

# SUNNICA ENERGY FARM

EN010106

Volume 6

Environmental Statement

6.2 Appendix 4A: Alternative Sites Assessment

APFP Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and  
Procedure) Regulations 2009



Planning Act 2008

**The Infrastructure Planning  
(Applications: Prescribed Forms and  
Procedure) Regulations 2009**

## **Sunnica Energy Farm**

**Environmental Statement  
Appendix 4A: Alternative Sites Assessment**

|   |                                  |
|---|----------------------------------|
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## Executive summary

This Alternative Sites Assessment (ASA) report has been prepared on behalf of Sunnica Ltd (the Applicant) to accompany the application for a Development Consent Order (DCO) for the proposed Sunnica Energy Farm (the Scheme), located in West Suffolk and East Cambridgeshire.

The Scheme comprises the construction, operation (including maintenance), and decommissioning of ground mounted solar photovoltaic ('PV') panel arrays, a Battery Energy Storage System ('BESS') and supporting infrastructure.

The selection of the Scheme's location follows a systematic step by step process which has considered a range of planning, environmental and operational factors to identify Potential Development Areas (PDA) as alternatives to the location of the Scheme.

Irradiation levels and topography are key factors in the determination of appropriate locations for solar development. The Applicant has identified East Anglia as an optimal region within the UK to site large scale solar development due to its high levels of irradiation and large areas of flat open land, as well as its proximity to high demand centres for electricity. Burwell has been identified by the Applicant as the Scheme's Point of Connection (POC) and from the POC 15km is considered to be the maximum viable distance for an area of search for suitable land.

Stage 2 of the ASA has been to map planning and environmental constraints within the area of search using GIS. This has included the identification of built up urban areas, agricultural land classifications, designated Green Belt land and designated international and national ecological and geological sites. There are no Areas of Outstanding Natural Beauty or National Parks in the area of search. Through GIS mapping, this stage has identified the least constrained areas of land within the area of search.

Stage 3 of the ASA has been to refine the unconstrained area and apply operational criteria to identify potential development areas (PDA) for solar development. This has included consideration of topography and development area. Consideration has been given to brownfield land and locations which were proposed through consultation feedback.

Stage 3 of the ASA has resulted in the identification of seven PDAs within the 15k search area from Burwell Substation. Individually, none of the PDAs are large enough to provide the minimum land required to accommodate the Scheme. However, the PDAs which have been identified are in close proximity to each other and the Scheme therefore could be connected to provide enough land for the Scheme or be alternatives at the individual site level.

Following the identification of individual PDAs, Stage 4 has involved a desktop assessment to establish each PDA's suitability to accommodate a large scale solar development. Each PDA has been evaluated against planning, environmental and other operational assessment indicators which were derived from national and local planning and environmental policy objectives and the operational requirements of the Scheme. These have included biodiversity, landscape and visual amenity, cultural heritage, flood risk, land use, access for construction, as well as operational factors related to deliverability such as grid connection feasibility, topography and shading to consider the suitability of these areas for large scale solar development.

The conclusions of this evaluation indicate that the PDAs have a number of potential land use, operational and environmental constraints which would mean it would be difficult to develop solar of the scale required for the Scheme at these locations. Given the assessment findings it is considered that there are no more suitable locations within the area of search than the proposed Sites for the Sunnica Energy Farm and the Scheme's location is therefore assessed to be a suitable location for the scale of solar development proposed.

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# 1 Introduction

## 1.1 Background

- 1.1.1 This Alternative Sites Assessment (ASA) has been prepared on behalf of Sunnica Limited to accompany an application for a Development Consent Order (DCO) for the proposed Sunnica Energy Farm (hereafter referred to as the Scheme).
- 1.1.2 The DCO application is for the construction, operation (including maintenance) and decommissioning of the Scheme. The Scheme is a new solar energy farm that will deliver electricity to the national electricity transmission network. The Applicant is proposing to install ground mounted solar photovoltaic (PV) panel arrays to generate electrical energy from the sun and combine these with a Battery Energy Storage System (BESS).
- 1.1.3 Electricity will be generated at four sites: Sunnica East Site A, near Isleham in Cambridgeshire; Sunnica East Site B, near Worlington and Freckenham in Suffolk; Sunnica West Site A near Chippenham and Kennett in Cambridgeshire; and Sunnica West Site B, near Snailwell in Cambridgeshire (the Sites). The Sites will connect to the Burwell National Grid Substation, near Burwell in Cambridgeshire and an extension to this substation is proposed to provide this connection.
- 1.1.4 The Scheme is defined as a Nationally Significant Infrastructure Project (NSIP) and will require a Development Consent Order (DCO) from the Secretary of State for Business, Energy and Industrial Strategy, due to its generating capacity exceeding 50 megawatts (MW).
- 1.1.5 Electricity infrastructure for the Scheme is to be located across the Sites which cover an area of approximately 983 hectares (ha):
- a. Sunnica East Site A - this site encompasses an area of approximately 223ha. The developable area which will contain the solar PV panels, BESS and associated infrastructure comprises 115ha with the remaining area set aside for environmental mitigation and enhancement.
  - b. Sunnica East Site B - this site encompasses an area of approximately 319ha. The developable area comprises 227ha with the remaining area set aside for environmental mitigation and enhancement.
  - c. Sunnica West Site A - this site encompasses an area of approximately 373ha. The developable area comprises 256ha with the remaining area set aside for environmental mitigation and enhancement.
  - d. Sunnica West Site B - this site encompasses an area of approximately 66ha. The developable area comprises 23ha with the remaining area set aside for environmental mitigation and enhancement.

## 1.2 Purpose of this report

- 1.2.1 The purpose of this ASA is to present how other sites, which may potentially be suitable for the Scheme, perform relative to the Sites where the Scheme is to be located, taking into consideration a range of planning, environmental and operational factors.

- 1.2.2 **Chapter 4: Alternatives and Design Evolution** of the Environmental Statement (ES) [EN010106/APP6.1] explains the legal and policy background to the consideration of alternatives.
- 1.2.3 The ASA report describes the process, results and conclusions of the ASA undertaken as follows:
- a. Section 2 describes the methodology to the assessment;
  - b. Section 3 sets out the assessment results; and
  - c. Section 4 draws conclusions from the assessment.
- 1.2.4 There are also a number of supporting annexes including:
- a. Annex A – Reference sources.
  - b. Annex B - Assessment indicators and evaluation criteria.
  - c. Annex C - Assessment indicator policy and guidance justification.
  - d. Annex D - Assessment mapping.
  - e. Annex E - Potential Development Area Proformas.

## 2 Assessment Methodology

### 2.1 Context

- 2.1.1 There is no standard methodology for the site selection of solar energy farms. However, the methodology used in this assessment has been informed by relevant planning policy which is set out in Annex C.
- 2.1.2 The Scheme is defined as a Nationally Significant Infrastructure Project, being a generation project of more than 50MW. Therefore, an application for a DCO is required to seek consent for its construction and operation. The application will be considered and examined in public by an Examining Authority of appointed persons normally examining inspectors from the Planning Inspectorate. The appointed Examining Authority will examine the application for the Scheme and make a recommendation to the Secretary of State for Business, Energy and Industrial Strategy (hereafter referred to as the Secretary of State) who will then decide whether to grant a DCO.
- 2.1.3 In accordance with Section 104(2) of the Planning Act 2008 (PA 2008), the Secretary of State is required to have regard to the relevant National Policy Statement (NPS), amongst other matters, when deciding whether or not to grant a DCO. However, the Scheme's proposed energy generating technology is not specifically referenced by an NPS and therefore the DCO will be determined in accordance with Section 105 of the PA 2008. Section 105(2) of the PA 2008 provides the basis for deciding the DCO application and the Secretary of State must, when determining the Application, have regard to any local impact report submitted to the Secretary of State, any matters prescribed in relation to the application and any other matters which the Secretary of State thinks are both 'important and relevant' to his decision.
- 2.1.4 As there is currently no NPS specifically for solar development, the National Policy Statements (NPS) for Energy including Overarching National Policy Statement for Energy (EN-1), National Policy Statement for Renewable Energy Infrastructure (EN-3) and National Policy Statement for Electricity Networks Infrastructure (EN-5) published in July 2011 as well as the National Planning Policy Framework (NPPF) published in July 2021; and up to date and relevant local planning policies are considered important and relevant to the Secretary of State's decision. These national and local planning policies (see Annex C) have therefore been considered in the development of the ASA methodology.
- 2.1.5 It should be noted that there are limitations to the depth of analysis which can reasonably be undertaken in an ASA. The assessment of potential solar development areas is therefore considered to be high level, using data from readily available published sources. No site visits have been undertaken to further validate this information. This approach is compliant with NPS EN-1 4.4.3 which state "*the consideration of alternatives in order to comply with policy requirements should be carried out in a proportionate manner*".
- 2.1.6 The assessment methodology which has been followed is a logical and sequential approach, split into five stages as set out below.

## **2.2 Stage 1 – Identification of the area of search**

- 2.2.1 Irradiation (sunlight) levels and topography are key factors when determining the location of solar development. Solar developments are currently found across the UK; however, their efficiency is determined by the levels of irradiation at their location. In addition, topography is an important factor for locating solar development, with flat land being optimal for construction and less visually intrusive in the wider landscape. It also limits the shading between arrays and allows for better screening for development compared to sloping land; and enables panels to be optimally configured for best production levels.
- 2.2.2 Given these characteristics the Applicant considers East Anglia to be an optimal region within the UK to locate a large scale solar farm given its high levels of irradiation compared to other parts of the UK and the topography which is predominantly made up of and characterised by large flat open land. East Anglia is also located near high demand centres for electricity (i.e. Cambridge and London) therefore, large scale solar development in this region will place generation close to areas of high demand.
- 2.2.3 Following the identification of East Anglia, a search for a Point of Connection (POC) has been undertaken within this region. This involved discussions with UK Power Networks, Eastern Power Networks and National Grid to identify available capacity in the region. NPS EN-1 paragraph 4.4.3 states that when considering alternative proposals they should be commercially viable and physically suitable. Therefore, in the case of the Scheme it also is a functional requirement for it to be in a location where the National Grid has the capacity to accommodate energy generation. In identifying a POC, the Applicant also took account of the proximity of existing National Grid substations to areas of lower grade agricultural land as planning policy seeks to direct development away from best and most versatile agricultural land. It also considered whether land was available to construct a large scale solar farm development. The availability of land was important as the UKPN requires the Applicant to demonstrate that there was agreement in principle for land to be used for a large scale solar farm in order to obtain a grid connection agreement. As shown in Figure 1 the search identified Burwell as a location which has the available capacity for the Scheme with reinforcement that could be completed within a reasonable timeframe and cost. It is also within sufficient proximity of lower grade agricultural land and land which is available for to construct a large scale solar farm. It is therefore deemed to be a suitable location to be the POC. This narrows down the area of search within East Anglia to the vicinity of Burwell for the location of the Scheme.
- 2.2.4 Figure 1 shows that from the POC at Burwell a 15km radius is considered by Sunnica Limited to be the maximum viable distance for the area of search. This threshold was set based on an estimation of the maximum cost that would be viable for the Scheme. The cost estimate applied a distance factor of 1.5 to the 15km radius assuming the cable would not run in a straight line and a set of industry assumptions for the cost of the infrastructure by units and distance.

## **2.3 Stage 2 – The exclusion of planning, environmental and topographical spatial constraints**

- 2.3.1 Stage 2 of the ASA has included the mapping of planning and environmental spatial constraints which have been identified through a review of the relevant

national and local planning policies. The constrained areas have been excluded from the area of search identified at Stage 1 and are therefore not considered as suitable locations for the Scheme. The following spatial constraints have been mapped and excluded from further consideration:

- a. **Designated international and national ecological and geological sites** – Sites of Special Scientific Importance (SSSI), Special Areas of Conservation (SAC), Special Protection Areas (SPA), SPA protection buffer, Ramsar sites and National Nature Reserves (NNR) have been identified in the search area and excluded.
- b. **Agricultural land classifications** – Planning policy seeks to minimise impacts on the best and most versatile agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification) and preferably use land that is not classified as best and most versatile (grades 3b, 4 and 5). The Scheme's proposed location has been determined through the exclusion of land that the best available data identifies as being within an agricultural land classification category that is, or includes, best and most versatile land. Through discussions with landowners, the Applicant understood that agricultural land across the Sites was unlikely to be of a high quality. Soil surveys were undertaken to validate this understanding. **Soils and Agricultural Baseline Report at Appendix 12B:** of the Environmental Statement [EN010106/APP6.2] has confirmed that 96.2% of the land within the Sites is not classified as best and most versatile land (50.3% grade 3b; 40.1% grade 4 and 5.8% non-agricultural use across the Sites). Only 3.8% of the land within the sites is classified as grade 3a and none is grade 2 or grade 1. Outside of the Sites, only national level data on agricultural land classification is available. Due to the way that this national level data is presented, grade 3 agricultural land cannot be distinguished as grade 3a and 3b on the mapping sift. Therefore land outside of the Site that is classified as grades 1,2 and 3 has been identified and excluded from the area of search since it is within a category that is, or could be, best and most versatile.
- c. **Urban areas** – Built up areas with a population of 10,000 or more residents have been identified and excluded from the area of search.
- d. **Greenbelt** – Greenbelt land has been identified and excluded from the area of search.

2.3.2 In addition to the above, the following spatial constraints have been considered however have not been identified in the area of search:

- a. **Proposed designated international and national ecological and geological sites** - No proposed SPAs, proposed SACs or listed Ramsar have been identified in the area of search.
- b. **Nationally designated landscapes** – No Areas of Outstanding Natural Beauty or National Parks have been identified in the area of search.

## **2.4 Stage 3 – Identifying potential alternative solar development areas**

2.4.1 Stage 3 of the ASA identifies potential alternative solar development areas for the location of the Scheme by applying the key operational criteria for large scale solar development - site size and land assembly; and topography. The use of previously developed (brownfield) land and alternative locations proposed through consultation have also been considered. The following sections explain the criteria applied to the unconstrained areas identified at Stage 2.

### **Site size and land assembly**

2.4.2 Large areas of land are ideal for large scale solar development as they have less vegetation to be removed for easy installation of the solar infrastructure. This also reduces the amount of buffering required for tree root protection, avoidance of shading compared to small fields and can reduce the solar development's impact on vegetation such as hedgerows and trees.

2.4.3 The Sites cover an area of approximately 983 hectares, of which approximately 621ha is for solar development. The four connected Sites which have varying areas are:

- a. Sunnica East Site A, near Isleham; 223ha of which 115ha is for solar development;
- b. Sunnica East Site B, near Freckenham and Worlington; 319ha of which 227ha is for solar development;
- c. Sunnica West Site A, near Chippenham and Kennett; 373ha of which 256ha is for solar development; and
- d. Sunnica West Site B, near Snailwell; 66ha of which 23ha is for solar development.

2.4.4 The Applicant's analysis regarding the minimum area for large scale solar to be economically viable identified a threshold of at least 38ha of contiguous land for an individual site. This is the minimum site size threshold considered by the Applicant to form part of a network of sites in close proximity covering an area of approximately 1000ha. The minimum individual site size and overall area threshold is based upon the Applicant's economic analysis of the MW output per ha to be achieved taking into consideration infrastructure costs including the grid connection and the need for a percentage of the land to provide appropriate environmental mitigation, if required. A smaller development area results in higher unit costs and an assessment was made as to the maximum cost and therefore minimum site area threshold that would be viable for the Scheme to hit the target financial metrics

2.4.5 Areas of unconstrained land of at least 38ha have been therefore been taken forward to the Stage 4 assessment.

2.4.6 Where there are areas of unconstrained land that meet the threshold of 38ha but are isolated and so are not viable to join other areas to form an approximate

1000ha area required, these have not been taken forward to the Stage 4 assessment.

### **Previously developed land**

- 2.4.7 Paragraph 5.10.3 of NPS EN-1 states that the re-use of previously developed land for new development can make a major contribution to sustainable development by reducing the amount of countryside and undeveloped greenfield land that needs to be used. Paragraph 119 of the NPPF expects planning decisions and policies to promote the effective use of land.
- 2.4.8 Previously developed land using the brownfield registers provided by local planning authorities has been a consideration within the area of search, with brownfield sites within the 15km search area identified. This, however, has not identified any brownfield land that meets the minimum individual site size threshold of 38ha or the area of approximately 1000ha required for a network of sites in close proximity. In addition to land area requirements not being met, Chapter 11 of the NPPF 'Making effective use of land' prioritises residential and other commercial uses on previously developed land, solar development is therefore secondary to these uses due to the nature of such development being less economically advantageous.

### **Topography**

- 2.4.9 The development of large scale solar development requires flat land as this is ideal for construction and helps reduce visual intrusion. As mentioned earlier in this report flat land also limits the shading between arrays and enables the panels to be optimally configured for best production levels.
- 2.4.10 Topographical constraints within the unconstrained areas identified at Stage 2 have also been identified and mapped. All land with a 3% or less gradient which is considered to be very flat and optimal for solar generation has been considered potentially suitable to meet the Scheme's requirements of maximising energy generation and avoiding visual intrusion. This land has been taken forward to the Stage 4 assessment therefore identifying the flattest areas of land within the unconstrained area.

## **2.5 Stage 4 – Further evaluation of potential solar development areas considered suitable for development**

### **Approach**

- 2.5.1 Stage 4 then assesses the potential solar development areas which have been identified as alternatives to the proposed Scheme's location in Stage 3. These potential development areas have been subjected to a desktop assessment in order to further understand the development constraints of these particular areas and establish how they perform relative to the Scheme's location. The evaluation has involved the assessment of the areas against a range of planning, environmental and operational considerations (see Annex B) which were developed having regard to relevant national and local planning policy and the optimal functionality of a large scale solar development.

- 2.5.2 Information sources which include GIS data, online mapping and planning policy documents (see Annex A) have been used to inform the assessment. The evidence has then been considered by planning professionals who have awarded a category of red, amber or green against each assessment indicator based on professional judgement. A statement setting out the justification for each categorisation has also been provided.
- 2.5.3 Areas have then been evaluated on their overall performance against the planning, environmental and operational considerations.
- 2.5.4 Locations identified through consultation feedback have also been considered and are discussed further in section 3.

## 3 Assessment Results

### 3.1 Stages 1 and 2: Identification of the area of search and unconstrained land

- 3.1.1 The area of search identified for the Scheme is shown in Figure 1, Annex D. This illustrates the 15km search area from the proposed POC at Burwell National Grid Substation.
- 3.1.2 The results of Stage 2 are identified in Figure 2, Annex D. This figure maps the various planning and environmental constraints identified within the area of search. Figure 3, Annex D shows the output from this sift mapping, identifying areas of unconstrained land which have not been excluded from the Stage 1 and 2 sifting exercise.

### 3.2 Stages 3 and 4: Identifying potential development areas and further evaluation

- 3.2.1 Figures 4 - 8, Annex D show the output following the application of the Stage 3 criteria.
- 3.2.2 Figure 4 shows the brownfield land which has been identified using the brownfield register for the local planning authorities within the area of search. As mentioned previously in this report and shown in Figure 4 the brownfield sites are too small as they do not meet the minimum individual site size threshold of 38ha or an area of approximately 1000ha required for a network of sites in close proximity. Figure 5, Annex D illustrates the unconstrained land identified from the mapping at Stage 2 with a slope gradient of 3% or less.
- 3.2.3 Figure 6, Annex D uses the output shown in Figure 5 and identifies the areas of land which were previously part of the Scheme and which have been removed as a result of stakeholder engagement and mineral planning constraints. These include:
- a. Land to the east and south of Sunnica East Site A due to discussions with the owner of this land;
  - b. Land to the west and south of Sunnica East Site B – removal of sites proposed for extensions to Worlington Quarry following discussions with the mineral operator regarding the programme for mineral extraction and thus impact on its mineral operations and mineral planning in the area.
  - c. Land within the northern and eastern areas of Sunnica West Site A in response to stakeholder feedback regarding scale and further discussions with the owner of this land.
- 3.2.4 Further details of how the Scheme layout has evolved are provided in the Design and Access Statement [ **EN010106/APP/7.3** ] and the Chapter 4: Alternatives and Design Evolution of the ES [ **EN010106/APP/6.1** ].
- 3.2.5 Figure 7, Annex D shows the areas of land which were identified through the Stage 2 sift but do not meet the Stage 3 criteria and so have been discounted (see blue diagonal hatching). The reasons for this are that some areas are not

within close proximity to other potential solar development areas and would therefore not be able to be part of a network of sites with an area of approximately 1000ha required. Some areas are discounted as they do not meet the minimum site size threshold of 38ha

### Alternative areas proposed through consultation

- 3.2.6 As part of the pre application process for the DCO application, the Applicant has undertaken non-statutory and statutory consultations. The non-statutory consultation period was June to July 2019 and the statutory consultation period was from 22 September to 18 December 2020. Feedback from both consultations included suggestions for alternative locations for the Scheme. These are summarised in Table 3-1 below and discussion provided regarding how they have been considered in this assessment.

**Table 3-1 Locations identified through consultation feedback**

| Location   | Source  | Response   |
|--|---|--|
| RAF Mildenhall as an alternative location for the Scheme   | S.42 statutory consultee - Isleham Parish Council<br>S.47 statutory consultee | This is currently an active military base, although the United States Visiting Forces in Europe have indicated their intention to withdraw from the site by 2024. The Ministry of Defence has also indicated that part of the site should be released for housing <sup>1</sup> .<br><br>The eastern section of this site falls outside the 15km area of search and is therefore not considered a viable distance from the grid connection, and the unconstrained area of the western section of the site identified in Stage 3 (see Figure 7) is located too far away from other potential solar development areas and therefore has not been taken forward to the next stage. |
| Land north and south of the A11 should be considered as an alternative location for the Scheme   | S.47 statutory consultee  | Alternative locations north and south of the A11 have been identified as part of the ASA. These are PDA2 and PDA3. These sites have been found to be subject to various constraints and are not obviously more suitable locations than the Sunnica Sites for a solar farm of the scale proposed.   |
| E24/25/ E26/27/28/29 could be sited further from Worlington Village towards the A11, in the immediate field south and east of those numbered | S.47 statutory consultee  | The Scheme extends east of E24/E25/E26/E27/E28 and E29 as shown by proposed development areas E30, E31 and E32. Further east of the A11 at this location is Grade 3 Agricultural land which would not therefore be identified as unconstrained land following the Stage 2 mapping sift set out in this assessment.   |
| Land above Fordham Moor should be considered as an alternative   | S.47 statutory consultee  | This identifies that the land north of Fordham, the majority of which is Grade 2 Agricultural land with some areas of Grade 1 and Grade 3 land. This land would not therefore be identified as unconstrained land following the Stage 2 mapping sift set out in this assessment.   |

<sup>1</sup> Page 16 [https://www.westsuffolk.gov.uk/planning/Planning\\_Policies/local\\_plans/upload/Final-SALP-September-2019.pdf](https://www.westsuffolk.gov.uk/planning/Planning_Policies/local_plans/upload/Final-SALP-September-2019.pdf)

| Location   | Source  | Response   |
|--|---|--|
| Non-food producing land such as heathland e.g. The Elvin Estate as an alternative location for the Scheme                    | S.47 statutory consultee  | It is not clear where the Elvin Estate is located following searches for this location. Heathland is typically ecologically and hydrologically sensitive land that would normally be avoided by solar developers due to the likelihood of resulting in significant effects on the environment. Any non-food producing land within the area of search has been considered as part of the assessment methodology at Stages 2 and 3 considers the potential to use previously developed land and low grade agricultural land within the area of search. |
| The Fens should be considered as an alternative location for the Scheme  | S.47 statutory consultee<br><br>Non statutory consultation feedback               | The Fens is designated as a Ramsar site, SAC, SPA, European Marine Site, SSSI, NNR and Local Nature Reserve (LNR) and therefore would not be identified as unconstrained land following the Stage 2 mapping sift set out in this assessment.   |
| Smaller scale development along the A11 and A14 should be considered as an alternative location for the Scheme               | S.47 statutory consultee  | Parts of the land along the A11 and A14 have been identified as Grade 3 Agricultural land which would not therefore be identified as unconstrained land following the Stage 2 mapping sift set out in this assessment.   |
| Land between Fordham and Burwell/ closer to Burwell should be considered as an alternative location for the Scheme           | S.47 statutory consultee  | The majority of land between Fordham and Burwell has been identified as Grade 2 Agricultural land with some areas of Grade 3 land (see Figure 2 and therefore would not be identified as unconstrained land following the Stage 2 mapping sift set out in this assessment.   |
| Car parks and roof tops/brownfield land/commercial properties should be considered as an alternative location for the Scheme | S.47 statutory consultee<br><br>S.42 statutory consultee - Isleham Parish Council | Brownfield land has been considered as part of this assessment – see section 2.4. Such areas do not meet the minimum size threshold identified in paragraph 2.4.4.   |

### **Suitability of potential solar development areas identified for Stage 4 assessment**

- 3.2.7 Annex E provides the desktop assessment of the potential development areas against planning, environmental and operational criteria. Seven PDA which are described and evaluated below have been identified as shown on Figure 8, Annex D. Individually, none of the PDAs are large enough to provide the land required for the Scheme however the PDAs taken forward for further evaluation are in close proximity to each other and so could provide a network of sites with an area of approximately 1000ha.

#### **PDA 1: Land located west of Worlington**

- 3.2.8 This potential solar development area is approximately 75ha and is adjacent to the village of Worlington and north of the B1102 Freckenham Road. Although not large enough to provide the area required for the Scheme, this PDA is adjacent to Sunnica East Site A and Sunnica East Site B and could therefore be an alternative location for part of the Scheme or join with the other PDAs. PDA1 also includes a linear belt of land within the north western area of the PDA which runs across Bruce Grove and is also an adjacent access road.
- 3.2.9 The PDA is within Flood Zone 1 and appears to be agricultural land with agricultural buildings associated with Rectory Farm and some linear areas of shrubs and trees. Isleham Road crosses through this PDA from the west to the east as shown in Figure 10A Annex D, therefore separating the PDA and potential developable area. The linear belt of land also makes this area an irregular shape for solar development. The B1102 Freckenham Road also cuts across a small section of the south-eastern edge of PDA 1.
- 3.2.10 PDA 1 lies entirely within a Mineral Safeguarding Area and there are no designated international and national ecological and geological sites within PDA 1 however, the Grade I listed Church of All Saints and the Grade II listed Cross base 10 metres south of Chancel of Church of All Saints are approximately 230m east of the PDA. The Church Farm Grade II listed buildings is also 300m east of the site. Given their proximity these heritage assets may have views of the PDA.
- 3.2.11 With the village of Worlington being less than 20m east of PDA, any development in this area would require a buffer to mitigate the impacts on the nearby residential receptors. This will further reduce the developable area of PDA 1.
- 3.2.12 The severance of the PDA by the road network; the presence of trees; the irregular shape of the north western part of the PDA; and proximity to residential receptors potentially requiring a buffer results in a fragmented and reduced development area which would therefore potentially constrain significant solar development at this location.

#### **PDA 2: Land located south of Freckenham**

- 3.2.13 This potential solar development area is approximately 112ha and is located approximately 700m south west of Freckenham. Although not large enough to provide the area required for the Scheme, this PDA is close to Sunnica West Site B and could therefore be an alternative location for part of the Scheme or join with the other six PDAs proposed to provide an area over 983ha.
- 3.2.14 The PDA has been identified within Flood Zone 1 and is mostly agricultural land with agricultural buildings. Aerial mapping indicates that at least 22ha of the PDA is woodland referred to as the Isleham Plantation. As shown on Figure 10B, Annex D, Freckenham Road and the B1104 cross through the PDA from the north to the south. The “bowl barrow in Isleham Plantation” scheduled monument is also located within the PDA. The presence of the two roads which cross through the PDA as well as the woodland and scheduled monument would significantly reduce the area that could be developed for solar.
- 3.2.15 There are no designated international and national ecological and geological sites within PDA 2, Chippenham Fen and Snailwell Poor's Fen SSSI and Chippenham Fen Ramsar site are however adjacent to its southern boundary. The PDA is not

located within any locally designated protected landscapes. A County Wildlife Site (CWS) can be found along Chippenham Road towards the north-east of the PDA. PDA 2 falls entirely within a Mineral Safeguarding Area and crosses part of the consultation area for the Chippenham Sewage Treatment Works identified in Figure 10B, Annex D.

- 3.2.16 The road network, woodland and presence of the scheduled monument within PDA 2 results in a developable area of approximately 80ha. However, the developable area is fragmented, which constrains significant solar development at this location.

### **PDA 3: Land east and west of Red Lodge**

- 3.2.17 This potential solar development area is large at approximately 928ha and is located west and east of the Red Lodge Bypass (A11) between Chippenham Park and Herringswell. Although slightly smaller than the area required for the Scheme, this PDA is close to Sunnica West Site A and could therefore be an alternative location for part of the Scheme or join with the other PDAs proposed to provide an area of approximately 1000ha.
- 3.2.18 The majority of the PDA is agricultural land classed with associated agricultural buildings and areas of woodland across the PDA, the latter could result in field shading constraints. In terms of construction access, Red Lodge Bypass and the A11 cross through the PDA and access can be provided at the B1085 junction. Other roads which run through the PDA include Warren Road, Dane Hill Road and Herringswell Road and five Public Rights of Way (PRoW) which also cross the PDA as shown on Figure 10C, Annex D. The WildTracks Outdoor Activity Park can be found within the PDA between the A11 and B1085 as well as Red Lodge Karting which is east of the B1085. Kennett Pumping Station (water treatment plant) is also located within the PDA at Dane Hill Road as well as a few residential properties and The Manor Museum are located within PDA 3 on Herringswell Road. A residential allocation under policy SA9(b) and SA9(c) of the Forest Heath area of West Suffolk Council Site Allocations Local Plan (SALP) with planning permission is also partially within the PDA as well as an allocation for mixed use development under policy SA10(a) of the SALP which is adjacent to Newmarket Road as shown on Figure 10C, Annex D. Aerial mapping appears to indicate horseracing uses in some parts of the PDA, west of the A11 and east of Heath Plantation. Mapping also indicates that there is some undulating terrain in the southern areas of the PDA.
- 3.2.19 The majority of PDA falls within a Mineral Safeguarding Areas for Cambridgeshire and Suffolk County Councils as set out in Policy 5 of the adopted Cambridgeshire and Peterborough Minerals and Waste Local Plan and Policy MP10 of the Suffolk Minerals & Waste Local Plan. Figure 10C also shows that the Kennett Plantation farm and Red Lodge Transfer station waste management areas and their associated consultation area also fall within the PDA as well as parts of the consultation area for Kennett Landfill.
- 3.2.20 There are no designated international and national ecological and geological sites within PDA 3 however, the Brecklands SPA is adjacent to the eastern PDA boundary as well as the Breckland Farmland SSSI. The Stone Curlew Protection Buffer for the Brecklands SPA covers approximately 50% of the PDA area, additionally the Stone Curlew Nesting buffer identified on the local planning policy

mapping also covers a portion of the PDA. Three County Wildlife Sites (CWS) are within the PDA's boundary. The PDA is not located within any locally designated protected landscapes. Five PRoW are within the PDA and Herringswell village is 100m from the PDA which would view any development unless appropriate screening could be provided.

- 3.2.21 Though the majority of the PDA is within Flood Zone 1 some areas of the PDA are within Flood Zone 2 and 3 around the River Kennett.
- 3.2.22 Chippenham Park Registered Park and Garden is located 140m west of the PDA at its closest point. Three scheduled monuments and three Grade II Listed buildings are within the PDA boundary which would require mitigation buffers.
- 3.2.23 The variety of land uses and the presence of several scheduled monuments and listed buildings found within the PDA present significant constraints to solar development in this location. Furthermore 50% of the PDA is within the Stone Curlew protection buffer for the Brecklands SPA within which development that would adversely impact stone curlew is not permitted. There are large CWS which may be difficult to avoid too. The pockets of woodland which can be found within the PDA also contribute to reducing the overall developable area and present potential constraints as a result of shading. These ecological constraints cover all the land to the east of the A11 within this PDA significantly reducing the developable area if these constraints are to be avoided. Land to the west of the A11 is then constrained by existing leisure and equestrian uses.
- 3.2.24 Overall, the spatial extent of the planning and environmental constraints covering this PDA would constrain significant solar development at this location.

#### **PDA 4: Land at Dane Hill Farm**

- 3.2.25 This potential solar development area is approximately 74ha and is located on the land north and south of Dane Hill Road, east of the A11 Red Lodge Bypass and the B1085 roundabout. PDA 4 is not large enough to provide the area required for the Scheme, but this PDA is located near Sunnica West Site A and could therefore be an alternative location for part of the Scheme or join with the other six PDAs proposed to provide an area of approximately 1000ha.
- 3.2.26 In terms of land use, PDA 3 is entirely agricultural land with some woodland covering approximately 5% of the land. Dane Hill Farm and Dane Hill Cottages are located within this PDA, Dane Hill Road also cuts across the middle of the PDA as shown in Figure 10D, Annex D therefore separating the PDA and potential developable area. The PDA falls entirely within Flood Zone 1.
- 3.2.27 There are no designated international and national ecological and geological sites within PDA 4 however the Stone Curlew Nesting Buffer for the Brecklands SPA covers approximately a third of the PDA and a CWS covers approximately 45% of the PDA. There is also one scheduled monument that is located within the PDA which would require an appropriate buffer as well as a PRoW towards the east. PDA 4 also falls entirely within the Cambridgeshire County Council Mineral Safeguarding Area. A sustainable residential-led Garden Village in Kennett which has been approved by East Cambridgeshire District Council is partially located within PDA 4 towards the south-east of the boundary.

- 3.2.28 The ecological constraints, presence of the road network severing the PDA; the presence of woodland and a scheduled monument within the boundary will result in approximately 37ha of unconstrained land therefore constraining significant solar development at this location.

#### **PDA 5: Land at Snailwell**

- 3.2.29 This potential solar development area is approximately 59ha and is located approximately 100m west of Snailwell Village and east of the A142 Fordham Road. PDA 5 is an irregular shaped site which is also relatively small and therefore is not large enough to provide the area required for the Scheme. However, PDA 5 is adjacent to Sunnica West Site B and could be an alternative location for part of the Scheme or join with the other PDAs proposed.
- 3.2.30 Aerial images indicate that PDA 5 is a combination of woodland and agricultural land. A portion of the site is also covered by an Industrial Estate at Lynx Business Park, Fordham Road. Snailwell Road and Fordham Road cut through sections of the development area towards the north of the PDA. The Snailwell Road Transport Infrastructure Area and the associated consultation area which is allocated under Policy 15 of the Cambridgeshire and Peterborough Minerals and Waste Local Plan is located within the PDA as well as a number of employment related development allocations within and adjacent to PDA 5 which have been identified in policies FRD 4, FRD 5 and FRD 6 of the 2015 East Cambridgeshire Local Plan.
- 3.2.31 Figure 10E, Annex D shows Flood Zone 2 and 3 areas which cut across the middle section of PDA 5, this is associated with the watercourses that flow through the PDA and are linked to the River Snail.
- 3.2.32 Two CWS's sit within the PDA covering approximately 15ha as well as a scheduled monument. The Snailwell Meadows SSSI is adjacent to the PDA boundary. Snailwell's Conservation Area is also approximately 50m east of PDA 5.
- 3.2.33 The shape of the PDA combined with the presence of existing land uses; allocations for development and ecological and heritage designations within the PDA, reduce its developable area and would therefore constrain significant solar development at this location.

#### **PDA 6: Land south of the A14**

- 3.2.34 This potential solar development area is approximately 170ha and is located immediately south of the A14 on the land between Well Bottom and the A1304. Although not large enough to provide the area required for the Scheme, this PDA is close to Sunnica West Site A and could therefore be an alternative location for part of the Scheme or join with the other six PDAs proposed to provide an area over 983ha.
- 3.2.35 The land use within the PDA is horseracing and redevelopment of this land for solar would therefore conflict with this current use and remove this use. It is known as the Limekilns which is part of the Jockey Club Estates training ground. This would conflict with local planning policy (Forest Heath Joint Development Management Policies adopted 2015 – policy DM48) which seeks to protect the

horseracing industry. The A1304 crosses the north west of the PDA and could also provide access for construction as it leads to the A14 and A11 at Waterhall Interchange. The southern boundary of the PDA may also be accessed via B1506 Well Bottom. Approximately 90% of the PDA falls within a CWS which would be lost to development of this PDA.

- 3.2.36 Part of the Chippenham Hall Registered Park and Garden lies 100m west of the PDA boundary as well as a PRoW (as shown in Figure 10F, Annex D) with views into the PDA. Newmarket Conservation area is also located approximately 0.6km south west of the PDA and Newmarket Heath SSSI is approximately 0.4km south.
- 3.2.37 In summary, with the PDA being the Jockey Club Estates training ground and almost entirely within a CWS this would result in significant land use conflict and would harm a locally designated biodiversity site making this PDA unsuitable for solar development.

#### **PDA 7: Land located east of Newmarket**

- 3.2.38 This potential solar development area is approximately 91ha and is located approximately 1.2km east of Newmarket, south of Well Bottom Road and east of the A142 Fordham Road. PDA 7 is an irregular shaped site which is not large enough to provide the area required for the Sunnica Scheme on its own. However, its proximity to the Sunnica West Site A means it could be an alternative location for part of the Scheme or join with the other six PDAs proposed.
- 3.2.39 In terms of land use, PDA 7 is entirely within Flood Zone 1 and comprises agricultural land with some areas of woodland. PDA 7 also partially lies in the Jockey Club Estates horse racing training ground. A number of residential properties can also be found within the PDA at Longhill Cottages as well as parts of the Warrenhill Plantation towards the west. Moulton Road cuts across the middle of the site as well as a number of other minor access roads which are within the boundary.
- 3.2.40 A large CWS covers approximately 40% of PDA 7 as shown in Figure 10G Annex D, Newmarket Heath SSSI is also adjacent to the PDA boundary towards the north. There are no designated heritage assets within the PDA.
- 3.2.41 The shape of PDA 7 combined with the existing use as a horse racing training ground, residential receptors within the site, as well as the presence of a large CWS reduces the overall developable area for PDA 7 and therefore would constrain significant solar development at this location.

#### **Sunnica Scheme location**

- 3.2.42 The Sites proposed for the Scheme cover a land area approximately 983ha and comprise Sunnica East Site A, Sunnica East Site B, Sunnica West Site A and Sunnica West Site B as shown in Figure 10H, Annex D. The majority of the Scheme is located on 96.2% agricultural land that is not classified as best and most versatile with some parts of the Sites identified as non-agricultural land (see **Appendix 12B: Soils and Agriculture Baseline Report** of the Environmental Statement [EN010106/APP/6.2]).

- 3.2.43 In terms of construction access the Scheme is well served by the primary road network as well as secondary roads. The A11 provides access to the Sunnica East sites via Elms Road. The A11 also provides access to Sunnica West sites via La Hogue Road, the B1085 and Dane Hill Road. A PRow crosses through the middle of Sunnica East Site B which could be retained due to the large area of Sunnica East Site B. There are also a number of PRow which run adjacent to the boundaries of Sunnica East Site A and Sunnica West Site A. None of the Sites are within or close to locally designated protected landscapes.
- 3.2.44 There are no designated international and national ecological and geological sites within the Scheme boundary. Three CWS fall within the Sites (two entirely within Sunnica East Site B and one along the corridor of the River Snail within Sunnica West Site B) however these are of a small size that they can be retained and enough land remains for significant solar development. The Snailwell Meadows SSSI is adjacent to the south of Sunnica West Site B. The Chippenham Fen and Snailwell Poor's Fen SSSI, Chippenham SAC, Ramsar and NNR is adjacent to the north of Sunnica West Site B.
- 3.2.45 The majority of the Scheme is within Flood Zone 1, with small pockets of Flood Zone 2 and 3 across all the Sites which are associated with the River Lark, Lee Brook, River Snail and River Kennett.
- 3.2.46 The Four bowl barrows north of the A11/A14 junction, part of the Chippenham barrow cemetery scheduled monument is located within Sunnica West Site A although close to its eastern boundary. The Roman villa South of Snailwell Fen scheduled monument is also adjacent to the south western boundary of Sunnica West Site B. The Avenue which leads up to and forms part of the Chippenham Park Registered Park and Garden is within the Sunnica West Site A boundary.

## 4 Conclusions

- 4.1.1 This alternative site assessment has followed a four stage approach to evaluate the proposed Sunnica Energy Farm location against other potential areas for solar development identified in order to establish whether the proposed Scheme is in a suitable location for a proposed solar development requiring a land area of 983ha.
- 4.1.2 Based on the POC at Burwell substation and consideration of the maximum economically viable distance from that point for the connection, the assessment has considered potential solar development areas in a 15km area of search.
- 4.1.3 Stages 2 and 3 of the assessment have involved GIS mapping to exclude environmental and planning constraints and apply operational considerations such as development area and topography within the 15km area of search.
- 4.1.4 This has resulted in the identification of seven potential development areas which are in close proximity to the proposed location for the Scheme. Individually, none of the PDAs are large enough to provide the land required for the Scheme however the PDAs taken forward for further evaluation are in close proximity to each other and so could be connected to provide approximately 1000ha of land or be alternative locations to the Sites at the individual site level. Alternative locations proposed through the pre- application consultation undertaken by Sunnica Limited have also been considered.
- 4.1.5 The PDAs have been subject to further evaluation, as set out in Annex E, using readily available information sources, against assessment indicators to consider the suitability of these areas for solar development. The conclusions of this evaluation indicate that the PDAs have a number of land use, operational and environmental constraints which would mean it could be difficult to develop solar of the scale required at these locations.
- 4.1.6 Given the assessment findings it is considered that there are no obviously more suitable locations within the area of search than the proposed Sites for the Sunnica Energy Farm. The Scheme's location is therefore assessed to be suitable for the scale of solar development proposed and the basis on which the Applicant has selected the Sites accords with the approach to the consideration of alternatives set out by paragraph 4.4.3 of NPS EN-1.

## 5 Annexes

## **Annex A Reference Sources**

BRE (2013) Planning guidance for the development of large-scale ground mounted solar PV systems.

Cambridgeshire County Council and Peterborough City Council (2021) Cambridgeshire and Peterborough Minerals and Waste Local Plan Adopted Amendments to the Policies Map.

Department of Energy and Climate Change (2011) National Policy Statement for Electricity Networks Infrastructure (EN-5).

Department of Energy and Climate Change (2011) Overarching National Policy Statement for Energy (EN-1).

East Cambridgeshire District Council (2015) East Cambridgeshire Local Plan.

East Cambridgeshire District Council (2017) Fordham Neighbourhood Plan.

Forest Heath District Council (2010) Forest Heath Local Development Framework Core Strategy Development Plan Document 2001-2026 (with housing projected to 2031).

Forest Heath & St Edmundsbury councils (2015) Forest Heath and St Edmundsbury Local Plan Joint Development Management Policies Document.

Ministry of Housing, Communities & Local Government (2021) National Planning Policy Framework.

Suffolk County Council (2020) Suffolk Minerals & Waste Local Plan (SMWLP).

The Solar Design Company (2016) Introduction to Solar Shading.

UK Government (2008) Planning Act 2008.

West Suffolk Council (2019) Forest Heath area of West Suffolk Council Site Allocations Local Plan (SALP).

## Annex B Assessment Indicators and Evaluation Criteria

### B.1 Ecology and Biodiversity

Assessment Indicator: Is the potential development area likely to adversely impact any (a) internationally, nationally or locally designated site of ecological, biological or geological importance, (b) habitats identified as being of principal importance for the conservation of biodiversity having regard to the following evaluation criteria?:

- Proximity of designated sites;
- Level of designation and sensitivity of those designated sites; and
- Potential for provision of mitigation measures.

|  |   |
|--|---|
|  | The potential development area has potential to have a significant adverse impact on (a) an internationally, nationally or locally designated site of ecological, biological or geological importance, (b) protected species, (b) habitats identified as being of principal importance for the conservation of biodiversity, which may be difficult to mitigate.                              |
|  | The potential development area has potential for some adverse impact on (a) an internationally, nationally or locally designated site of ecological, biological or geological importance, (b) protected species, (b) habitats identified as being of principal importance for the conservation of biodiversity, which could be mitigated through appropriate buffers and management measures. |
|  | The potential development area is unlikely to impact upon on (a) an internationally, nationally or locally designated site of ecological, biological or geological importance, (b) habitats identified as being of principal importance for the conservation of biodiversity.   |

### B.2 Landscape and Visual

Assessment Indicator: Is the potential development area likely to adversely impact a locally or nationally designated landscape, or sensitive viewpoints, having regard to the following evaluation criteria?

- Proximity of the potential development area from locally or nationally designated landscape, or sensitive viewpoints;
- Sensitivity and number of locally or nationally designated landscape, or potentially sensitive viewpoints such as from public rights of way or other public locations;
- Proximity of the potential development area from local community receptors
- Potential for provision of screening or other mitigation measures.

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|  | The potential development area has the potential to have a significant adverse impact on a locally or nationally designated landscape, or important/sensitive viewpoints, which may be difficult to mitigate. |
|--|---|

|  |   |
|--|---|
|  | The potential development area has potential to have some adverse impact on a locally or nationally designated landscape, or important/sensitive viewpoints, which may be difficult to mitigate.                    |
|  | The potential development area is unlikely to have an adverse impact a locally or nationally designated landscape, or important/sensitive viewpoints, other than one which is unlikely to be difficult to mitigate. |

### B.3 Land Use

Assessment Indicator: Does the potential development area have any existing land uses/development allocations/ safeguarded areas/extant planning permissions which would potentially conflict with the proposed development having regard to the following evaluation criteria?

- Type of existing land uses within and adjacent to the potential development area
- extant planning permissions within the potential development area
- local plan/ emerging local plan development allocations within the potential development area
- number and location of public rights of way within the potential development area

|  |   |
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|  | The potential development area has the potential to conflict with existing land uses, extant planning permissions and policy allocations which would be difficult to avoid. |
|  | The potential development area has the potential to conflict with existing land uses, extant planning permissions and policy allocations which can be avoided.              |
|  | The potential development area has the no land use conflicts  |

### B.4 Cultural Heritage

Assessment Indicator: Is the potential development area likely to adversely impact designated heritage assets, having regard to the following evaluation criteria?

- Proximity to designated heritage assets;
- Level and sensitivity of designated heritage assets; and
- Potential for screening the potential development area from the asset.

|  |   |
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|  | The potential development area has potential to have harm to a large number of designated heritage assets, which may be difficult to avoid and mitigate.  |
|  | The potential development area has potential to have harm to a large number of designated heritage assets but could incorporate mitigation e.g. buffers/screening or has potential to have harm to a small number of designated heritage assets which may be difficult to mitigate/avoid. |
|  | The potential development area is likely to cause harm to a small number of designated assets and can accommodate appropriate buffers/mitigation measures to reduce impacts.  |

## B.5 Access for construction traffic

Assessment Indicator: Is the local road network, from the primary road network to the potential development area, suitable for HGV access, having regard to the following evaluation criteria?:

- General suitability of the public highway;
- Distance to the primary road network;
- Sensitivity of land uses along the route to the primary road network; and
- Physical or engineering constraints (bridges, level crossings, visibility, access points etc.).
- Access to fields without having to remove hedgerows.

|  |   |
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|  | The local road network has significant constraints to HGV access. |
|  | The local road network has some constraints to HGV access.        |
|  | The local road network is suitable for HGV access.                |

## B.6 Field Shading

Assessment Indicator: Is the potential development area likely to be constrained by features which would result in shading having regard to the following factors?

- type and coverage (number) of features that might shade e.g. trees/woodland

|  |   |
|--|---|
|  | The potential development area has field boundary features which are likely to significantly constrain the solar array design |
|  | The potential development area has field boundary features which are likely to moderately constrain the solar array design.   |
|  | The potential development area has field boundary features which are unlikely to constrain the solar array design.            |

## B.7 Flood Risk

Assessment Indicator: Is the potential development area likely to be constrained by the risk of flooding?

- proximity to nearby watercourses
- proportion of the potential development area within Flood Zone 2 or 3

|  |   |
|--|---|
|  | The majority of the development area is within an area with moderate or significant risk of flooding. |
|--|---|

|  |   |
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|  | The majority of the development area is within an area with no or a low risk of flooding, but part of the area is within an area with a moderate or significant risk of flooding. |
|  | The development area is entirely within an area with no or a low risk of flooding.  |

## B.8 Deliverability of grid connection

Is the potential development area's grid connection likely to encounter constraints e.g. crossing of roads, rivers and railway and sensitive environmental designations and require significant land take?

- type and number of constraints and designations
- length of connection

|  |   |
|--|---|
|  | The potential development area has potential to have significant constraints to achieve its grid connection which would be very difficult to mitigate/overcome. |
|  | The potential development area has potential to have some constraints to achieve its grid connection.   |
|  | The potential development area is unlikely to encounter any constraints to achieve its grid connection.   |

## B.9 Terrain

Is the potential development area affected by an undulating terrain of multiple gradients?

- Proportion of the potential development area that is undulating/has varied topography

|  |   |
|--|---|
|  | The terrain of the potential development area is likely to significantly constrain the solar array design |
|  | The terrain of the potential development area is likely to moderately constrain the solar array design.   |
|  | The terrain of the potential development area is unlikely to constrain the solar array design.            |

## Annex C Assessment Indicator Policy and Guidance justification

| Stage 2: Spatial mapping constraints/Stage 4 assessment indicator | Justification  | Relevant national planning policy   | Relevant local planning policy   |
|---|--|---|--|
| Ecology and Biodiversity  | <p>Planning policy aims to protect designated sites of ecological, biological or geological importance, protected species, habitats or other species identified as being of principal importance for the conservation of biodiversity. This includes ancient woodland and veteran trees.</p> <p>National policy expects consents to be refused if significant harm to biodiversity resulting from a development cannot be avoided adequately mitigated, or, as a last resort, compensated for.</p> | <p><b>NPS EN-1</b><br/>Paragraph 4.3.1<br/>Paragraph 5.3.3<br/>Paragraph 5.3.4<br/>Paragraph 5.3.6<br/>Paragraph 5.3.7<br/>Paragraph 5.3.8<br/>Paragraph 5.3.9<br/>Paragraph 5.3.10<br/>Paragraph 5.3.11<br/>Paragraph 5.3.13<br/>Paragraph 5.3.14<br/>Paragraph 5.3.18<br/>Paragraph 5.3.20</p> <p><b>NPPF</b><br/>Paragraph 174<br/>Paragraph 180<br/>Paragraph 181<br/>Paragraph 185</p> | <p><b>East Cambridgeshire District Council Local Plan Adopted April 2015</b><br/>Policy ENV7: Biodiversity and Geology</p> <p><b>Forest Heath District Council Core Strategy (Adopted May 2010)</b><br/>Policy CS2: Natural Environment<br/>Policy CS4: Reduce Emissions, Mitigate and Adapt to future Climate Change</p> <p><b>Forest Heath and St Edmundsbury Local Plan: Joint Development Management Policies Document (last Adopted February 2015)</b> Policy DM10: Impact of Development on Sites of Biodiversity and Geodiversity Importance<br/>Policy DM11: Protected Species<br/>Policy DM12: Mitigation, Enhancement, Management and Monitoring of Biodiversity</p> <p><b>Fordham Neighbourhood Plan (Made December 2018)</b><br/>Policy 8: Wildlife and Habitats</p> |

| Stage 2: Spatial mapping constraints/Stage 4 assessment indicator | Justification   | Relevant national planning policy   | Relevant local planning policy  |
|---|---|---|---|
| Landscape and Visual  | <p>Planning policy affords the highest protection to nationally designated landscapes such as National Parks, the Broads and Areas of Outstanding Natural Beauty) and also aims to avoid impacts on sensitive visual receptors.</p> <p>Outside nationally designated areas, there are local landscapes that may be highly valued locally and protected by local designation. Paragraph 5.9.14 of the NPS EN-1 expects the consideration of local policies for DCO applications where a local development document in England has policies based on landscape character assessment.</p> <p>. Paragraph 5.9.18 of NPS EN-1 states that it will need to be determined whether the visual effects on sensitive receptors such as local residents outweigh the benefits of the proposed development.</p> <p>NPS EN-1 suggests that adverse landscape and visual effects may be minimised through appropriate siting of infrastructure within that site, design including colours and materials, and landscaping schemes.</p> | <p><b>NPS EN-1</b><br/>Paragraph 5.9.5<br/>Paragraph 5.9.6<br/>Paragraph 5.9.7<br/>Paragraph 5.9.8<br/>Paragraph 5.9.9<br/>Paragraph 5.9.12<br/>Paragraph 5.9.14<br/>Paragraph 5.9.15<br/>Paragraph 5.9.16<br/>Paragraph 5.9.17<br/>Paragraph 5.9.18<br/>Paragraph 5.9.21<br/>Paragraph 5.9.22<br/>Paragraph 5.9.23</p> <p><b>NPS EN-5</b><br/>Paragraph 2.2.5<br/>Paragraph 2.8.8<br/>Paragraph 2.8.9<br/>Paragraph 2.8.10<br/>Paragraph 2.8.11</p> <p><b>NPPF</b><br/>Paragraph 130<br/>Paragraph 174<br/>Paragraph 176</p> | <p><b>East Cambridgeshire District Council Local Plan (Adopted April 2015)</b><br/>Policy ENV1: Landscape and Settlement Character<br/>Policy ENV2: Design<br/>Policy ENV6: Renewable energy development<br/>Policy ENV11: Conservation Areas<br/>Policy EN15: Historic Parks and Gardens<br/>Policy COM5: Strategic Green Infrastructure</p> <p><b>Forest Heath District Council Core Strategy (Adopted May 2010)</b><br/>Policy ENV3: Spatial Objective<br/>Policy CS2: Natural Environment<br/>Policy CS3: Landscape Character and the Historic Environment<br/>Policy CS5: Design Quality and Local Distinctiveness</p> <p><b>Forest Heath and St Edmundsbury Local Plan: Joint Development Management Policies Document (last Adopted February 2015)</b><br/>Policy DM2: Creating Places - Development Principles and Local Distinctiveness<br/>Policy DM5: Development in the Countryside<br/>Policy DM8: Low and Zero Carbon Energy Generation<br/>Policy DM13: Landscape Features<br/>Policy DM44: Rights of Way</p> <p><b>Fordham Neighbourhood Plan (Made December 2018)</b><br/>Policy 2: Character &amp; Design</p> |

| Stage 2: Spatial mapping constraints/Stage 4 assessment indicator | Justification   | Relevant national planning policy  | Relevant local planning policy  |
|---|---|--|---|
|   |   |  | <p>Policy 4: Maintaining Separation<br/>Policy 6: Locally Important Views defined in the Plan</p> <p><b>Newmarket Neighbourhood Plan (Made February 2020)</b><br/>Policy NKT2: Key Views</p>  |
| Cultural Heritage   | <p>Protection and conservation of designated and undesignated heritage assets. The higher the significance of the asset, the greater the presumption in favour of its conservation.</p> <p>Some heritage assets have a level of significance that justifies official designation. Categories of designated heritage assets are: a World Heritage Site; Scheduled Monument; Protected Wreck Site; Protected Military Remains, Listed Building; Registered Park and Garden; Registered Battlefield; Conservation Area. However paragraph 5.8.4 of the NPS EN-1 also states that there are heritage assets with archaeological interest that are not currently designated as scheduled monuments, but which are demonstrably of equivalent significance and therefore in some cases should also be subject to the same policy considerations as those that apply to designated heritage assets.</p> <p>There is a desirability for new development to make a positive contribution to the character and local distinctiveness of the historic environment.</p> <p>Paragraphs 199 to 203 of the NPPF introduce the concept that heritage assets can be harmed or lost through alteration or destruction or development within their setting. This harm ranges from less than substantial through to substantial. With regard to designated assets such as listed buildings, paragraph 199 states that great weight should be given to an asset's conservation and 'the more important the asset, the greater the weight should be'. This is irrespective of the level of harm to its significance as a result of any proposals. Distinction is drawn between those assets of exceptional interest (e.g. grade I and grade II* listed buildings), and those of special interest (e.g. grade II listed buildings). NPPF paragraph 200 requires any harm or loss of heritage significance to</p> | <p><b>NPS EN-1</b></p> <p>Paragraph 5.8.2<br/>Paragraph 5.8.3<br/>Paragraph 5.8.4<br/>Paragraph 5.8.5<br/>Paragraph 5.8.6<br/>Paragraph 5.8.8<br/>Paragraph 5.8.9<br/>Paragraph 5.8.10<br/>Paragraph 5.8.12<br/>Paragraph 5.8.13<br/>Paragraph 5.8.14<br/>Paragraph 5.8.15<br/>Paragraph 5.8.16<br/>Paragraph 5.8.17<br/>Paragraph 5.8.18<br/>Paragraph 5.8.20<br/>Paragraph 5.8.21<br/>Paragraph 5.8.22</p> <p><b>NPPF</b></p> <p>Paragraph 194<br/>Paragraph 199<br/>Paragraph 200</p> | <p><b>East Cambridgeshire District Council Local Plan (Adopted April 2015)</b><br/>Policy ENV11: Conservation Areas<br/>Policy ENV12: Listed Buildings<br/>Policy ENV13: Local Register of Buildings and Structures<br/>Policy ENV14: Sites of archaeological interest<br/>Policy ENV15: Historic Parks and Gardens</p> <p><b>Forest Heath District Council Core Strategy (Adopted May 2010 )</b><br/>Policy CS3: Landscape character and the Historic environment</p> <p><b>Forest Heath and St Edmundsbury Local Plan: Joint Development Management Policies Document (adopted February 2015)</b></p> <p>Policy DM17: Conservation Areas<br/>Policy DM19: Development Affecting Parks and Gardens of Special Historic or Design Interest<br/>Policy DM20: Archaeology</p> <p><b>Fordham Neighbourhood Plan (Made December 2018)</b></p> |

| Stage 2: Spatial mapping constraints/Stage 4 assessment indicator | Justification   | Relevant national planning policy  | Relevant local planning policy   |
|---|---|--|--|
|   | have clear and convincing justification, and substantial harm or loss should be wholly exceptional with regard to those assets of greatest interest. NPPF paragraph 201 explains that in instances where development would cause substantial harm to or total loss of significance of a designated asset, consent should be refused unless that harm or loss is “necessary to achieve substantial public benefits that outweigh that harm or loss”. In instances where development would cause less than substantial harm to the significance of a designated asset, paragraph 202 states ‘this harm should be weighed against the public benefits of the proposal including where appropriate, securing its optimum viable use’. Significance with regard to heritage planning policy is defined in the Glossary of the NPPF as: ‘The value of a heritage asset to this and future generations because of its heritage interest. The interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset’s physical presence, but also from its setting.’ | Paragraph 201<br>Paragraph 202<br>Paragraph 203<br>Paragraph 205   | Policy 7: Locally Important Buildings & Structures   |
| Traffic and Access  | <p>Planning policy expects the impacts of traffic from development to be minimised. Accessibility to land areas is important to allow construction without significant traffic management or alterations to the road network</p> <p>‘A new energy NSIP may give rise to substantial impacts on the surrounding transport infrastructure and NPS EN-1 expects the Secretary of State to therefore ensure that the applicant has sought to mitigate these impacts, including during the construction phase of the development.</p>  | <p><b>NPS EN-1</b><br/>Paragraph 5.13.1<br/>Paragraph 5.13.3<br/>Paragraph 5.13.4<br/>Paragraph 5.13.6<br/>Paragraph 5.12.7<br/>Paragraph 5.13.8<br/>Paragraph 5.13.9<br/>Paragraph 5.13.10<br/>Paragraph 5.13.11</p> <p><b>NPPF</b><br/>Paragraph 104<br/>Paragraph 113</p> | <p><b>East Cambridgeshire District Council Local Plan (Adopted April 2015)</b><br/>Policy COM7: Transport Impact</p> <p><b>Forest Heath and St Edmundsbury Local Plan: Joint Development Management Policies Document (adopted February 2015)</b><br/>Policy DM44: Rights of Way<br/>Policy DM45: Transport Assessments and Travel Plans</p> |
| Flood Risk  | <p>Planning policy expects the avoidance of Flood Zones 2 and 3 for development demonstrating a sequential approach to locating development with respect to flood risk has been followed.</p> <p>NPS EN-5 expects electrical connection infrastructure to be resilient to flooding.</p>   | <p><b>NPS EN-1</b><br/><br/>Paragraph 5.7.4<br/>Paragraph 5.7.5<br/>Paragraph 5.7.7</p>  | <p><b>East Cambridgeshire District Council Local Plan (Adopted April 2015)</b><br/>Policy ENV8: Flood Risk</p>   |

| Stage 2: Spatial mapping constraints/Stage 4 assessment indicator | Justification | Relevant national planning policy  | Relevant local planning policy   |
|---|---------------|--|--|
|   |               | <p>Paragraph 5.7.9<br/>           Paragraph 5.7.10<br/>           Paragraph 5.7.12<br/>           Paragraph 5.7.13<br/>           Paragraph 5.7.14<br/>           Paragraph 5.7.16<br/>           Paragraph 5.7.18<br/>           Paragraph 5.7.19<br/>           Paragraph 5.7.21<br/>           Paragraph 5.7.22<br/>           Paragraph 5.7.23<br/>           Paragraph 5.7.24<br/>           Paragraph 5.7.25<br/>           Paragraph 5.15.2<br/>           Paragraph 5.15.3<br/>           Paragraph 5.15.5<br/>           Paragraph 5.15.6<br/>           Paragraph 5.15.8</p> <p><b>NPS EN-5</b><br/>           Paragraph 2.4.1<br/>           Paragraph 2.4.2</p> <p><b>NPPF</b><br/>           Paragraph 159<br/>           Paragraph 163<br/>           Paragraph 164<br/>           Paragraph 167<br/>           Paragraph 169<br/>           Paragraph 174</p> | <p><b>Forest Heath District Council Core Strategy (Adopted May 2010)</b><br/>           Policy CS4: Reduce Emissions, Mitigate and Adapt to future Climate Change</p> <p><b>Forest Heath and St Edmundsbury Local Plan: Joint Development Management Policies Document (adopted February 2015)</b><br/>           Policy DM6: Flooding and Sustainable Drainage<br/>           Policy DM14: Protecting and Enhancing Natural Resources, Minimising Pollution and Safeguarding from Hazards</p> |

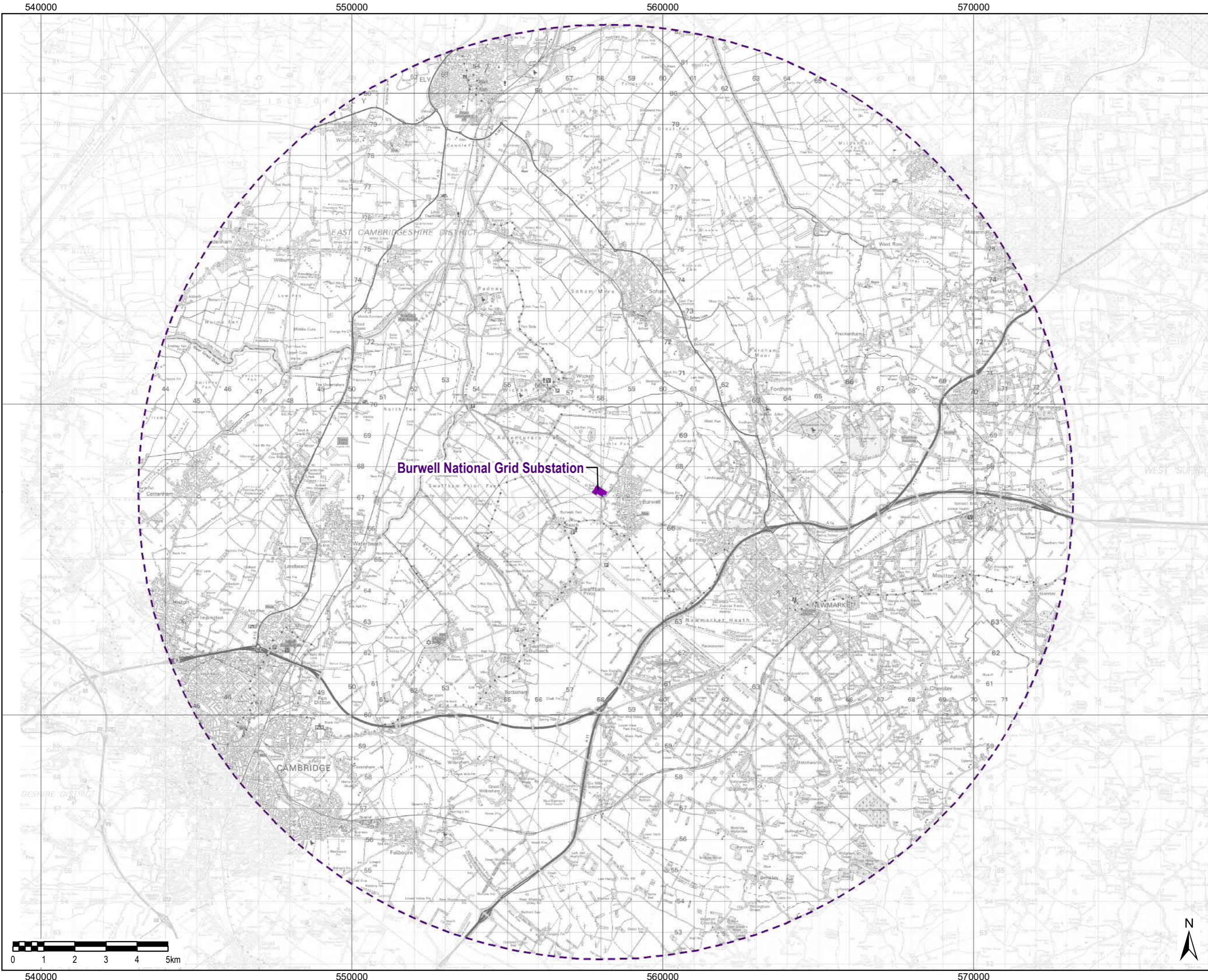
| Stage 2: Spatial mapping constraints/Stage 4 assessment indicator | Justification   | Relevant national planning policy  | Relevant local planning policy  |
|---|---|--|---|
| Land Use  | <p>Planning policy expects developments to minimise the loss of the best and most versatile agricultural land ( grades 1, 2 and 3a Agricultural Land Classification) and preferably use land that is not classified as best and most versatile (grades 3b, 4 and 5). Policies also encourage the use of previously developed land unless there are no reasonable alternative sites for development.</p> <p>Planning policy aims to protect the following land uses/designations:</p> <ul style="list-style-type: none"> <li>- green belt from inappropriate development - great weight is attached to the importance of green belt land.</li> <li>- Local amenity – avoiding amenity impacts from development on local residents and users of an area</li> <li>- Mineral resources by avoiding development permanently sterilising mineral resource</li> <li>- Public rights of way</li> <li>- existing and proposed development uses from conflicting development types</li> </ul> | <p><b>NPS EN-1</b><br/>Paragraph 5.10.2<br/>Paragraph 5.10.5<br/>Paragraph 5.10.6<br/>Paragraph 5.10.8<br/>Paragraph 5.10.9<br/>Paragraph 5.10.15<br/>Paragraph 5.10.24</p> <p><b>NPPF</b><br/>Paragraph 84<br/>Paragraph 92<br/>Paragraph 93<br/>Paragraph 95<br/>Paragraph 212</p> | <p><b>East Cambridgeshire District Council Local Plan (Adopted April 2015)</b><br/>Policy COM 5: Strategic Green Infrastructure<br/>Policy COM 7: Transport impact<br/>Policy EMP6: Development affecting the horse racing industry<br/>Policy ENV6: Renewable Energy Development</p> <p><b>Forest Heath District Council Core Strategy (Adopted May 2010)</b><br/>Policy CS10: Sustainable Rural Communities</p> <p><b>Forest Heath and St Edmundsbury Local Plan: Joint Development Management Policies Document (adopted February 2015)</b><br/>Policy DM5: Development in the Countryside<br/>Policy DM30: Appropriate Employment Uses and Protection of Employment Land and Existing Businesses<br/>Policy DM41: Community Facilities and Services<br/>Policy DM44: Rights of Way</p> <p><b>Suffolk Minerals and Waste Local Plan (Adopted July 2020)</b><br/>Policy GP4: General environmental criteria<br/>Policy MP10: Minerals consultation and safeguarding areas<br/>Policy WP18: Safeguarding of waste management sites</p> <p><b>Cambridgeshire and Peterborough Minerals and Waste Local Plan (Adopted July 2021)</b><br/>Policy 5: Mineral Safeguarding Areas (MSAs)</p> |

| Stage 2: Spatial mapping constraints/Stage 4 assessment indicator | Justification   | Relevant national planning policy | Relevant local planning policy   |
|---|---|-----------------------------------|--|
|   |   |                                   | Policy 10: Waste Management Areas (WMAs)<br>Policy 11: Water Recycling Areas (WRAs)<br>Policy 15: Transport Infrastructure Areas (TIAs)<br>Policy 16: Consultation Areas (CAs)   |
| Field shading; Grid connection feasibility and terrain/topography | <p>With increased distance from the connection point comes increased potential for environmental impact associated with construction of a longer connection infrastructure and potential for increased complexity if multiple land owners and/or requirements to cross other features in the landscape (roads, railways etc.) are involved.</p> <p>Shading can have impacts on solar thermal and photovoltaic system outputs. Accounting for shading factors is therefore a very important aspect of solar energy system design.</p> <p>Flat land which does not undulate significantly is preferred for solar PV energy generation optimisation and makes it easier to visually screen the development</p> |                                   | <p><b>Relevant Guidance</b><br/> <b>The Solar Design Company</b> - <a href="https://www.solardesign.co.uk/shading-intro.php">https://www.solardesign.co.uk/shading-intro.php</a> (accessed June 2021)</p> <p><b>BRE: Planning guidance for the development of large scale ground mounted solar PV systems</b> - <a href="https://www.bre.co.uk/filelibrary/pdf/other_pdfs/KN5524_Planning_Guidance_reduced.pdf">https://www.bre.co.uk/filelibrary/pdf/other_pdfs/KN5524_Planning_Guidance_reduced.pdf</a> (accessed June 2021)</p> |



**Annex D Assessment mapping results**

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**LEGEND**

- Burwell National Grid Substation
- 15km Area of Search

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Project Title



Drawing Title

FIGURE 1  
STAGE 1 -  
AREA OF SEARCH FOR  
POTENTIAL SOLAR  
DEVELOPMENT AREAS

|  |               |                         |                    |
|--|---------------|-------------------------|--------------------|
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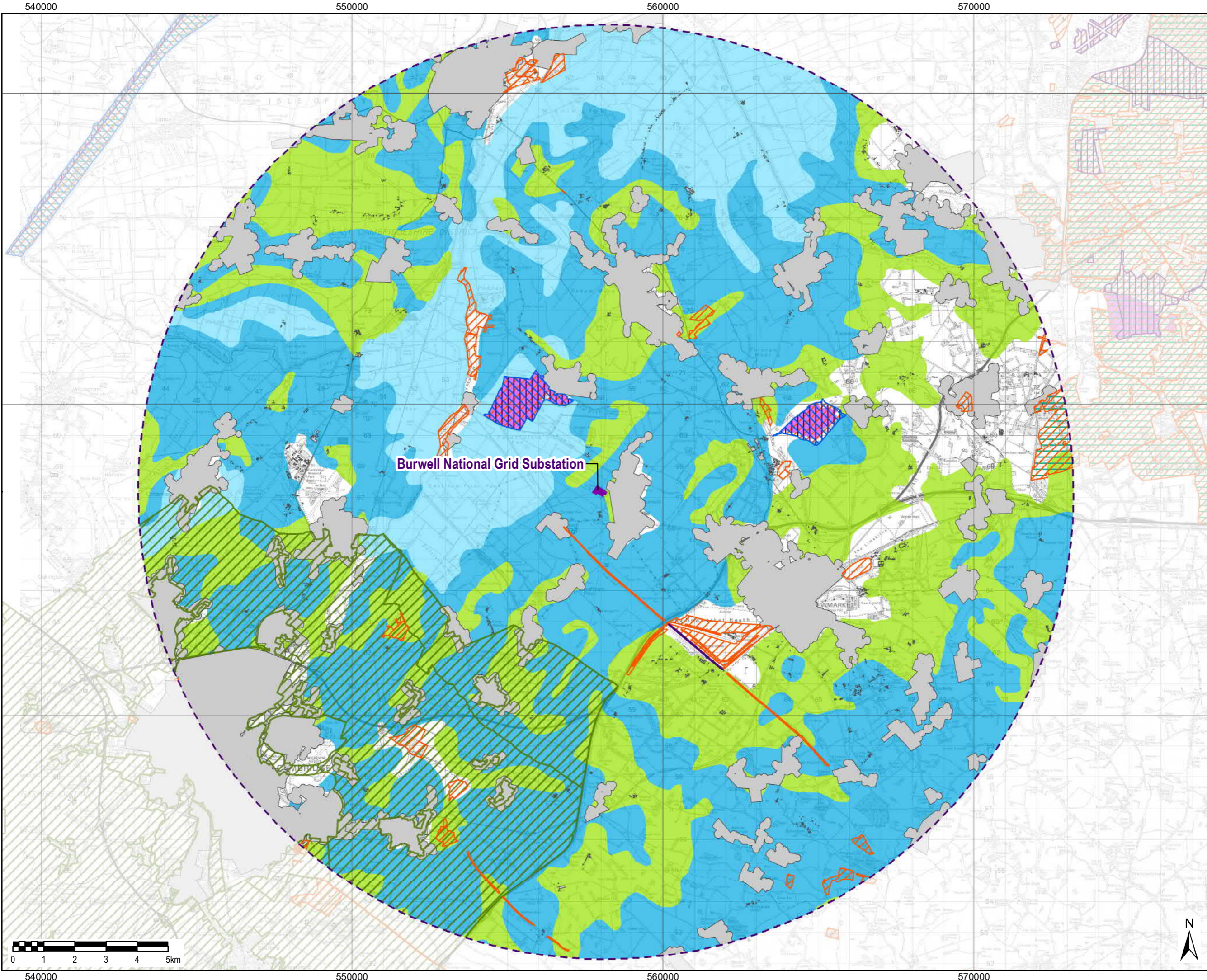
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| FIGURE 1       | 0   |

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- LEGEND**
- Burwell National Grid Substation
  - 15km Area of Search
  - Built up Area
  - Green Belt
  - International and National Ecological and Geological Designations**
  - Ramsar
  - SAC
  - SPA
  - SSSI
  - National Nature Reserve
  - Agricultural Land Classification**
  - Grade 1
  - Grade 2
  - Grade 3

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Drawing Title  
**FIGURE 2  
STAGE 2 - PLANNING AND  
ENVIRONMENTAL CONSTRAINTS**

|  |               |                         |                    |
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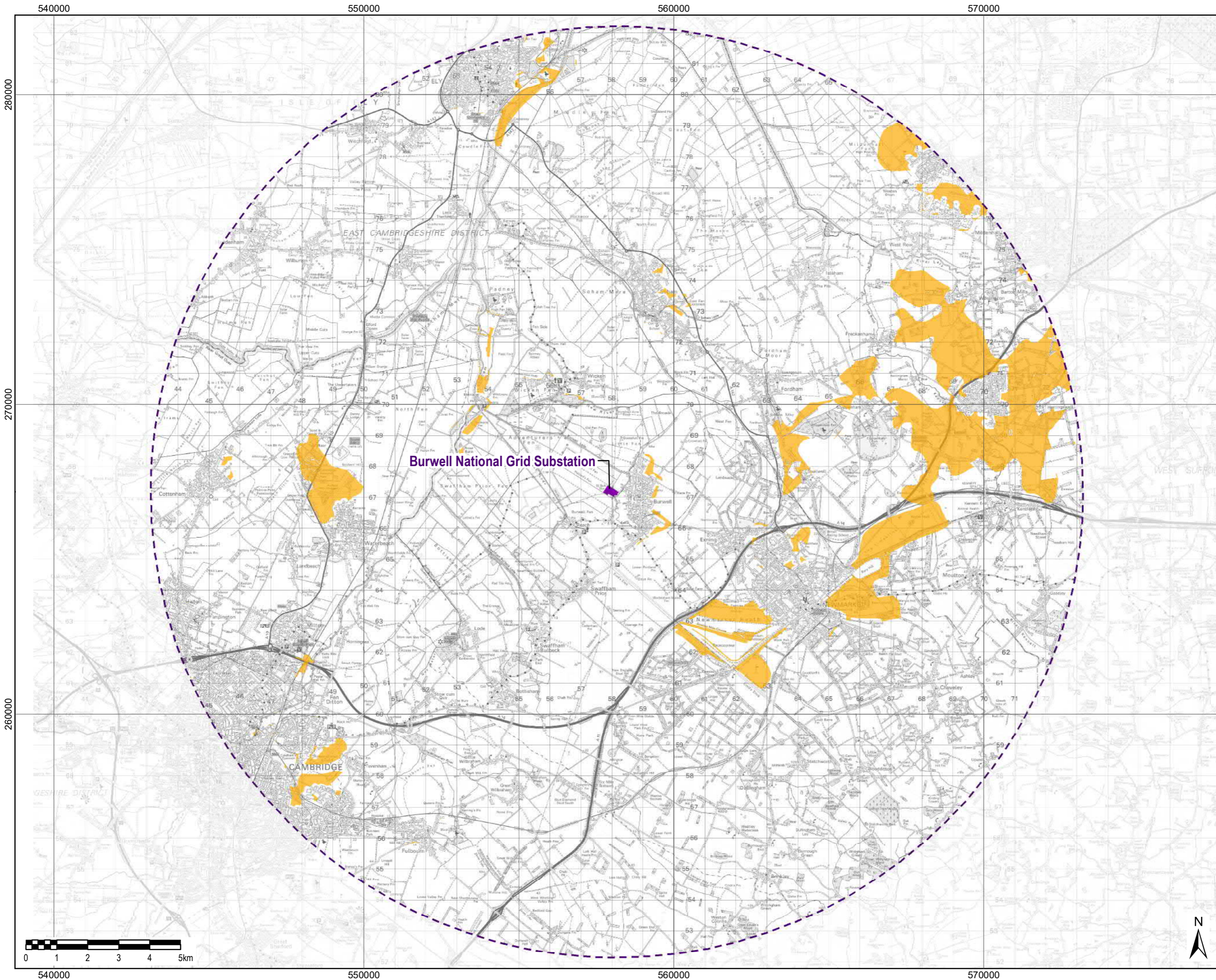
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#### LEGEND

- Burwell National Grid Substation
- 15km Area of Search
- Unconstrained Land as a result of Stage 2 Planning and Environmental Constraints

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**FIGURE 3  
STAGE 2 OUTPUT**

|  |               |                         |                    |
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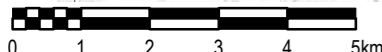
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**FIGURE 3**

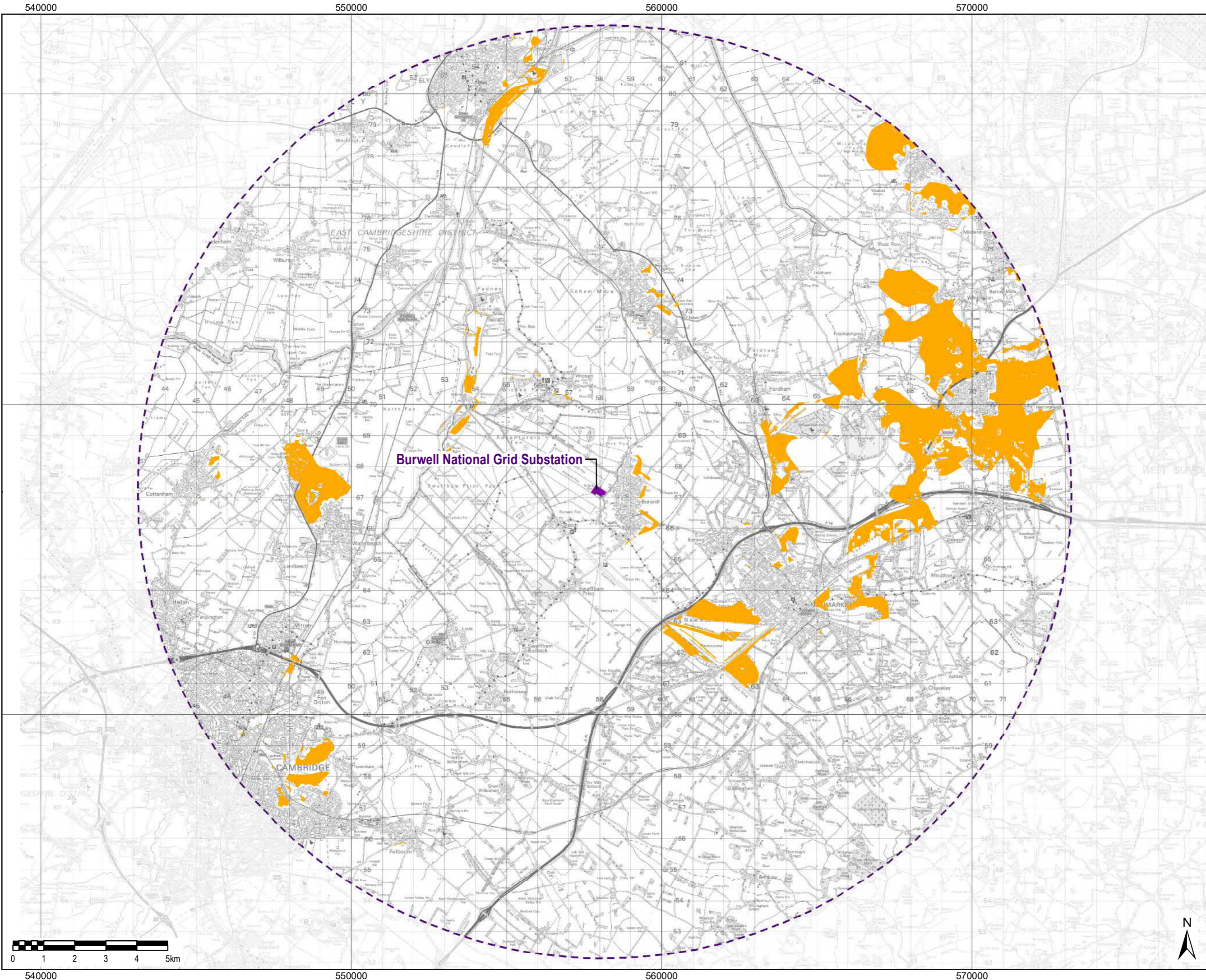
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- LEGEND**
- Burwell National Grid Substation
  - 15km Area of Search
  - Unconstrained Land from Stage 2
  - Output with  $\leq 3\%$  Gradient Topography

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FIGURE 5  
UNCONSTRAINED LAND

|  |               |                         |                    |
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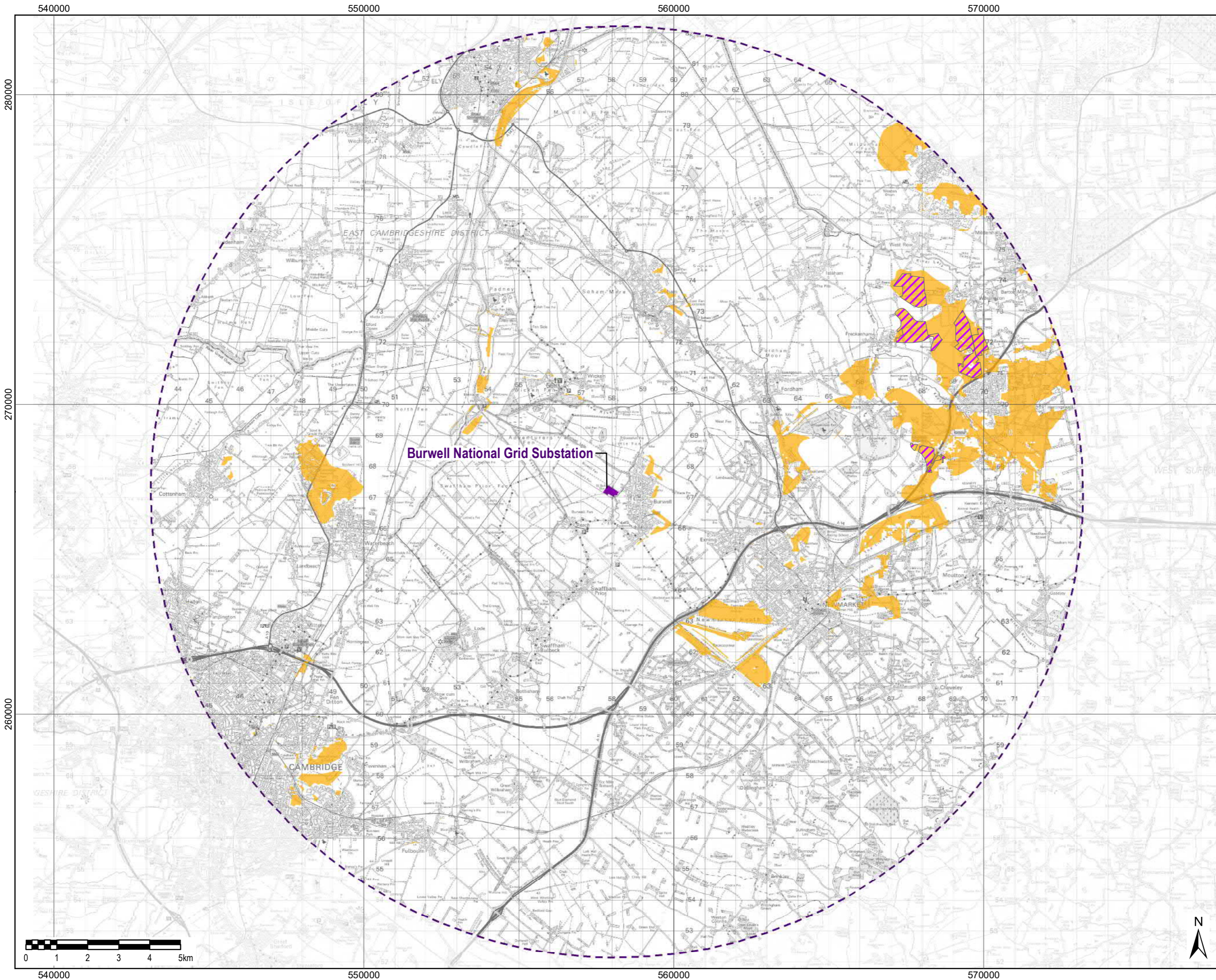
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**LEGEND**

- Burwell National Grid Substation
- 15km Area of Search
- Unconstrained Land from Stage 2
- Output with  $\leq 3\%$  Gradient Topography
- Previously excluded from Sunnica
- Scheme due to Stakeholder Engagement and Mineral Planning Constraints

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**FIGURE 6  
STAGE 3 OUTPUT WITH AREAS  
EXCLUDED AS A RESULT OF  
STAKEHOLDER ENGAGEMENT &  
MINERAL PLANNING CONSTRAINTS**

|  |               |                         |                    |
|--|---------------|-------------------------|--------------------|
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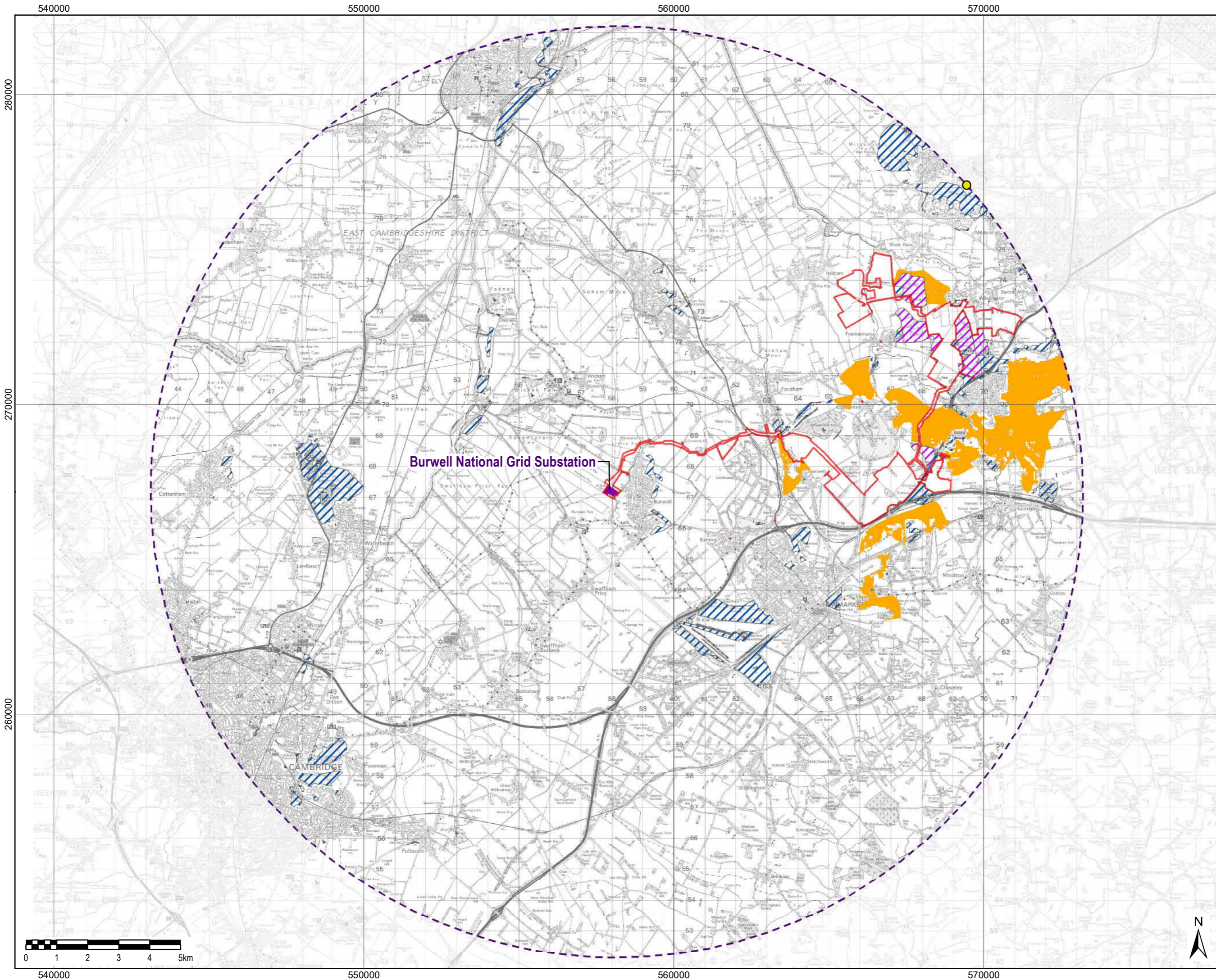
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- LEGEND**
- Burwell National Grid Substation
  - The Order Limits
  - 15km Area of Search
  - RAF Mildenhall
  - Previously excluded from Sunnica
  - Scheme due to Stakeholder Engagement and Mineral Planning Constraints
  - Unconstrained Land from Stage 2 Output with less than or equal to 3% Gradient Topography and Area >38ha (Excluding the Order Limits)
  - Areas not suitable due to proximity, shape or size
  - Unconstrained Land from Stage 2 Output with ≤3% Gradient Topography and Area > 38ha

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Project Title  


Drawing Title  
FIGURE 7  
STAGE 3 OUTPUT WITH  
AREAS WHICH HAVE BEEN  
DISCOUNTED

|  |               |                         |                    |
|--|---------------|-------------------------|--------------------|
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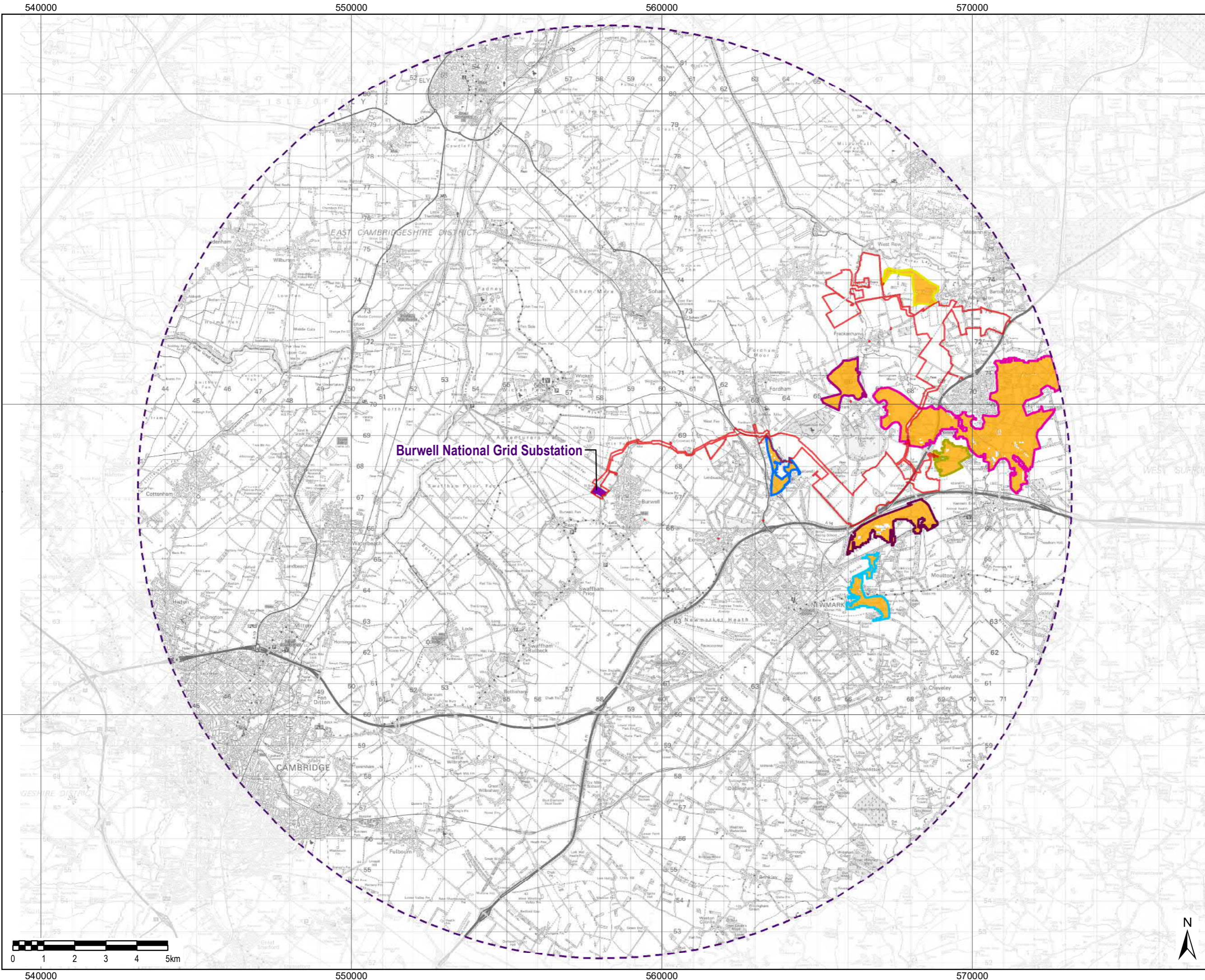
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- LEGEND**
- Burwell National Grid Substation
  - The Order Limits
  - 15km Area of Search
  - Unconstrained Land from Stage 2
  - Output with less than or equal to 3% Gradient Topography and Area >38ha (Excluding the Order Limits)
- Potential Development Areas**
- PDA 1 - Land West of Worlington
  - PDA 2 - Land South of Freckenham
  - PDA 3 - Land East and West of Red Lodge
  - PDA 4 - Land at Dane Hill Farm
  - PDA 5 - Land at Snailwell
  - PDA 6 - Land South of the A14
  - PDA 7 - Land East of Newmarket

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Drawing Title  
**FIGURE 8  
IDENTIFICATION OF  
POTENTIAL DEVELOPMENT  
AREAS**

|  |               |                         |                    |
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LEGEND

15km Area of Search

Contextual Layers

Listed Building - Grade I

Listed Building - Grade II\*

Listed Building - Grade II

Public Right of Way

Safeguarded Waste Site

Proposed Minerals Site

Mixed Use Allocation

County Wildlife Site

Scheduled Monument

Conservation Area

Flood Zone 2

Flood Zone 3

Potential Development Areas

PDA 1 - Land West of Worlington

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Project Title  


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FIGURE 9A  
PDA 1:  
LAND WEST OF WORLINGTON  
CONSTRAINTS

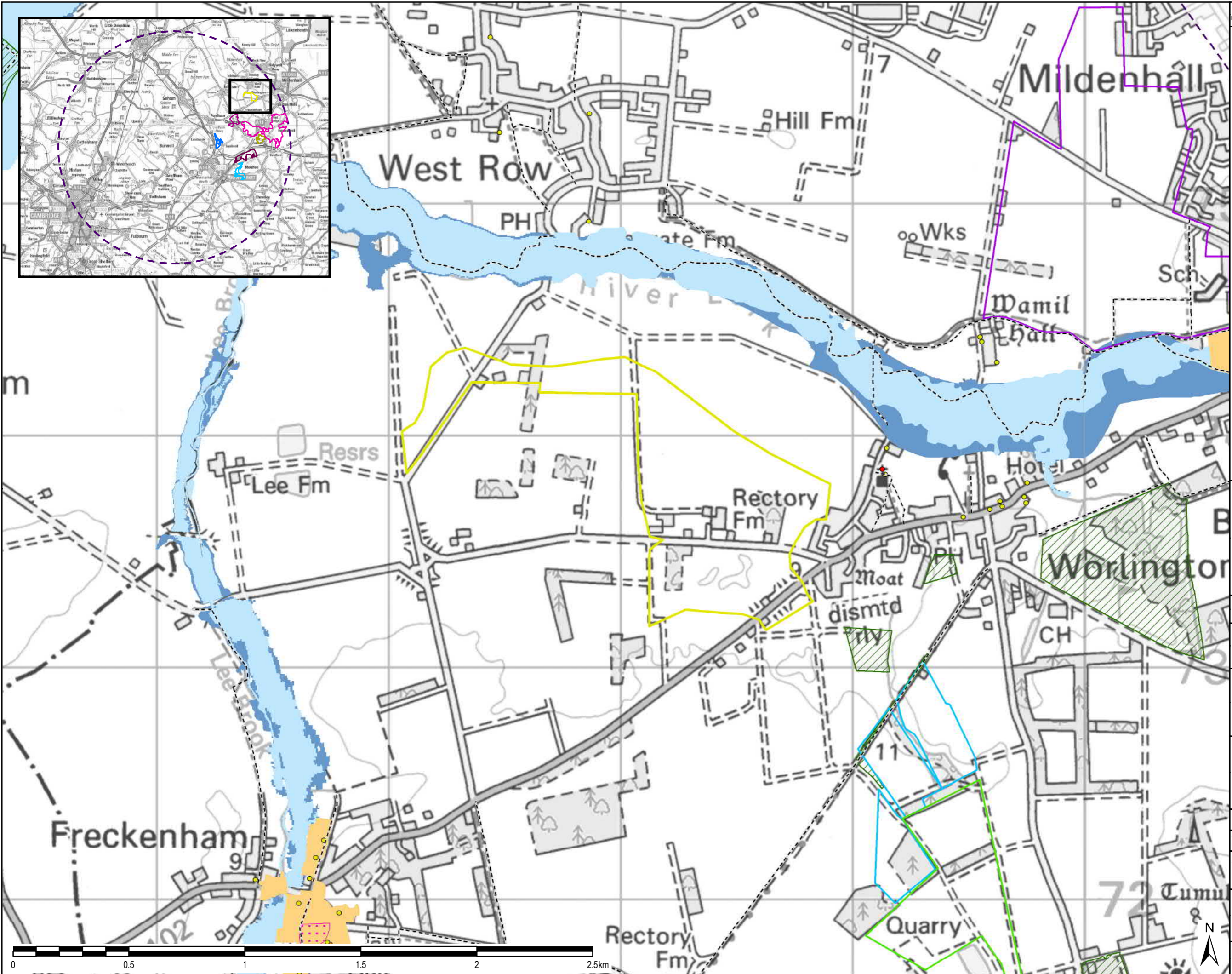
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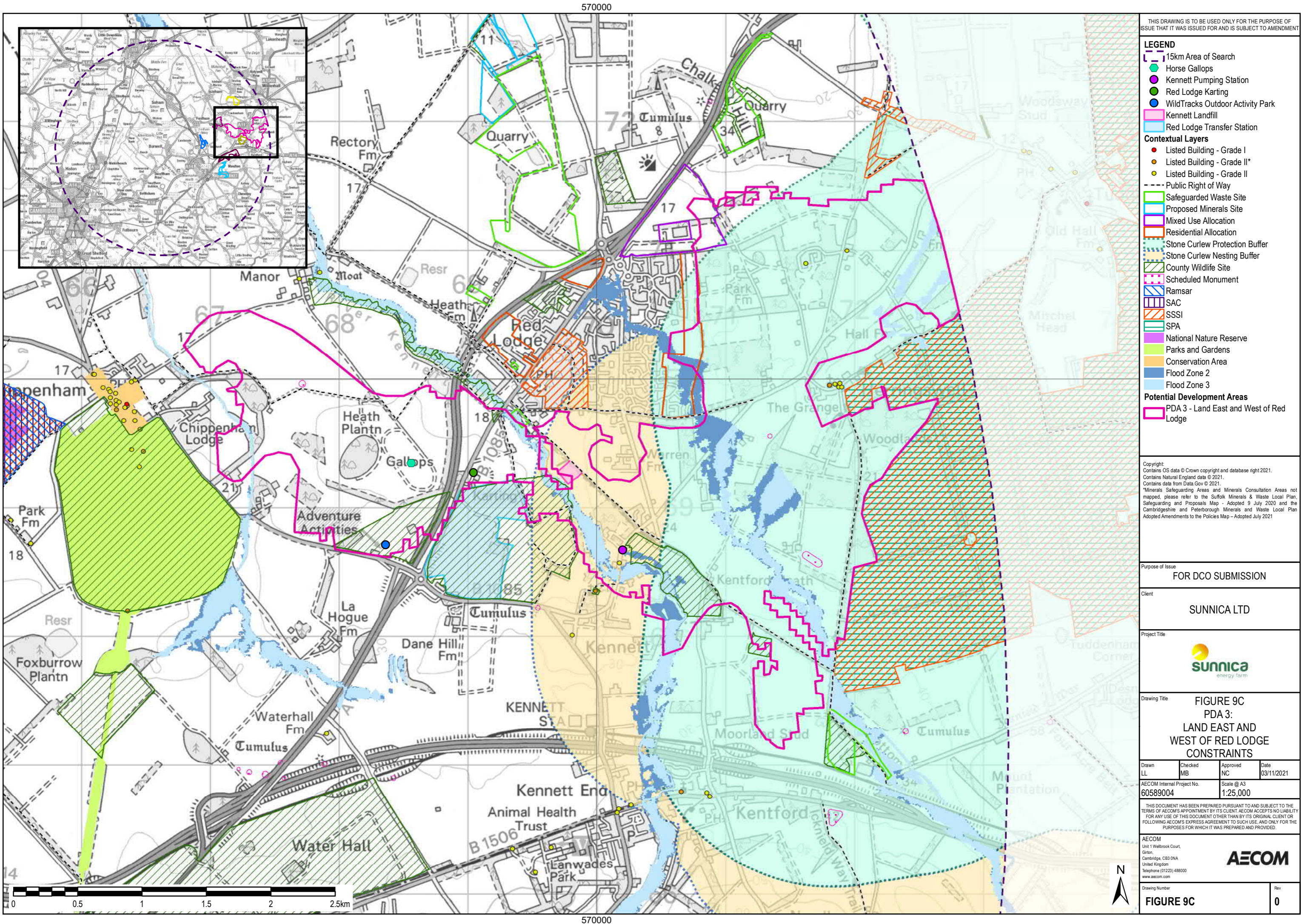
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**LEGEND**  

15km Area of Search

Kennett Garden Village Boundary

**Contextual Layers**

Listed Building - Grade II\*

Listed Building - Grade II

Public Right of Way

Safeguarded Waste Site

Stone Curlew Protection Buffer

Stone Curlew Nesting Buffer

County Wildlife Site

Scheduled Monument

Flood Zone 2

Flood Zone 3

**Potential Development Areas**

PDA 4 - Land at Dane Hill Farm

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FIGURE 9D  
PDA 4:  
LAND AT DANE HILL FARM  
CONSTRAINTS

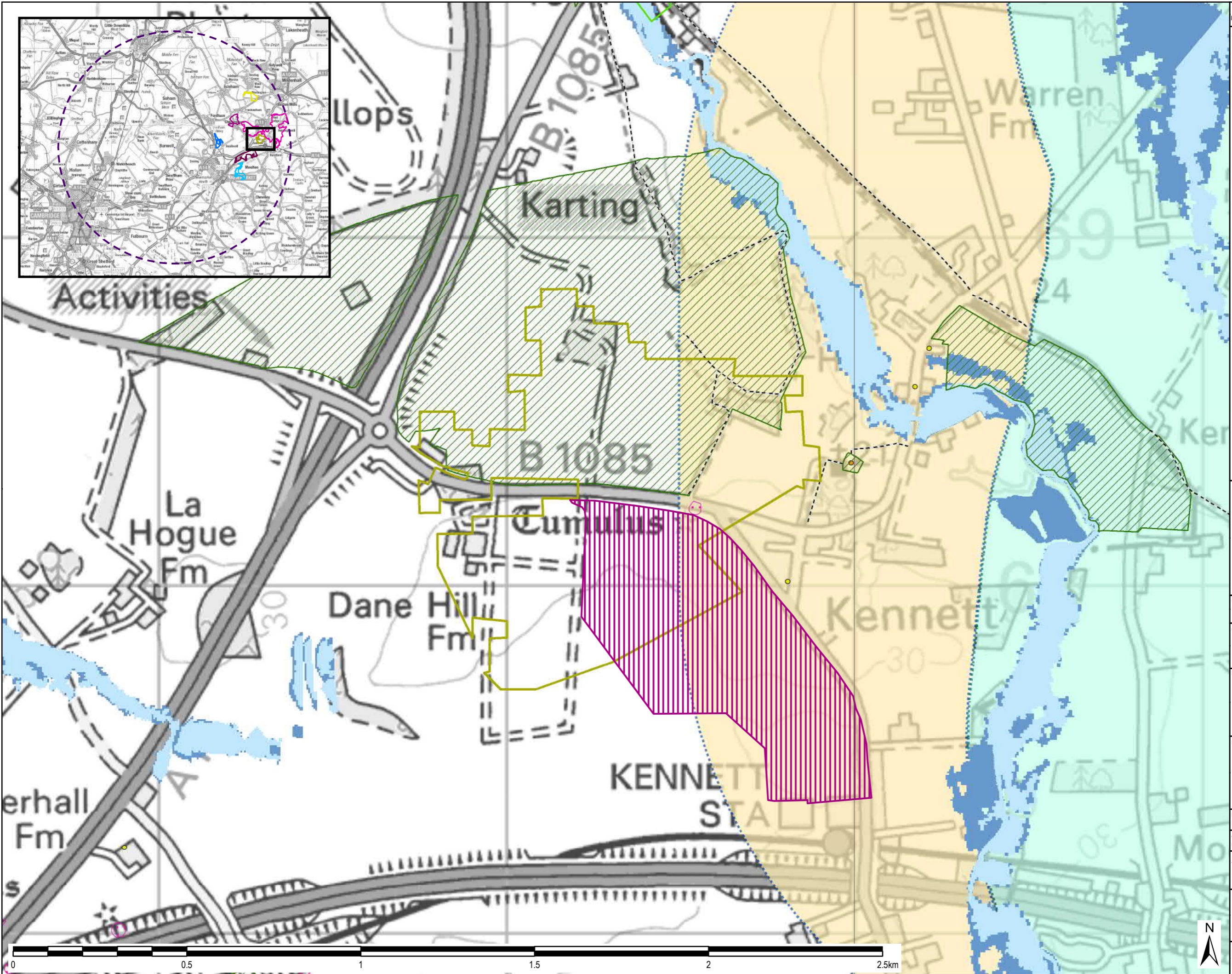
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**LEGEND**

15km Area of Search

Contextual Layers

Listed Building - Grade I

Listed Building - Grade II\*

Listed Building - Grade II

Public Right of Way

Mixed Use Allocation

Residential Allocation

Stone Curlew Protection Buffer

Stone Curlew Nesting Buffer

County Wildlife Site

Scheduled Monument

Ramsar

SAC

SSSI

National Nature Reserve

Parks and Gardens

Conservation Area

Flood Zone 2

Flood Zone 3

Potential Development Areas

PDA 6 - Land South of the A14

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FIGURE 9F  
PDA 6:  
LAND SOUTH OF THE A14  
CONSTRAINTS

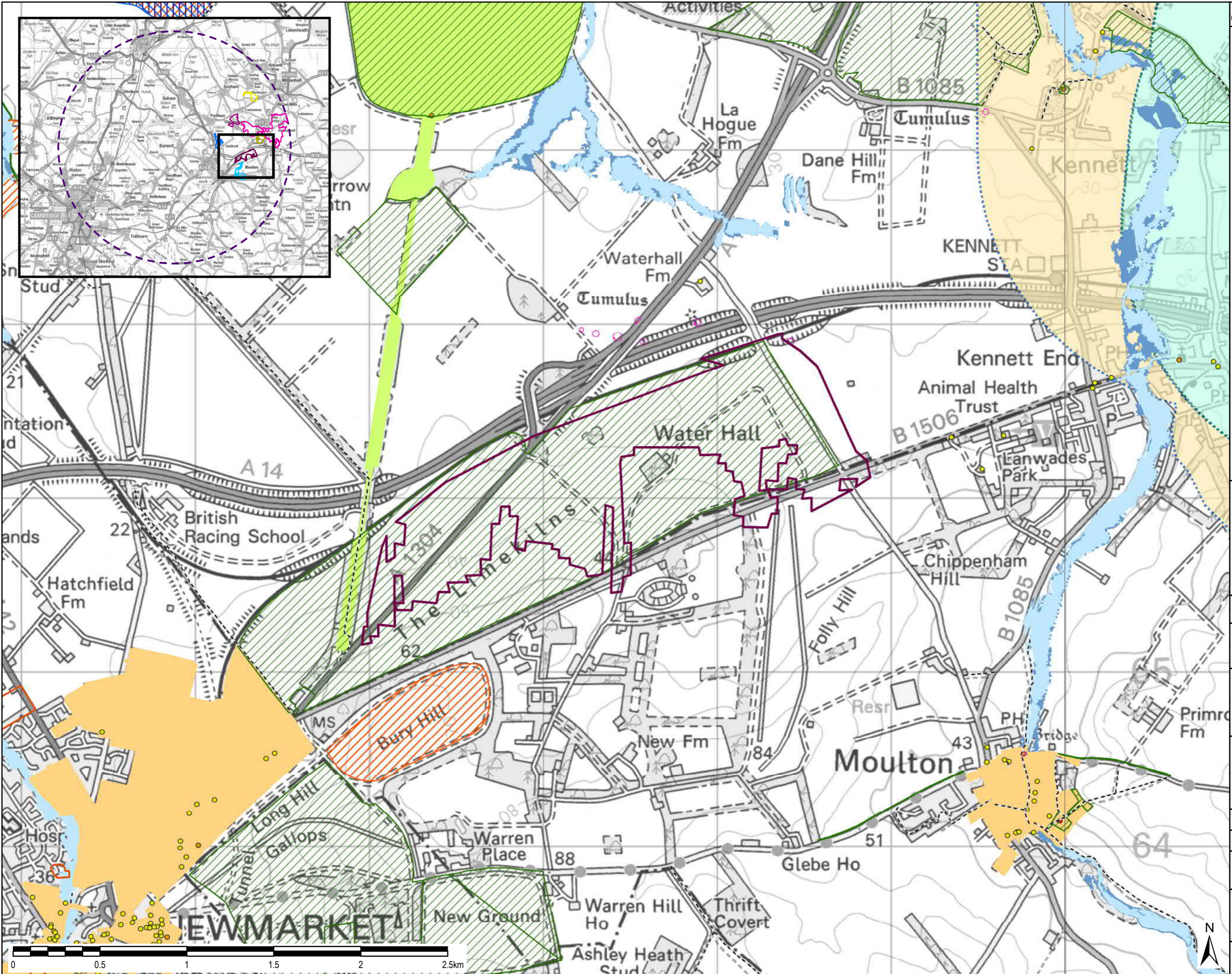
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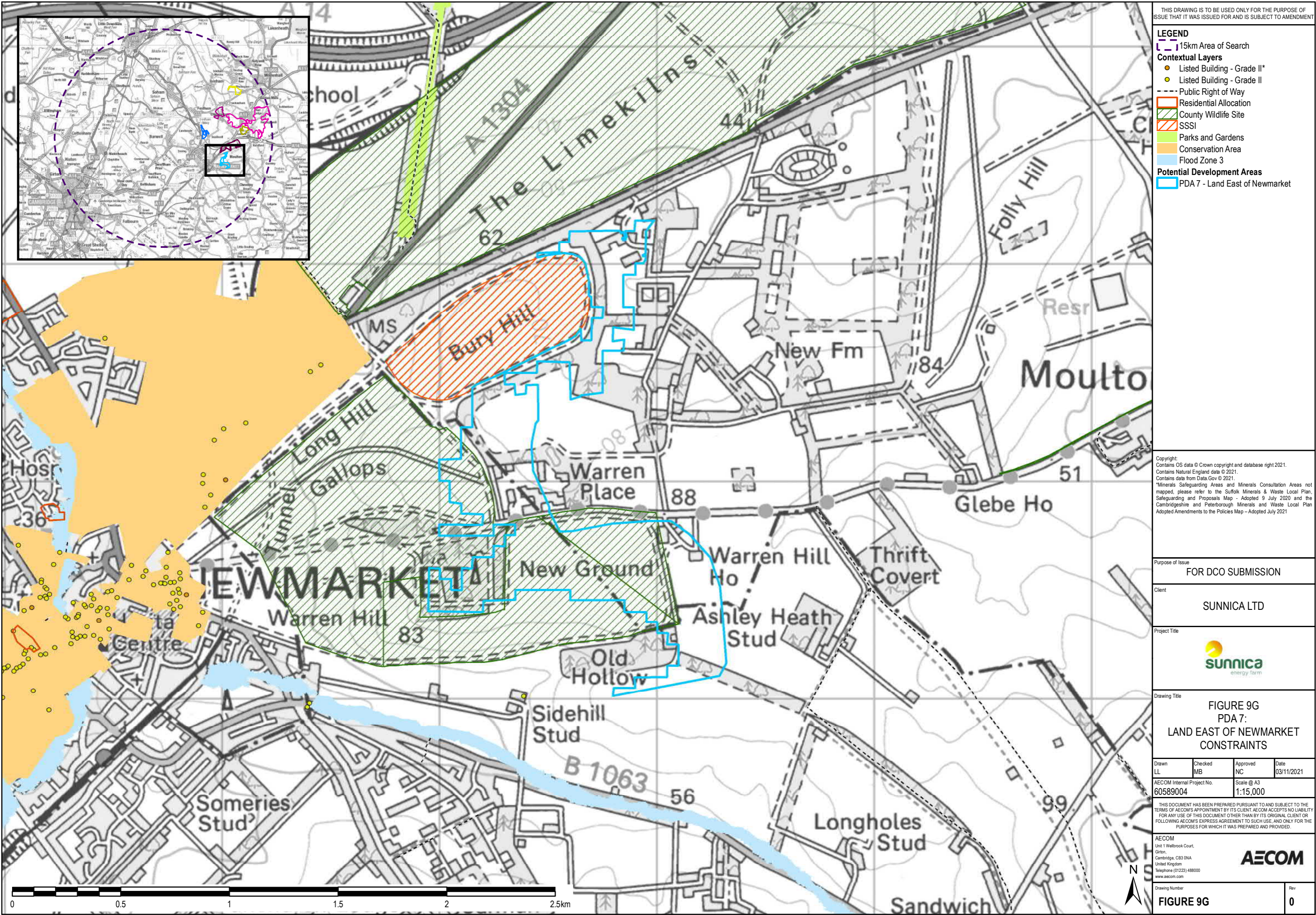
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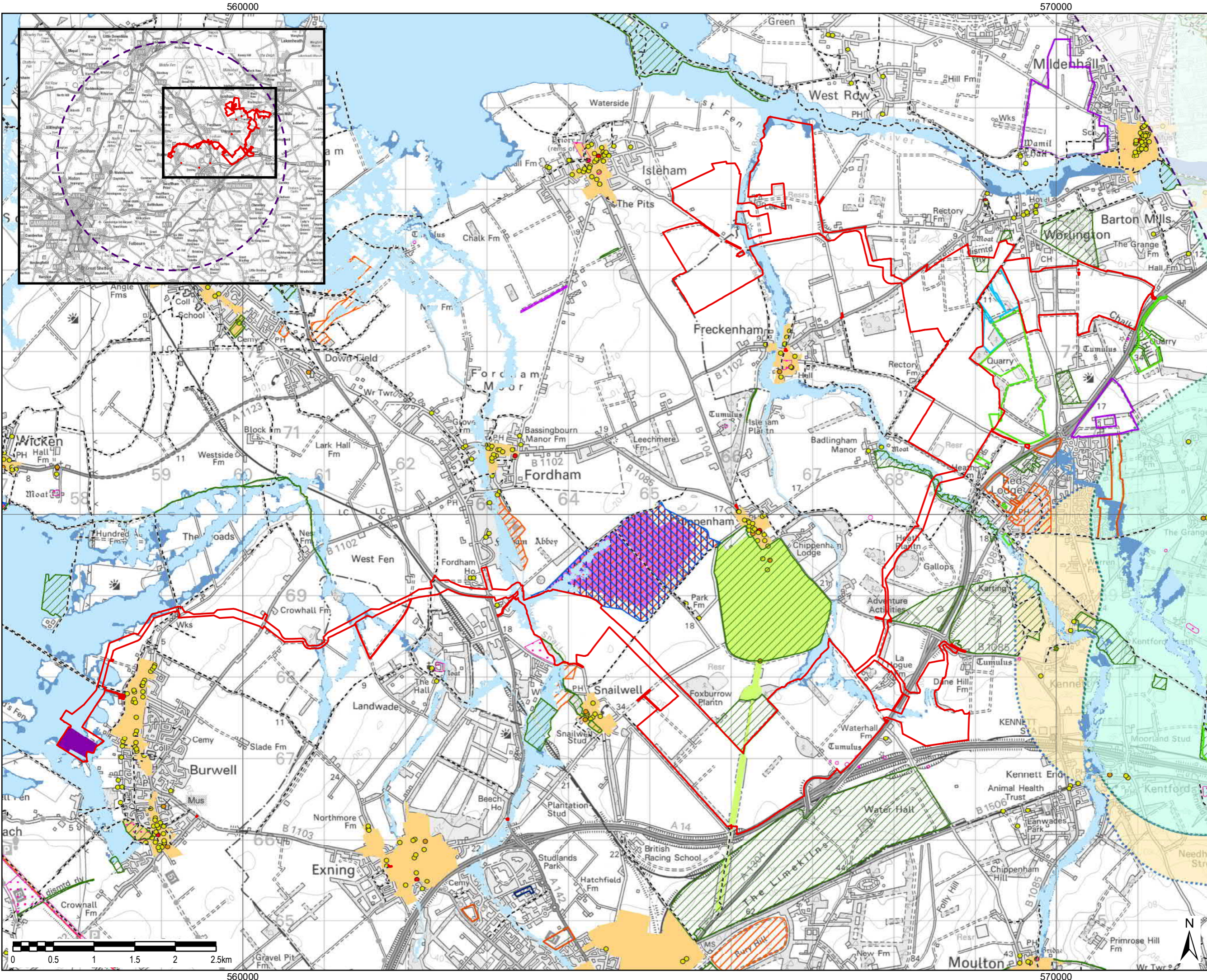
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- LEGEND**
- Burwell National Grid Substation
  - The Order Limits
  - 15km Area of Search
  - Contextual Layers**
    - Listed Building - Grade I
    - Listed Building - Grade II\*
    - Listed Building - Grade II
    - Public Right of Way
    - Safeguarded Waste Site
    - Proposed Minerals Site
    - Employment Allocation
    - Mixed Use Allocation
    - Residential Allocation
    - Stone Curlew Protection Buffer
    - Stone Curlew Nesting Buffer
    - Local Nature Reserve
    - County Wildlife Site
    - Scheduled Monument
    - Ramsar
    - SAC
    - SSSI
    - SPA
    - National Nature Reserve
    - Parks and Gardens
    - Conservation Area
    - Flood Zone 2
    - Flood Zone 3

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**FIGURE 9H  
SCHEME BOUNDARY  
CONSTRAINTS**

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LEGEND

15km Area of Search

Potential Development Areas

PDA 1 - Land West of Worlington

Slope Gradient (%)

0 - 0.5

0.5 - 1

1 - 1.5

1.5 - 2

2 - 2.5

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Drawing Title  
FIGURE 10A  
PDA 1:  
LAND WEST OF WORLINGTON  
TOPOGRAPHY

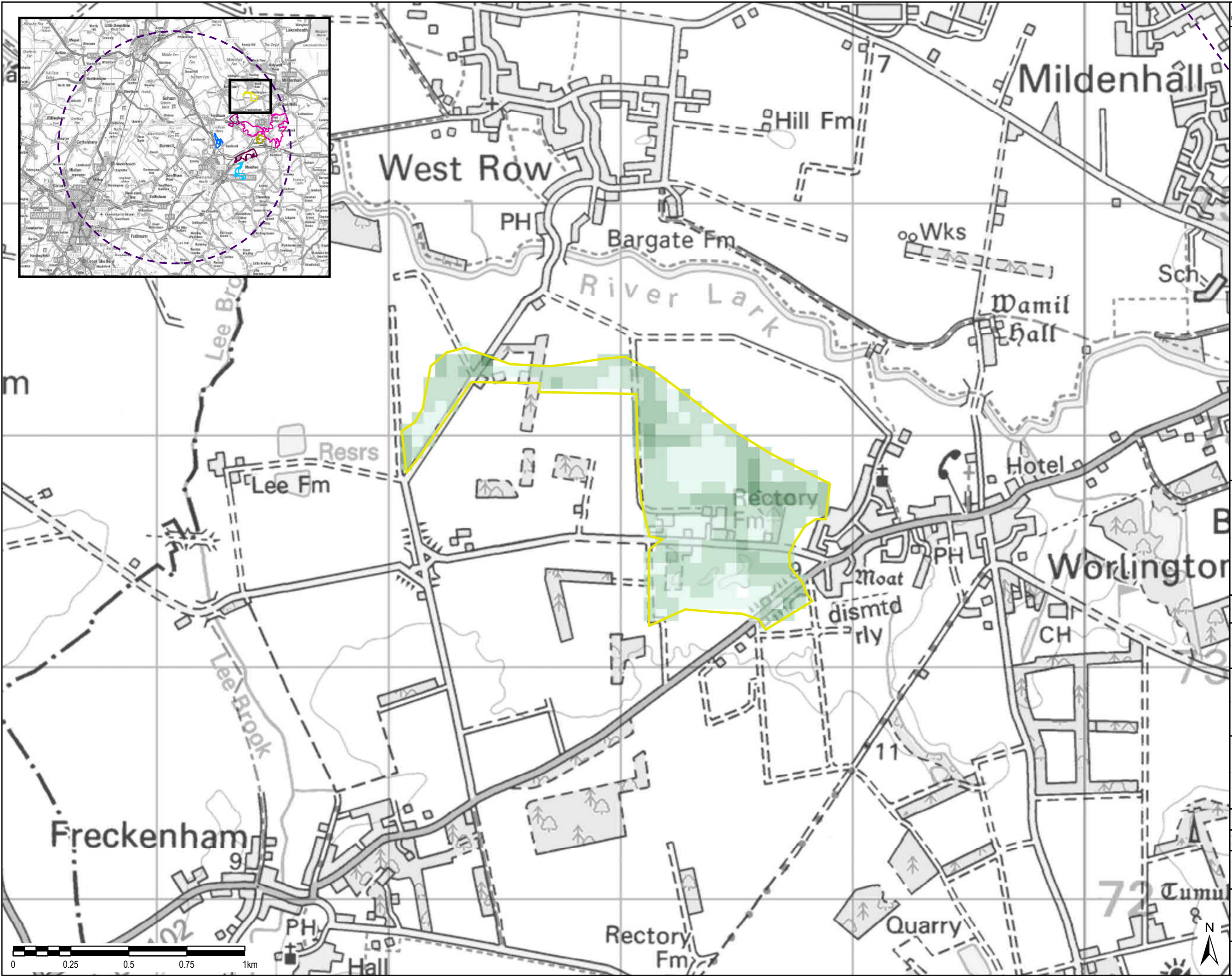
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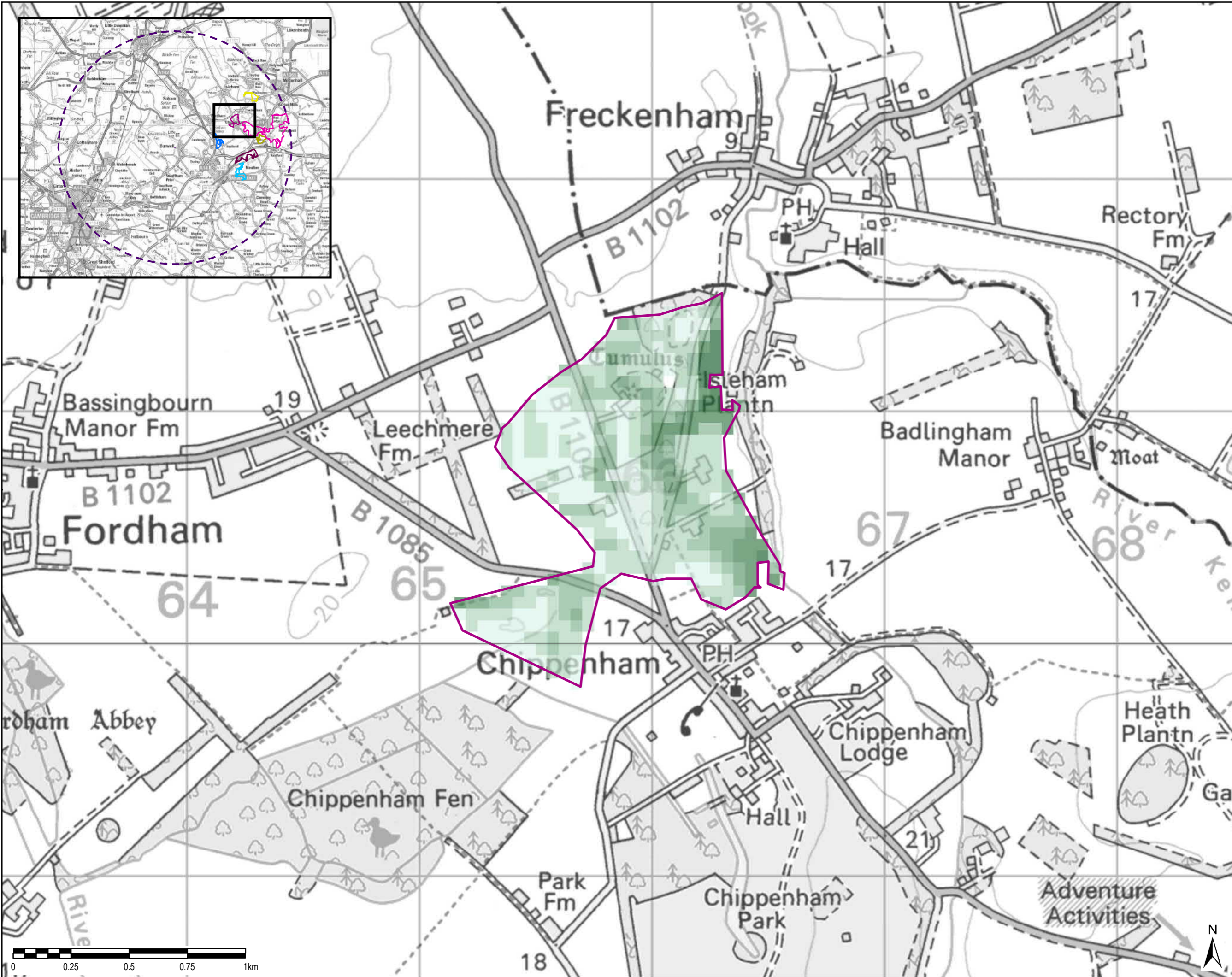
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**LEGEND**

- 15km Area of Search
- Potential Development Areas
- PDA 2 - Land South of Freckenham
- Slope Gradient (%)
  - 0 - 0.5
  - 0.5 - 1
  - 1 - 1.5
  - 1.5 - 2
  - 2 - 2.5
  - 2.5 - 3

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Drawing Title  
FIGURE 10B  
PDA 2:  
LAND SOUTH OF FRECKENHAM  
TOPOGRAPHY

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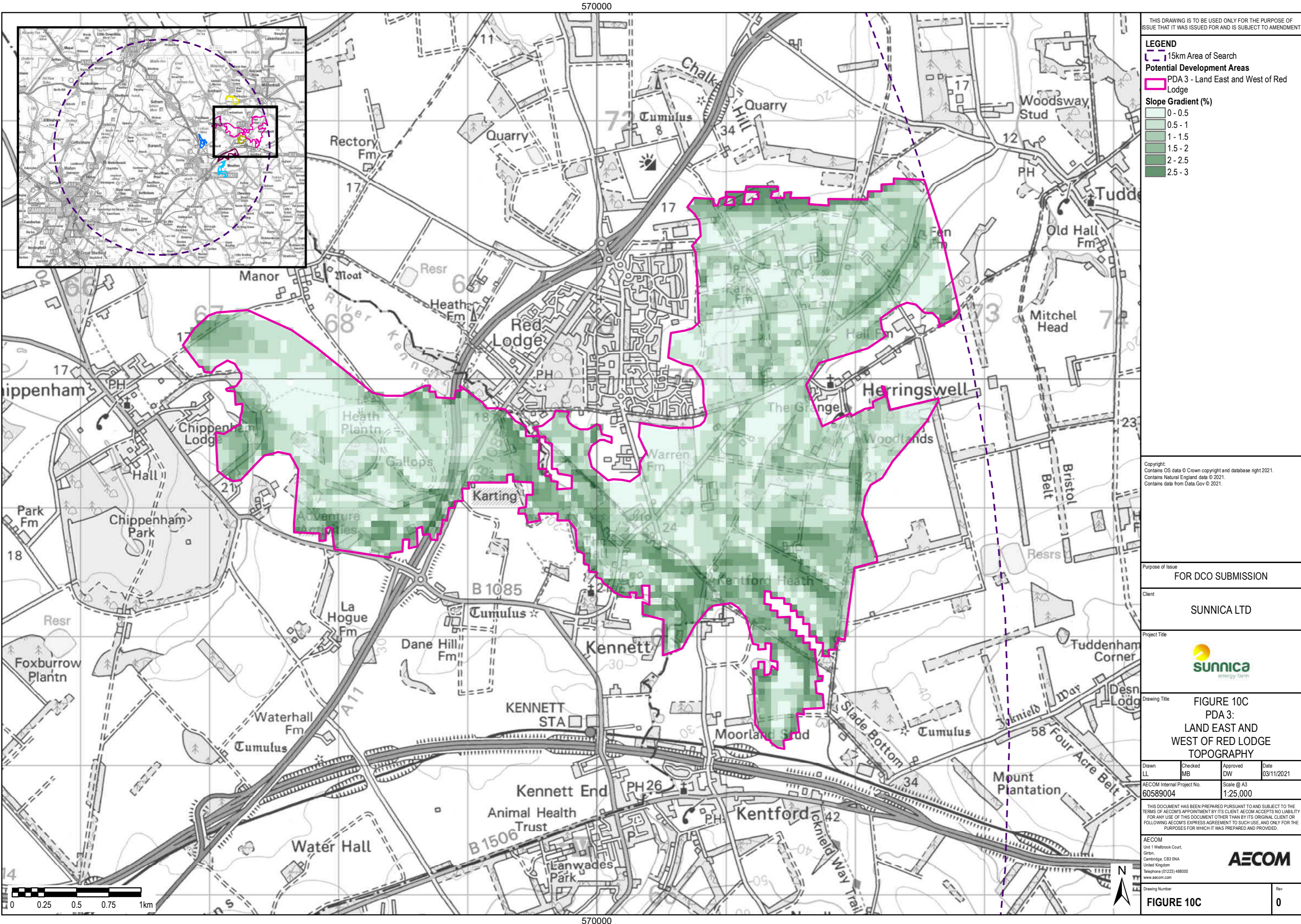
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LEGEND

15km Area of Search

Potential Development Areas

PD4 - Land at Dane Hill Farm

Slope Gradient (%)

0 - 0.5

0.5 - 1

1 - 1.5

1.5 - 2

2 - 2.5

2.5 - 3

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FIGURE 10D  
PDA 4:  
LAND AT DANE HILL FARM  
TOPOGRAPHY

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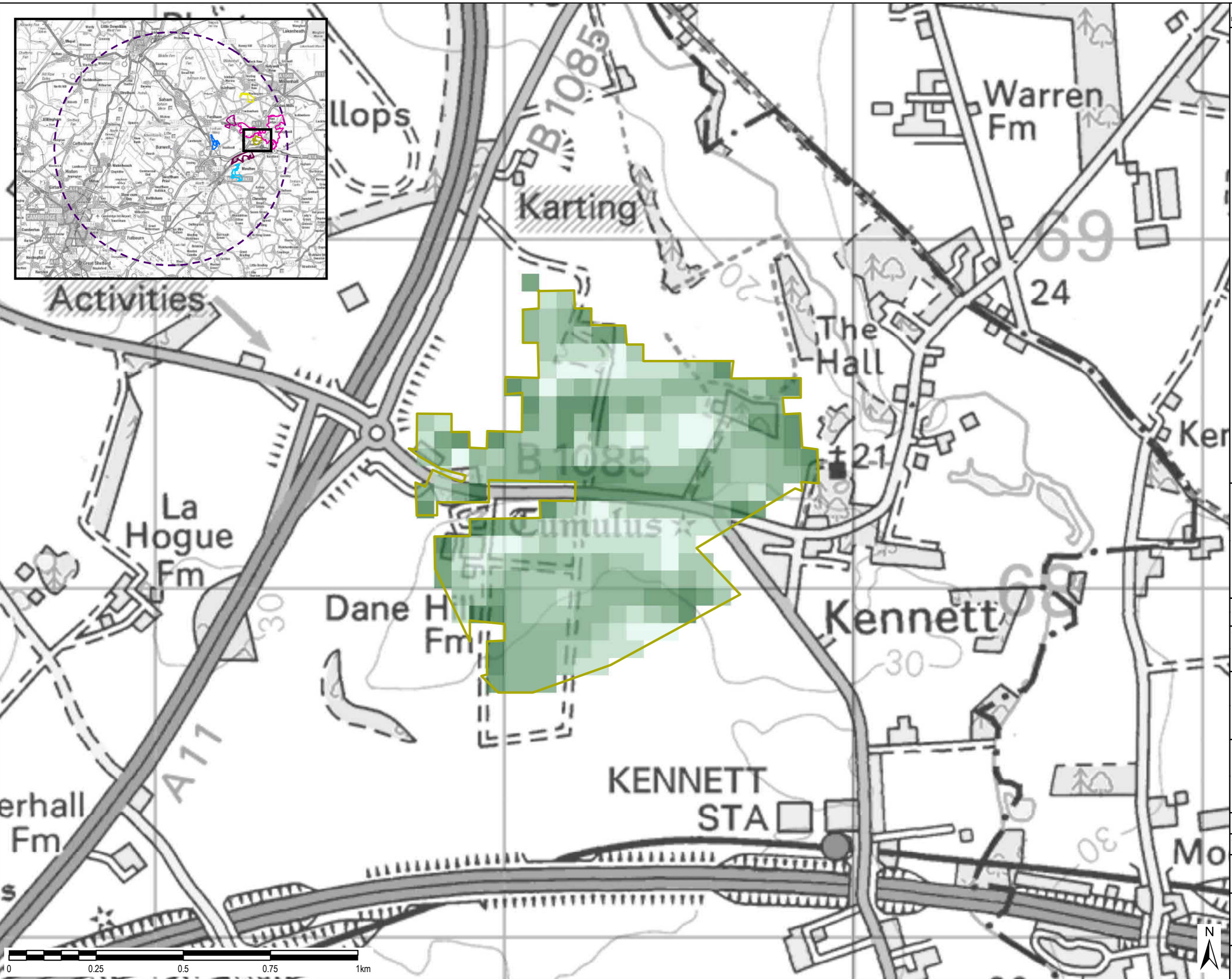
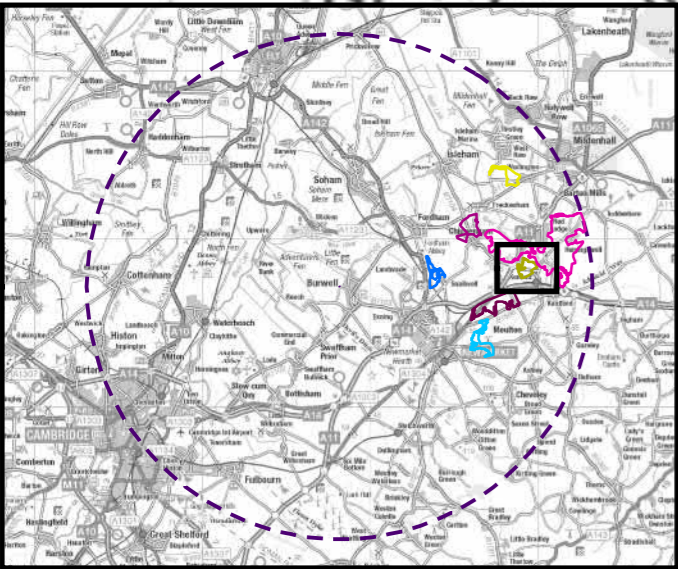
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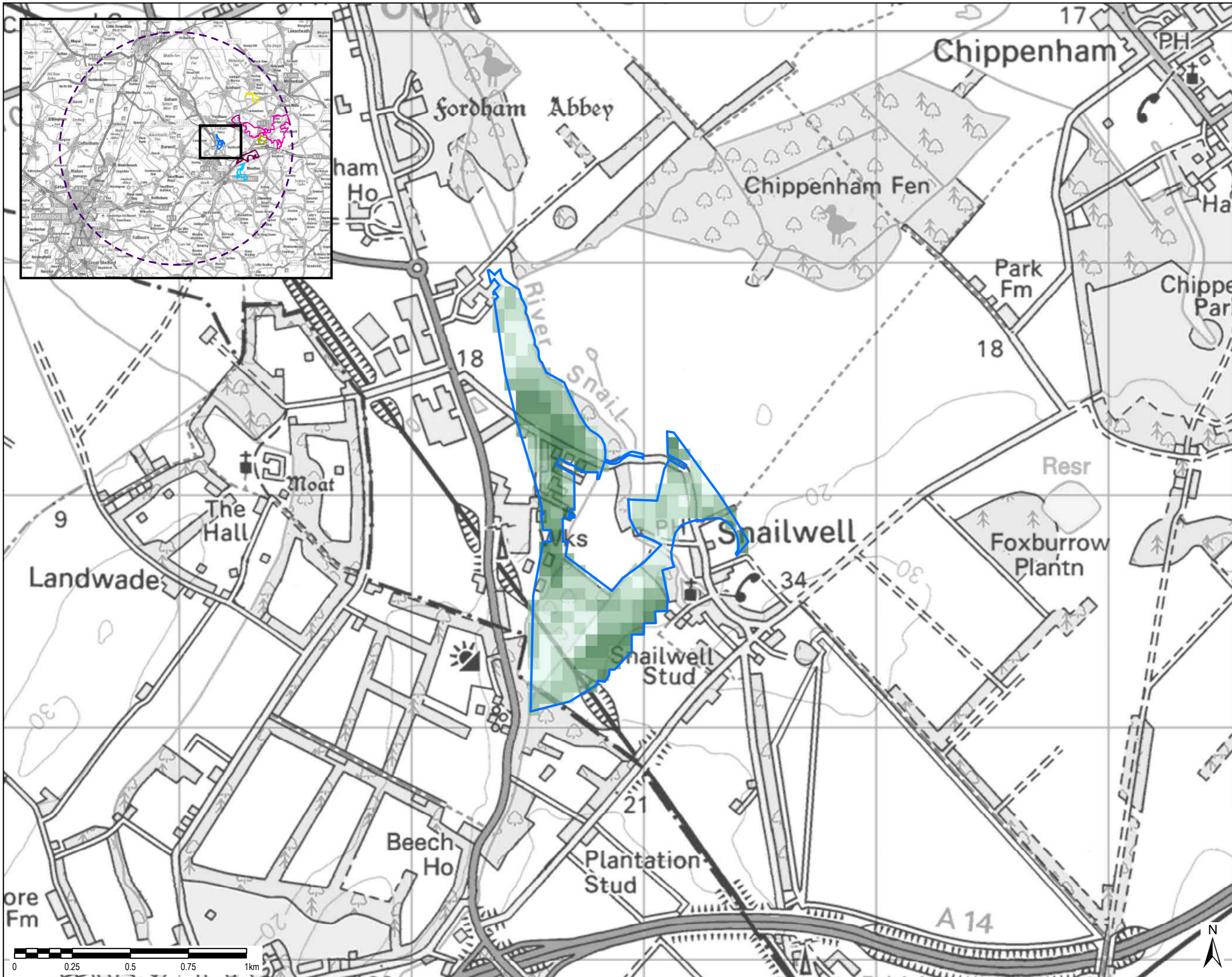
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**LEGEND**

- 15km Area of Search
- Potential Development Areas
- PD5 - Land at Snailwell
- Slope Gradient (%)
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 2.5
- 2.5 - 3

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Drawing Title  
FIGURE 10E  
PDA 5:  
LAND AT SNAILWELL  
TOPOGRAPHY

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LEGEND

15km Area of Search

Potential Development Areas

PD6 - Land South of the A14

Slope Gradient (%)

0 - 0.5

0.5 - 1

1 - 1.5

1.5 - 2

2 - 2.5

2.5 - 3

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Drawing Title  
FIGURE 10F  
PDA6:  
LAND SOUTH OF THE A14  
TOPOGRAPHY

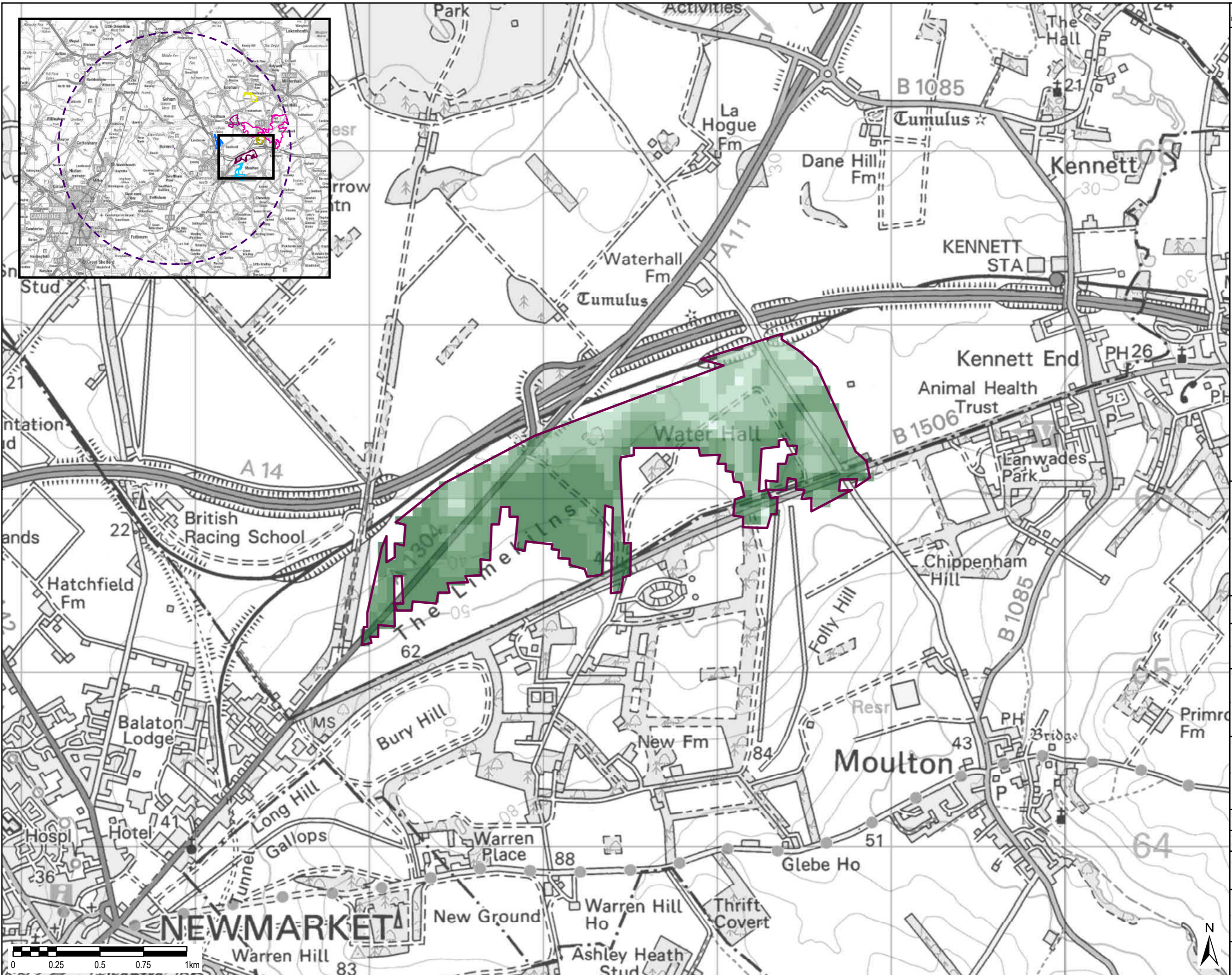
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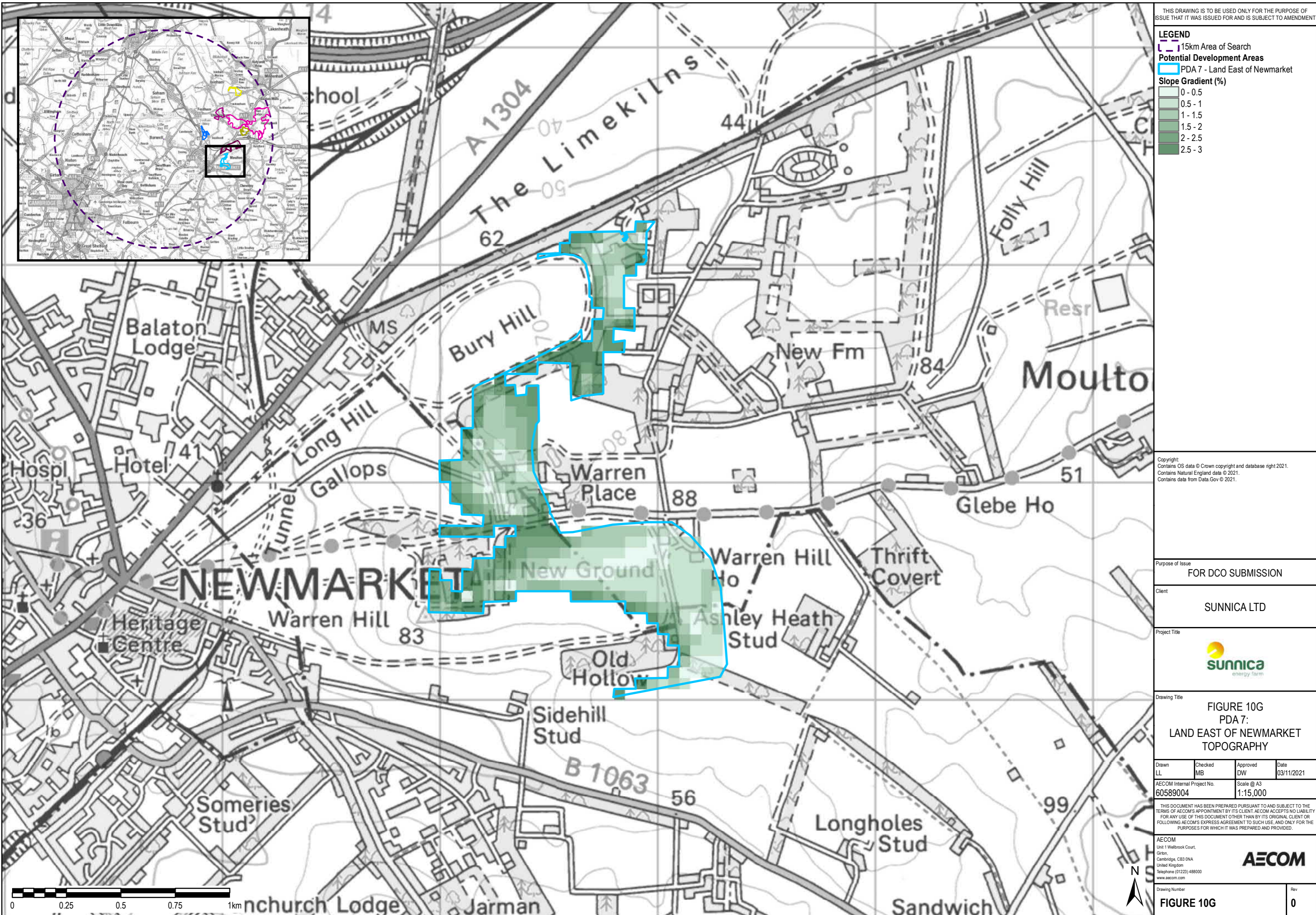
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- LEGEND**
- 15km Area of Search
  - Potential Development Areas
  - PDA 7 - Land East of Newmarket
  - Slope Gradient (%)
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  - 0.5 - 1
  - 1 - 1.5
  - 1.5 - 2
  - 2 - 2.5
  - 2.5 - 3

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FIGURE 10G  
PDA 7:  
LAND EAST OF NEWMARKET  
TOPOGRAPHY

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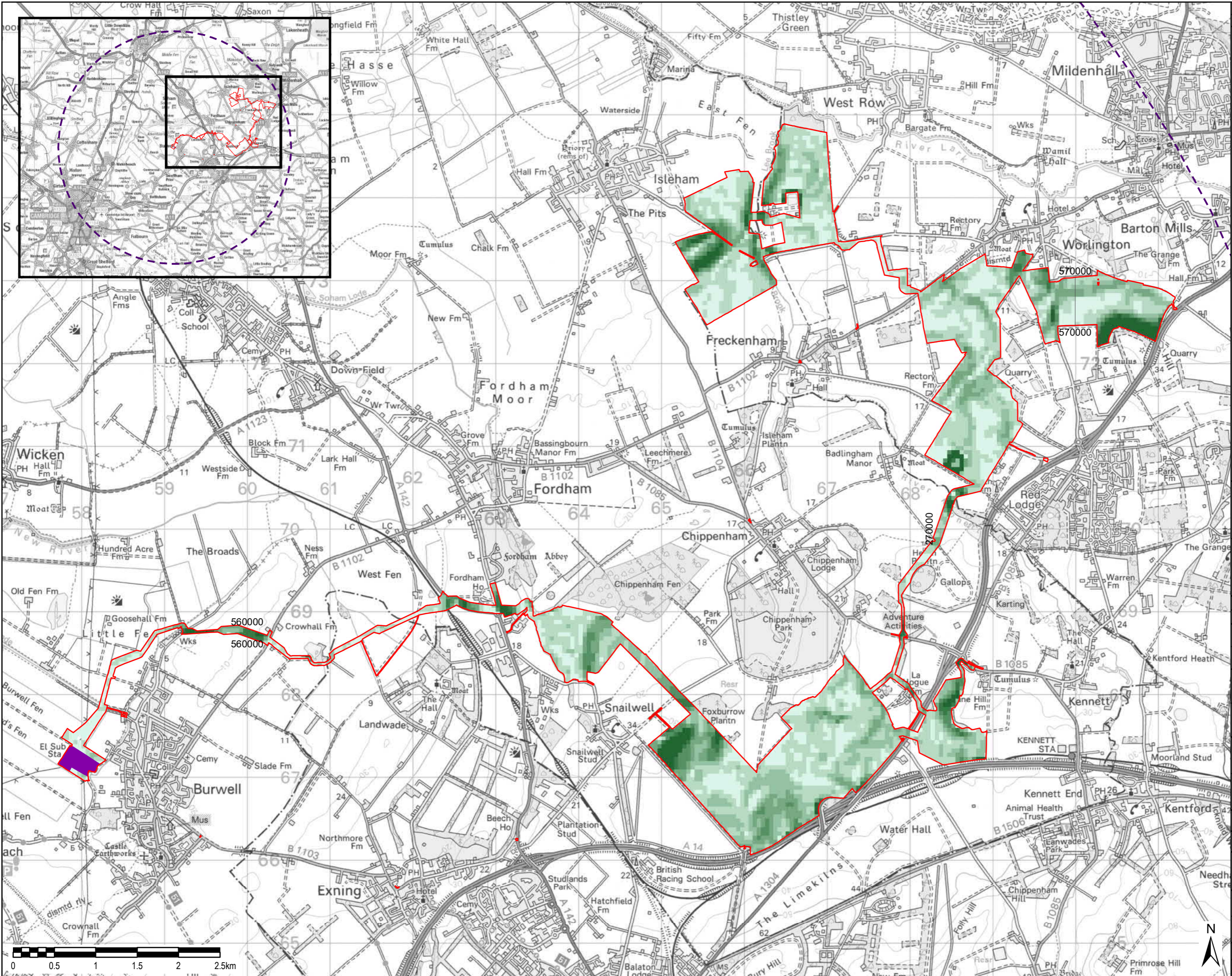
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**LEGEND**

- The Order Limits
- Burwell National Grid Substation
- 15km Area of Search
- Slope Gradient (%)**
- 0 - 0.5
- 0.5 - 1
- 1 - 1.5
- 1.5 - 2
- 2 - 2.5
- 2.5 - 3
- >3

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**FOR DCO SUBMISSION**

Client  
**SUNNICA LTD**

Project Title  


Drawing Title  
**FIGURE 10H  
SCHEME BOUNDARY  
TOPOGRAPHY**

|  |               |                        |                    |
|--|---------------|------------------------|--------------------|
| Drawn<br>LL                            | Checked<br>MB | Approved<br>DW         | Date<br>03/11/2021 |
| AECOM Internal Project No.<br>60589004 |               | Scale @ A3<br>1:42,052 |                    |

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| Drawing Number<br><b>FIGURE 10H</b> | Rev<br><b>0</b> |
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**AECOM**

## Annex E Potential Development Area Proformas

| Indicator                | PDA 1: Land west of Worlington |   | PDA 2: Land South of Freckenham |  | PDA 3: Land east and west of Red Lodge |   | PDA 4: Land at Dane Hill Farm |   | PDA 5: Land at Snailwell |   | PDA 6: Land south of the A14 |  | PDA 7: Land east of Newmarket |  | Sunnica Sites |   |
|--------------------------|--------------------------------|---|---------------------------------|--|--|---|-------------------------------|---|--------------------------|---|------------------------------|--|-------------------------------|--|---------------|---|
| Size                     | 75ha                           |   | 112ha                           |  | 928ha                                  |   | 74ha                          |   | 59ha                     |   | 170ha                        |  | 91ha                          |  | 983ha         |   |
| Indicator                | RAG                            | Justification   | RAG                             | Justification  | RAG                                    | Justification   | RAG                           | Justification   | RAG                      | Justification   | RAG                          | Justification  | RAG                           | Justification  | RAG           | Justification   |
| Ecology and Biodiversity |                                | There are no designated international and national ecological and geological sites within PDA 1 or adjacent.<br><br>The development of PDA 1 will require the removal of some linear belts of shrubs and trees which may result in the loss of habitats.  |                                 | There are no designated international and national ecological and geological sites within PDA 2. Chippenham Fen and Snailwell Poor's Fen SSSI and Chippenham Fen Ramsar site, SAC and NNR are adjacent to the boundary at the south.<br><br>A CWS can be found along Chippenham Road towards the north-east of the site.<br><br>To develop the PDA for solar removal of woodland may be required which would result in the loss of habitats. It is considered that there are some constraints associated with development on this site with respect to biodiversity. |  | The Brecklands SPA Stone Curlew Protection buffer covers approximately 50% of the PDA. Three CWS cross areas of the PDA.<br><br>Additionally, The Breckland Farmland SSSI is adjacent to the PDA boundary east. Red Lodge Heath SSSI can be found adjacent to the PDA at Turnpike Road.<br><br>Given the large size of this PDA there are likely to be some unconstrained areas remaining.  |                               | There are no designated international and national ecological and geological sites within PDA 4.<br><br>The Brecklands SPA Stone Curlew Nesting Buffer covers approximately a third of the PDA.<br><br>A CWS covers approximately 45% of the PDA. With respect to ecology it is considered that development on this PDA would result in the loss of a significant portion of the CWS which will not be able to be mitigated.  |                          | There are no designated international and national ecological and geological sites within PDA 5 however the Snailwell Meadows SSSI is adjacent to the PDA boundary.<br><br>There are two CWS's which cover approximately 25% of the PDA therefore, it is considered that development within the PDA will result in the loss of the CWS's or in order to retain them a reduction in the developable area.  |                              | Approximately 90% of the PDA falls within a CWS.<br><br>There are no designated international and national ecological and geological sites within PDA 2 however, Newmarket Heath SSSI can be found adjacent to the south west of the development boundary.<br><br>Development of this PDA would result in the loss of approximately 90% of a CWS which would not be able to be mitigated.  |                               | There are no designated international and national ecological and geological sites within PDA 6.<br><br>Approximately 40% of the PDA falls within a CWS.<br><br>Development on PDA 7 will require the removal of woodland as well as a significant portion of the CWS which would not be able to be mitigated.   |               | There are no designated international and national ecological and geological sites within the Sites.<br><br>Two CWS fall entirely within Sunnica East Site B and one is partially within Sunnica West Site B however given their small size relative to the size of the Sites their loss can be avoided.<br><br>The Snailwell Meadows SSSI is adjacent to the south of Sunnica West Site B. The Chippenham Fen and Snailwell Poor's Fen SSSI, Chippenham SAC, Ramsar and NNR are also adjacent to the north of Sunnica West Site B.   |
| Indicator                | RAG                            | Justification   | RAG                             | Justification  | RAG                                    | Justification   | RAG                           | Justification   | RAG                      | Justification   | RAG                          | Justification  | RAG                           | Justification  | RAG           | Justification   |
| Landscape and Visual     |                                | There are no nationally or locally designated protected landscapes adjacent or in close proximity of the PDA.<br><br>PDA 1 is in close proximity to some local community receptors. Rectory Farm and a number residential buildings are located within the PDA, The village of Worlington is also adjacent to the east of the PDA 1 boundary therefore, their occupants would have views of any development on this site. |                                 | There are no nationally or locally designated protected landscapes adjacent or in close proximity of the PDA.<br><br>A PRoW footpath lies within the PDA therefore it is likely that development will be visible from this path unless suitable screening is adopted.<br><br>The PDA is in close proximity to some local community receptors with Freckenham village located approximately 700m north and Chippenham approximately 400m south it is likely they would have views of development on this  |  | There are no nationally or locally designated protected landscapes adjacent or in close proximity of the PDA.<br><br>Approximately five PRoW can be found across PDA 3 therefore, it is likely that development will be visible to them unless suitable screening is adopted.<br><br>The PDA is in close proximity to some local community receptors such as Red Lodge village which is adjacent to the PDA boundary and Chippenham which is 900m to the west, Kennett which is 500m to the south and |                               | There are no nationally or locally designated protected landscapes adjacent or in close proximity of the PDA<br><br>A PRoW footpath lies within PDA 4 towards the east, it is likely that development will be visible from this path unless suitable screening is adopted.<br><br>Between Dane Hill Road and Station Road which is adjacent to PDA 4, there are a number of local community receptors including residential properties and a Kennett Primary School. It is likely that members of the local community will have close |                          | There are no nationally or locally designated protected landscapes adjacent or in close proximity of the PDA.<br><br>The occupants of the Industrial Estate at Lynx Business park which lies within PDA 5 will have view of any potential development within the PDA.<br><br>The Snailwell Road Transport Infrastructure Area and the associated consultation area allocated under Policy 15 of the Cambridgeshire and Peterborough Minerals and Waste Local Plan is also located within the PDA. |                              | There are no nationally or locally designated protected landscapes adjacent or in close proximity of the PDA.<br><br>One PRoW is adjacent to the boundary of PDA 3 and it is likely development will be visible from here unless suitable screening is adopted.<br><br>The closest settlements are Moulton and Kennett which are located approximately 1.8km south east and north east of the PDA and therefore they may have some views of development. |                               | There are no nationally or locally designated protected landscapes adjacent or in close proximity of the PDA.<br><br>There are a number of residential properties within the PDA at Longhill Cottages. Newmarket Town is approximately 1km west of PDA 7. The close proximity to these local community receptors mean that they with have views of and development within this PDA.. |               | There are no nationally or locally designated protected landscapes adjacent or in close proximity of the Scheme.<br><br>A PRoW cuts across the middle of Sunnica East Site B, there are also a number of PRoW which run adjacent to the Sunnica East Site A and Sunnica West Site A These would have views of the development unless suitable screening is adopted.<br><br>A number of villages are located within 1km of the Sites such as Worlington, Freckenham, Isleham and Snailwell which will have views of the development. There is potential to mitigate these views through new woodland and hedgerows |

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|-----------|--------------------------------|--|---------------------------------|--|--|--|-------------------------------|---|--------------------------|---|------------------------------|---|-------------------------------|--|---------------|--|
|           |                                |  |                                 | site. The size of PDA 2 will unlikely allow for the development to be buffered from these settlements.   |  | Herringswell which is 100m east. It is likely these villages will have close views of any development within the PDA.  |                               | views of any development within the PDA.  |                          | The village of Snailwell is a local community receptor which is adjacent to the eastern boundary of the PDA and therefore will also have views of any development.  |                              |   |                               |  |               | implemented through the Scheme to provide screening.   |
| Indicator | RAG                            | Justification  | RAG                             | Justification  | RAG                                    | Justification  | RAG                           | Justification   | RAG                      | Justification   | RAG                          | Justification   | RAG                           | Justification  | RAG           | Justification  |
| Land Use  |                                | <p>The PDA appears to be agricultural land with some areas of woodland. There are associated agricultural buildings particularly at Rectory Farm which is within the PDA.</p> <p>The site entirely falls within a Mineral Safeguarding Area. Development of this area would lead to a temporary sterilisation of the resource.</p> <p>There are no adopted or emerging local development plan allocations on the PDA or within the PDA's vicinity.</p> <p>Development of this PDA would result in the displacement of existing agricultural uses.</p> <p>Isleham Road crosses through this PDA from the west which essentially splits the site.</p> <p>There are no PRoW within PDA 1.</p> |                                 | <p>The PDA appears to be agricultural land with some associated agricultural buildings and a woodland plantation.</p> <p>There is one PRoW footpath within the PDA boundary from Freckenham Road to Badlingham Road.</p> <p>The PDA falls entirely within a Mineral Safeguarding Area and crosses part of the consultation area for the Chippenham Sewage Treatment Works.</p> <p>Development of this area would lead to a temporary sterilisation of the resource.</p> <p>There are no adopted or emerging local development plan allocations on the PDA or within the PDA's vicinity.</p> <p>Development of this PDA would result in the displacement of existing agricultural uses.</p> <p>Freckenham Road and the B1104 cross through the PDA from the north to the south which splits the site into 3 sections.</p> |  | <p>There are a number of existing land uses which can be found within the PDA boundary. These include the WildTracks Outdoor Activity Park between the A11 and B1085 and Red Lodge Karting which is east of the B1085. Kennett Pumping Station (water treatment plant) is also located within the PDA at Dane Hill Road as well as a few residential properties and The Manor Museum on Herringswell Road. These uses would either be lost or buffers set around these which would reduce the development area.</p> <p>Approximately five PRoW can be found running across the PDA, these include footpaths and byways open to all traffic.</p> <p>As part of the Forest Heath and West Suffolk Site Allocations Plan, the land east of Red Lodge has been allocated for residential development (SA9(b)(c)) which planning permission has also been granted for, this site falls partially within PDA 2. A mixed use allocation (SA10(a)) also crosses the Northern edge of the site at Newmarket Road.</p> <p>There is also indication of horseracing uses in some parts of the PDA, west of the A11 and east of Heath Plantation.</p> <p>The majority of the PDA falls within a Mineral</p> |                               | <p>The PDA is majority agricultural land with a few pockets of woodland.</p> <p>Dane Hill Farm and Dane Hill Cottages are located within the PDA.</p> <p>There is one PRoW towards the east of the PDA boundary, starting at Dane Hill Road towards the north of the site.</p> <p>The PDA falls entirely within a Mineral Safeguarding Area. The Red Lodge Transfer station waste management area and the associated consultation area as well as the consultation area for the Kennett Sewage Treatment Works fall within PDA 4.</p> <p>The B1085 crosses the PDA from the west to the east which essentially splits the site.</p> |                          | <p>PDA 5 is covered by woodland as well as agricultural land. A significant portion of the PDA is also covered by the Lynx Business Park.</p> <p>The 2015 East Cambridgeshire Local Plan, under policies FRD,4, FRD5 and FRD6 allocates a number of sites which fall with the PDA for employment related development.</p> <p>The PDA falls entirely within a Mineral Safeguarding Area. Parts of the Snailwell Road Transport Infrastructure Area and its associated consultation area also fall within PDA 5.</p> <p>A railway line also crosses the south of PDA 5.</p> <p>Snailwell Road crosses through PDA 5 towards the north of site.</p> <p>Part of the PRoW which leads to Fordham Road at the east of the site crosses the PDA boundary</p> |                              | <p>The PDA is within an existing horse racing ground known as The Limekilns which is part of The Jockey Club Estates training grounds. Development of this PDA would result in the loss of horse racing uses and so would conflict with local planning policy protecting the horse racing industry in Newmarket from development that would prejudice its operations.</p> <p>The A1304 cuts through the site towards the north west of the PDA.</p> |                               | <p>PDA 7 is entirely agricultural land with pockets of woodland. PDA 7 also partially lies within the Jockey Club Estates horse racing training grounds. Development would therefore result in the loss of horse racing uses which conflicts with local planning policies which seek to protect the horse racing industry.</p> <p>There are a few residential properties within the PDA at Longhill Cottages,</p> <p>There are no adopted or emerging local development plan allocations on the PDA or within the PDA's vicinity.</p> <p>Development of this PDA would result in the displacement of existing agricultural uses.</p> <p>Moulton Road crosses through PDA7 from the west to the east which essentially splits the site.</p> |               | <p>The vast majority of the Sites are located on non-best and most versatile agricultural land- with some parts of the Sites being identified as non-agricultural land.</p> <p>One PRoW cuts across the middle of Sunnica East Site B, there are also a number of PRoW which run adjacent to the Sunnica East Site A and Sunnica West Site A but this can be accommodated within the Scheme given the size of the Sites</p> <p>The Sites are located within Mineral Safeguarding Areas. Development would therefore lead to a temporary sterilisation of the resource.</p> |

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|-------------------|--------------------------------|---|---------------------------------|--|--|--|-------------------------------|---|--------------------------|--|------------------------------|---|-------------------------------|---|---------------|---|
|                   |                                |   |                                 |  |  | <p>Safeguarding Area. Development of this area would lead to a temporary sterilisation of the resource. The Kennett Plantation farm and Red Lodge Transfer station waste management areas and their associated consultation area fall within the PDA as well as parts of the consultation area for Kennett Landfill.</p> <p>The A11 and B1085 cross the PDA 3 towards the middle of the site, reducing the developable area</p> <p>Development on this PDA will therefore conflict with a number of existing and proposed land uses.</p>   |                               |   |                          |  |                              |   |                               |   |               |   |
| Indicator         | RAG                            | Justification   | RAG                             | Justification  | RAG                                    | Justification  | RAG                           | Justification   | RAG                      | Justification  | RAG                          | Justification   | RAG                           | Justification   | RAG           | Justification   |
| Cultural Heritage |                                | <p>The Grade I listed building at the Church of All Saints is approximately 230m east of the PDA. The Church Farm (300m) and the Cross base 10 metres south of Chancel of Church of All Saints (230m) are Grade II listed buildings which are east of the site. These assets may have views of the Site which might be difficult to screen.</p> |                                 | <p>The Bowl barrow in Isleham Plantation scheduled monument is located within the centre of the PDA and therefore would require offsetting mitigation which would be difficult to provide without the loss of a significant area of the PDA.</p> <p>A number of Grade II Listed buildings can also be found within 500m south of the PDA boundary.</p> |  | <p>Chippenham Park Registered Park and Garden is located approximately 140m west of the PDA at its closest point.</p> <p>Three scheduled monuments can be found within the PDA boundary: Lumber Hill bowl barrow, 720m ENE of Chippenham Stud, Bowl barrow north west of Shooting Lodge Plantation 430m south west of The Grange and the Two bowl barrows 150m south east of Warrenhill Farm.</p> <p>The following Grade II Listed buildings are found within PDA 2: Home Farmhouse, The Gatehouse, Medina Rajneesh and the Watertower and Flanking Coach Houses 320 metres east of Medina Rajneesh. There are a number of Grade II and II* listed buildings within close proximity of the development boundary.</p> |                               | <p>There is one scheduled monument that is located within PDA 4; Howe Hill bowl barrow. A Grade II* Listed building at the Parish Church of St Nicholas which is 100m east and the Grade II School House the School listed building which is approximately 200m east.</p> <p>The presence of the Scheduled monument within the PDA and the need to provide a mitigation buffer constrains the developable area.</p> |                          | <p>The Roman villa S of Snailwell Fen Scheduled Monument lies within the PDA. The Snailwell Conservation area is also adjacent to the PDA boundary which also includes a number of Grade II and II* listed buildings. The presence of the Scheduled monument within the PDA and the need to provide a mitigation buffer constrains the developable area.</p> |                              | <p>Part of the Chippenham Hall Registered Park and Garden is approximately 100m to the west of the PDA boundary.</p> <p>The Bowl barrow 630m south east of Waterhall Farm, part of the Chippenham barrow cemetery scheduled monument is adjacent to the north eastern edge of the PDA boundary.</p> |                               | <p>There are no designated heritage assets within the PDA. The nearest designated asset is the Grade II listed building at the Barn to the north of Side Hill Stud Farmhouse which is approximately 400m west of the PDA.</p> |               | <p>Chippenham Park Registered Park and Garden formal parkland is approximately 120m north of Sunnica West Site A, the Avenue which leads up to and forms part of the Registered Park and Garden is partially within the Sunnica West Site A boundary to allow for mitigation planting/screening to be provided. Solar development could however be offset from the avenue boundary.</p> <p>There are no listed buildings within the Scheme boundary.</p> <p>The Four bowl barrows north of the A11/A14 junction, part of the Chippenham barrow cemetery scheduled monument is located within Sunnica West Site A however this is on the edge of the boundary of the site and therefore appropriate mitigation buffers can be provided. The Roman villa S of Snailwell Fen scheduled monument is also adjacent to the south western boundary of Sunnica West Site B.</p> |

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|---------------------------------|--------------------------------|--|---------------------------------|--|--|---|-------------------------------|---|-------------------------------|--|------------------------------|---|-------------------------------|--|---------------|--|
|                                 |                                |  |                                 |  |  | Given the size of this PDA there is the potential to provide mitigation buffers around these assets   |                               |   |                               |  |                              |   |                               |  |               |  |
| Indicator                       | RAG                            | Justification  | RAG                             | Justification  | RAG                                    | Justification   | RAG                           | Justification   | RAG                           | Justification  | RAG                          | Justification   | RAG                           | Justification  | RAG           | Justification  |
| Access for construction traffic |                                | The PDA is primarily served by the secondary road network. The B1102 Freckenham Road crosses the south-eastern edge of the site which could provide access. Isleham Road also cuts across the middle of the site which would also provide some access to PDA 1. The PDA is approximately 3km north of the A11 and 3.2km south west of the A1101. |                                 | The PDA is primarily served by the secondary road network. The B1104 and Freckenham Road cross through the middle of the PDA and could provide access however the PDA is approximately 2.4km west of the A11 and approximately 3.5km north of the A14. |  | The PDA is well served by the primary road network with the A11 Red Lodge Bypass running through the middle of the PDA. Construction vehicles would gain access to the PDA from the B1085 junction or from the Red Lodge North roundabout exit leading to Newmarket Road to Turnpike Road.  |                               | The PDA is primarily served by the secondary road network. The B1085 Dane Hill Road cuts across the middle of the PDA and could therefore provide access. The PDA is also approximately 200m of the A11 and approximately 0.5km north of the A14. |                               | The PDA is well served by the primary and secondary road network. The A142 is adjacent to the site on the west. Snailwell road and Fordham road also cross areas of the site which could also provide access.                                    |                              | The PDA is well served by the primary road network as the A14 Newmarket Bypass and A11 run almost adjacent to the north of the PDA. Construction vehicles would access the PDA from the A1304 which leads to both the A14 and A11 at Waterhall Interchange. Access could also be gained to the south of the PDA from the B1506 Well Bottom. |                               | PDA 7 can be accessed via the secondary road network, notably Moulton Road cuts across the middle of the site and could provide access for construction. The A14 and A1304 are approximately 2.4km and 2.2km north of PDA7 respectively while the A142 is approximately 1.5km to the west. |               | The Sunnica East Site B and Sunnica West Site A are well served by the primary road network. Sunnica West Site B and Sunnica East Site A are also served well by secondary roads. The A11 provides access to the Sunnica East sites via Elms Road. The A11 also provides access to Sunnica West sites via La Hogue Road, the B1085 and Dane Hill Road. |
| Indicator                       | RAG                            | Justification  | RAG                             | Justification  | RAG                                    | Justification   | RAG                           | Justification   | RAG                           | Justification  | RAG                          | Justification   | RAG                           | Justification  | RAG           | Justification  |
| Field Shading                   |                                | Some linear belts of shrubs and trees can be found within PDA 1. This covers less than 5% of the site.<br><br>There is no ancient woodland or veteran trees within the PDA   |                                 | A proportion of the PDA appears to be made up of trees/woodland. This covers about 20% of the PDA therefore, reducing the developable area and shading areas remaining.<br><br>There is no ancient woodland or veteran trees within the PDA.           |  | At least 160ha of pockets of woodland/trees can be found across the PDA, most notably around Herringswell. This significantly reduces the overall developable area of PDA 3.<br><br>There is no ancient woodland or veteran trees within the PDA.   |                               | Though there are some areas of woodland within the PDA this covers approximately 5% of the PDA and would be unlikely to affect field shading.<br><br>There is no ancient woodland or veteran trees within the PDA                                 |                               | The buildings at the Industrial Estate and the area of the site which are covered by woodland would result in field shading which reduces the developable area of the site.<br><br>There is no ancient woodland or veteran trees within the PDA. |                              | There is no field shading on this PDA such as trees/woodland.   |                               | There are a number of pockets of woodland within the PDA covering approximately 20ha of PDA 7, this will result in some field shading.<br><br>There is no ancient woodland or veteran trees within the PDA..   |               | Small pockets of trees/woodland can be found across the Sunnica Sites however given their size relative to the size of the Sites these are unlikely to affect field shading.<br><br>There is no ancient woodland or veteran trees within the Sunnica Sites.  |
| Indicator                       | RAG                            | Justification  | RAG                             | Justification  | RAG                                    | Justification   | RAG                           | Justification   | RAG                           | Justification  | RAG                          | Justification   | RAG                           | Justification  | RAG           | Justification  |
| Flood Risk                      |                                | The entire PDA has been identified as Flood Zone 1 therefore flood risk is considered to be low.   |                                 | The entire PDA has been identified as Flood Zone 1 however the River Kennett runs adjacent to the eastern boundary of the PDA. Hence, Flood Zone 2 and 3 areas have been identified just outside the PDA boundary.                                     |  | The majority of the PDA is within Flood Zone 1 however, parts of the PDA around the River Kennett which runs through the middle of the PDA have been identified as Flood Zone 2 and 3 areas.<br><br>Parts of the land around Warren Farm and Kentford Heath within the PDA have also been identified as Flood Zone 2 and 3 areas.<br><br>As parts of the PDA are subject to medium to |                               | The entire PDA has been identified as Flood Zone 1 therefore flood risk is considered to be low.  |                               | The middle section of PDA 5 is covered by Flood Zone 2 and 3 areas, these areas are associated with the River Snail. The remaining parts of the PDA are Flood Zone 1 areas.  |                              | The entire PDA has been identified as Flood Zone 1 therefore flood risk is considered to be low.  |                               | The entire PDA has been identified as Flood Zone 1 therefore flood risk is considered to be low.   |               | The vast majority of the Sunnica Sites are in Flood Zone 1 include some small areas associated with the River Lark, Lee Brook, River Snail and River Kennett which are within Flood Zones 2 and 3 and will require flood mitigation measures.  |

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|-----------------|--------------------------------|--|---------------------------------|---|--|--|-------------------------------|--|--------------------------|---|------------------------------|---|-------------------------------|--|---------------|--|
|                 |                                |  |                                 |   |  | high risk of flooding development on this PDA would require flood mitigation.  |                               |  |                          |   |                              |   |                               |  |               |  |
| Indicator       | RAG                            | Justification  | RAG                             | Justification   | RAG                                    | Justification  | RAG                           | Justification  | RAG                      | Justification   | RAG                          | Justification   | RAG                           | Justification  | RAG           | Justification  |
| Grid Connection |                                | The minimum distance between the PDA and the point of connection at Burwell Substation is approximately 11.2km, however the potential cable route is likely to be longer than this as it would require the crossing of the railway line as well as several roads including the A142. |                                 | The minimum distance between the PDA and the point of connection at Burwell Substation is approximately 7.5km however a potential cable route is likely to be longer than this as it would require the crossing of the railway line as well as several roads including the A142 Fordham Road. |  | The minimum distance between the PDA and the point of connection at Burwell Substation is approximately 9km however a potential cable route is likely to be longer than this as it would require the crossing of the railway line as well as the River Snail and several roads including the A142 Fordham Road.                    |                               | The minimum distance between the PDA and the point of connection at Burwell Substation is approximately 10.5km however a potential cable route is likely to be longer than this as it would require the crossing of the railway line as well as the River Snail and several roads including the A11 and the A142 Fordham Road. |                          | The minimum distance between the PDA and the point of connection at Burwell Substation is approximately 5.4km however a potential cable route is likely to be longer than this as it would require the crossing of the railway line as well as several roads including A142 Fordham Road. |                              | The minimum distance between the PDA and the point of connection at Burwell Substation is approximately 8km however a potential cable route is likely to be longer than this as it would require the crossing of the railway line as well as several roads including the A14 Newmarket Bypass.                                    |                               | The minimum distance between the PDA and the point of connection at Burwell Substation is approximately 8.5km however a potential cable route is likely to be longer than this as it would require the crossing of the railway line as well as several roads including the A14 Newmarket Bypass and the A142 Fordham Road. |               | The minimum distance between Sunnica West Site B and the point of connection at Burwell Substation is approximately 5.7km however, the Grid Connection Route B measures approximately 13km and will need to cross the road network, railway and River Snail. |
| Indicator       | RAG                            | Justification  | RAG                             | Justification   | RAG                                    | Justification  | RAG                           | Justification  | RAG                      | Justification   | RAG                          | Justification   | RAG                           | Justification  | RAG           | Justification  |
| Terrain         |                                | The land in PDA 1 varies between 0% and 2.5% gradient although, the land is predominantly between 0-1.5% gradient and therefore appears to be flat land. The northern parts of the PDA boundary vary between 1.5-2.5%. (see Figure 9A)   |                                 | The land in this PDA varies between 0% and 3% gradient however, the majority of the land is predominantly between 0-1.5% gradient and appears to be flat land. Towards the eastern boundary of the PDA the gradient of the land varies between 1.5-3%. (see Figure 9B)                        |  | The land within this PDA undulates (varying between 0-3% gradient). There are potential pockets of land of a similar terrain gradient west and within the northern section of the PDA however there are areas of undulation in the southern parts of the PDA this may reduce the optimisation of the solar arrays. (see Figure 9C) |                               | The land in PDA 4 undulates, varying between 0-3% gradient. The majority of the land within this PDA has a gradient ranging between 1.5-3%. As there is some undulation across the site this may reduce the optimisation of the solar arrays (see Figure 9D)   |                          | The overall gradient of the PDA varies between 0-3%. There are areas of land towards the middle and south of the PDA which have similar gradients ranging from 2-3% while other parts of the PDA vary from 0-2% gradient. This undulation may constrain development. (see Figure 9E)      |                              | There are areas of land within the PDA which benefit from being the same gradient and therefore flat terrain. In particular the areas of land identified as dark green which makes up approximately 50% of the site have a gradient of 2.5-3%. The overall gradient of the PDA predominantly varies between 1-3%. (see Figure 9F) |                               | PDA 7 varies between 0-3% gradient. Towards the south the majority of the land varies between t 0-1.5% gradient while the remaining land predominantly varies between 1.5-3% gradient. (see Figure 9G)   |               | Approximately 95% of the land within the Scheme boundary is varying between 0-3% gradient. There are large parts of the Sites which have a similar terrain of between 0-1.5% gradient. (see Figure 9H)   |