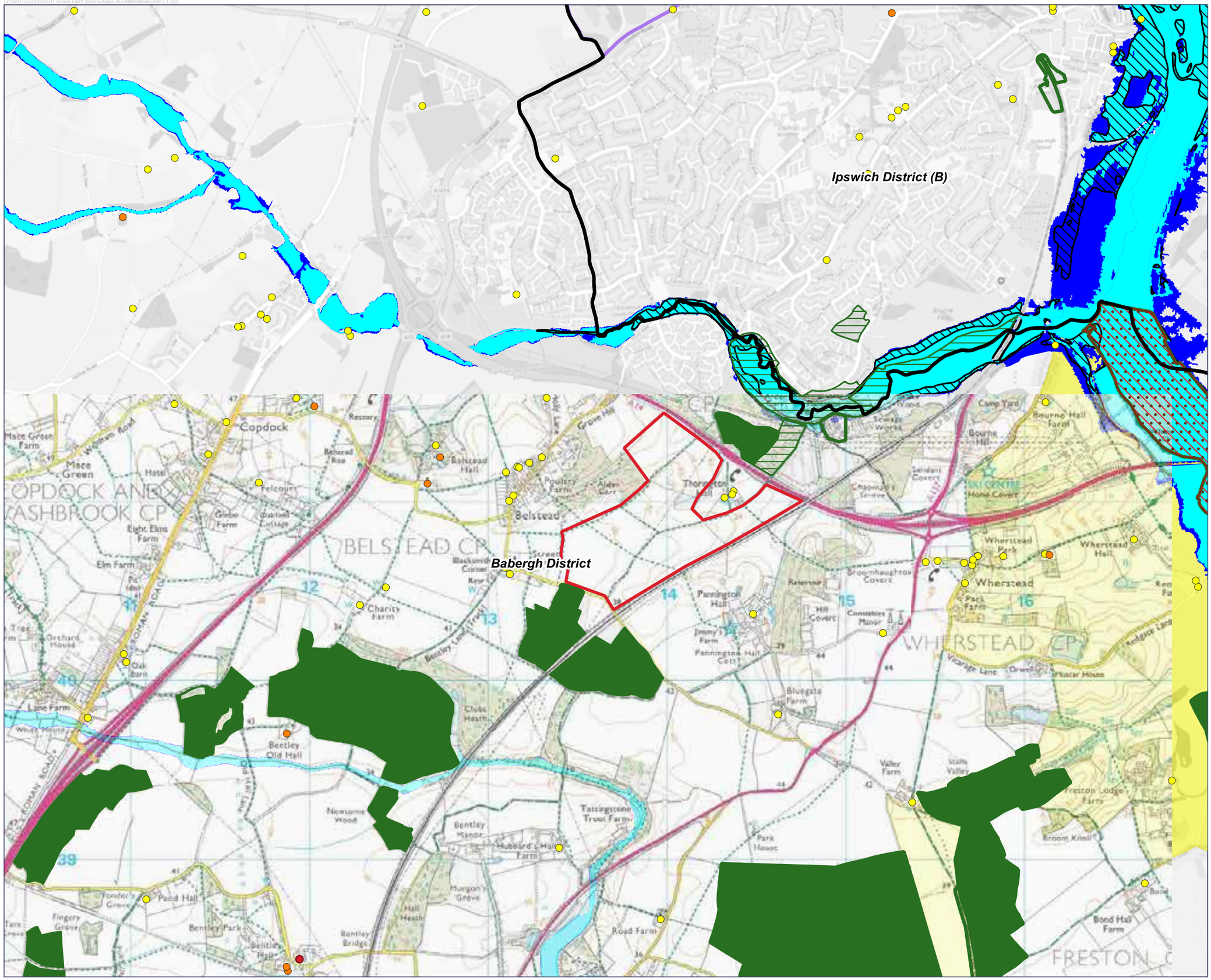
Scale

1:25,000 @A3

Date

July 2023

Q:\3201-3250\3223-01 Grove Farm Solar\Dwgs\CAD\Alternatives\Site C1.qgz



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N

0 400 800 1,200 1,600 2,000 m

- Site C1
- Local Authority Boundary

Listed Buildings:

- I
- II*
- II
- Registered Parks and Gardens
- Local Nature Reserves
- Ramsar
- Special Protection Area
- Site of Special Scientific Interest
- Ancient Woodland
- Areas benefiting from Flood Defences
- Flood Zone 3
- Flood Zone 2
- Area of Outstanding Natural Beauty

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Project

Grove Farm Solar

Figure Number

Figure 7

Figure Title

ASA Site C1
Environmental Constraints

Scale

1:20000@A3

Date

July 2023

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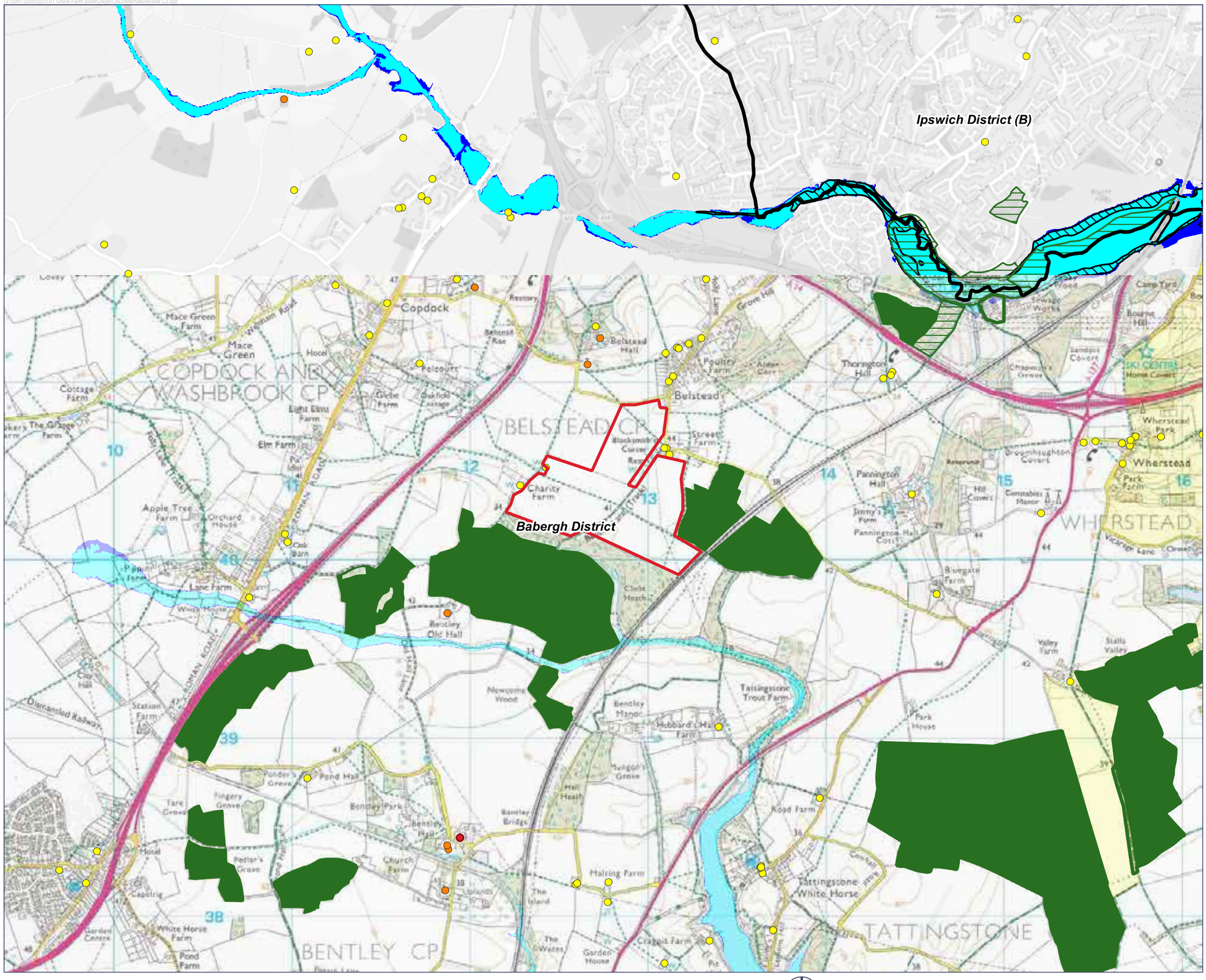

N

0 400 800 1,200 1,600 2,000 m

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Project

Grove Farm Solar

Figure Number

Figure 8

Figure Title

ASA Site C2
Environmental Constraints

Scale

1:20000@A3

Date

July 2023

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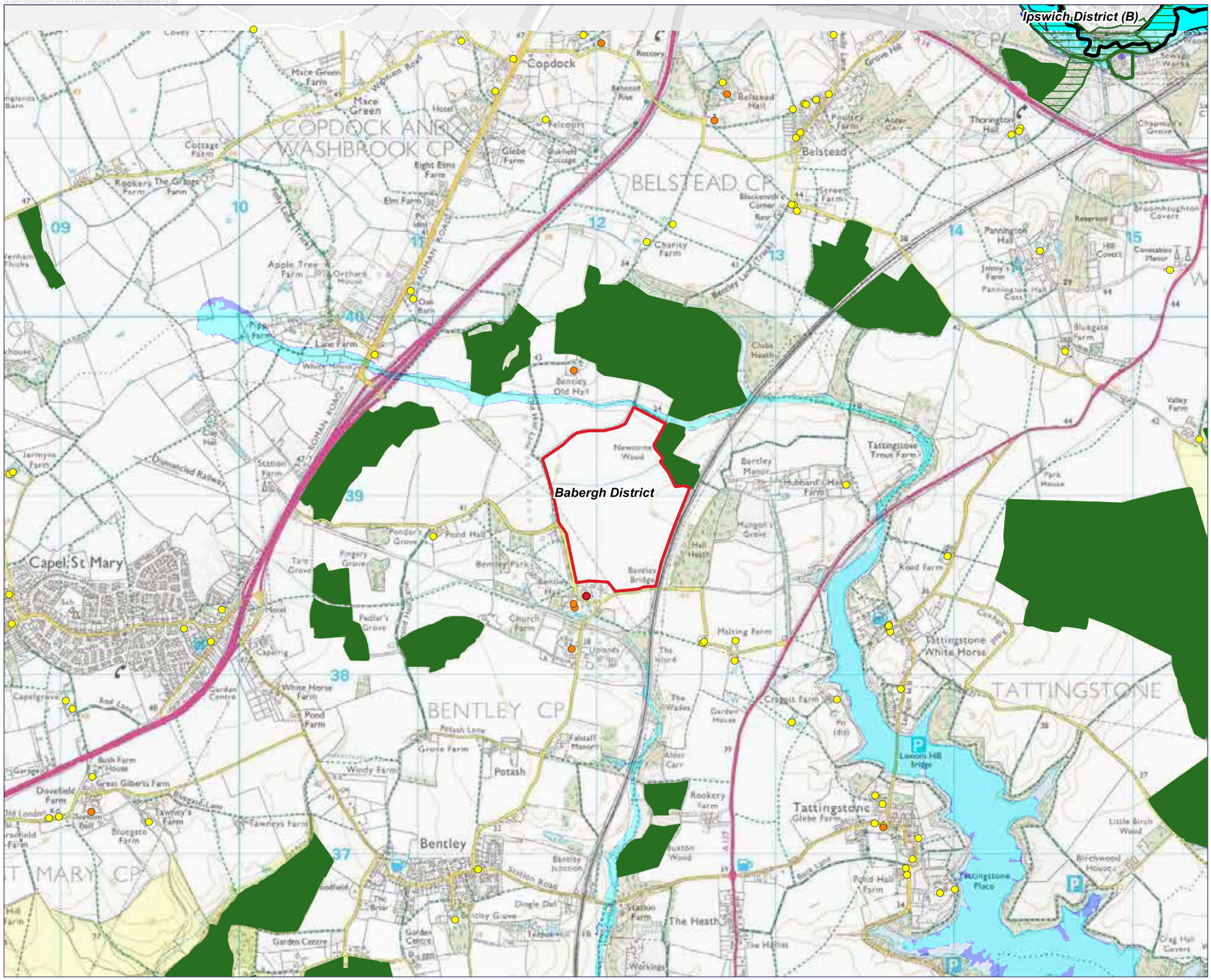

Site F2

Local Authority Boundary

Listed Buildings:

I

II*

II

Local Nature Reserves

Site of Special Scientific Interest

Ancient Woodland

Areas benefiting from Flood Defences

Flood Zone 3

Flood Zone 2

Area of Outstanding Natural Beauty

N

0 400 800 1,200 1,600 2,000 m

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Project

Grove Farm Solar

Figure Number

Figure 9

Figure Title

ASA Site F2
Environmental Constraints

Scale

1:20000@A3

Date

July 2023

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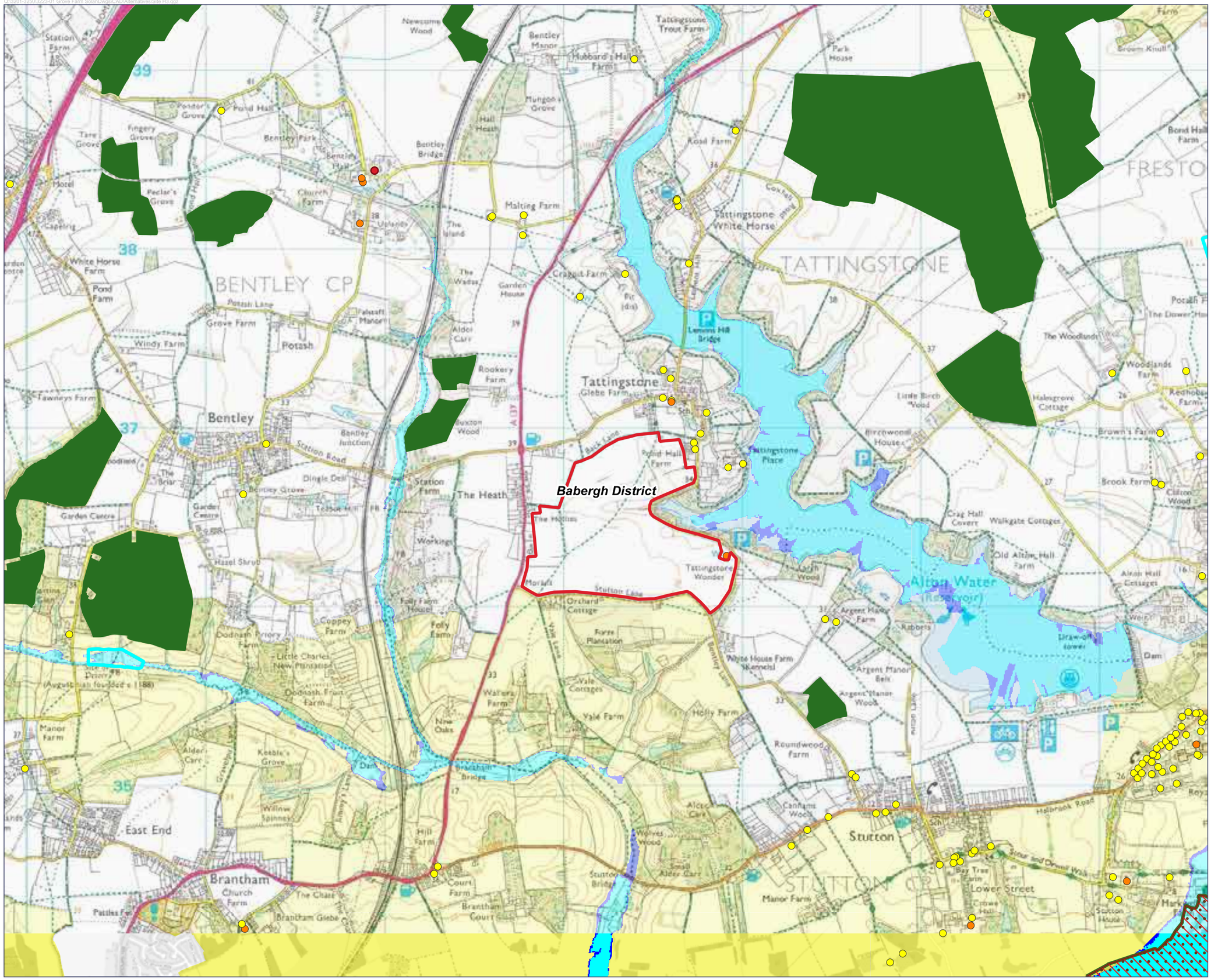

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N

0 400 800 1,200 1,600 2,000 m

- Site H3
- Local Authority Boundary

Listed Buildings:

- I
- II*
- II
- Scheduled Monuments
- Ramsar
- Special Protection Area
- Site of Special Scientific Interest
- Ancient Woodland
- Flood Zone 3
- Flood Zone 2
- Area of Outstanding Natural Beauty

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Project

Grove Farm Solar

Figure Number

Figure 10

Figure Title

ASA Site H3
Environmental Constraints

Scale

1:20000@A3

Date

July 2023