EAST PARK ENERGY

# East Park Energy

**EN010141**

## Environmental Statement
## Volume 2 – Technical Appendices

Appendix 3-1: Site Identification Report

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# EAST PARK ENERGY

Planning Act 2008

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

## Environmental Statement
## Volume 2 – Technical Appendices

## Appendix 3-1: Site Identification Report

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# EAST PARK ENERGY

## Site Identification Report

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## CONTENTS

**1.0 Introduction ..... 5**
1.1 Background ..... 5
**2.0 Policy, Guidance and approach ..... 6**
2.1 Guidance ..... 6
2.2 Approach ..... 9
**3.0 Stage 1 – Identification of the Area of Search ..... 10**
3.1 Overview ..... 10
3.2 Establishing a Point of Connection ..... 10
3.3 Establishing a Search Area ..... 11
**4.0 Stage 2 – Review of Brownfield and Previously Developed Land ... 13**
4.1 Introduction ..... 13
4.2 Scheme Specific Requirements ..... 13
4.3 Brownfield Land Registers ..... 14
4.4 Previously Developed Land ..... 14
4.5 Summary ..... 16
**5.0 Stage 3 – The Exclusion of Land Covered by Planning, Environmental and Other Spatial Constraints ..... 17**
5.1 Introduction ..... 17
5.2 Spatial Constraints ..... 17
5.3 Agricultural Land Classification ..... 18
5.4 Search Zones ..... 19
**6.0 Stage 4 – Factors influencing site selection ..... 20**
6.1 Appraisal of Search Zones ..... 20
6.2 Summary of Factors ..... 25
6.3 Further consideration of Previously Developed Land ..... 26
**7.0 Conclusion and Recommendation ..... 28**
7.1 Conclusion and Recommendation ..... 28
7.2 Refinement of Search Zone B ..... 29

## Figures

Figure 1 Area of Search
Figure 2 Brownfield and Previously Developed Land
Figure 3 Spatial Constraints
Figure 4 Land Removed from Area of Search
Figure 5 Agricultural Land Classification
Figure 6 Agricultural Land Classification and Search Zones
Figure 7 Search Zones
Figure 8 Refinement of Search Zone B
Figure 9 Search Zone

## Glossary

| Term | Definition |
|---|---|
| Solar Irradiance | Solar irradiance is the output of light energy that is received from the Sun and measured on Earth, and therefore it is the amount of light energy that actually reaches the Earth. |
| Agricultural Land Classification | Agricultural Land Classification (ALC) is a system used in England and Wales to grade the quality of land for agricultural use, according to the extent by which physical or chemical characteristics impose long-term limitations. |
| Best and Most Versatile Land | Land in Grades 1, 2 and 3a of the Agricultural Land Classification. |
| Brownfield Land | For the purpose of this report, Brownfield Land is taken to mean land which is on a Brownfield Land Register. |
| Grid Capacity | Grid capacity is how much power the system can reliably accept for new generation. |
| Overplanting | Overplanting refers to the situation in which the installed generating capacity or nameplate capacity of the facility is larger than the generator's grid connection. This allows developers to take account of degradation in panel array efficiency over time, thereby enabling the grid connection to be maximised across the lifetime of the site. |
| Previously Developed Land | For the purpose of this report, Previously Developed Land is taken to mean land which is not on a brownfield land register, but has been previously developed and which could now be suitable for solar development. (Note this definition departs from the NPPF definition). |

## Abbreviations

| Acronym | Definition |
|---|---|
| AONB | Area of Outstanding Natural Beauty |
| DCO | Development Consent Order |
| LNR | Local Nature Reserve |
| MW | Megawatt |
| NNR | National Nature Reserve |
| NPS | National Policy Statement |
| NSIP | Nationally Significant Infrastructure Project |
| PDL | Previously Developed Land |
| PoC | Point of Connection |
| PPG | Planning Practice Guidance |
| PV | Photovoltaic |
| SAC | Special Area of Conservation |
| SIR | Site Identification Report |
| SPA | Special Protection Area |
| SSSI | Site of Special Scientific Interest |

# 1.0 INTRODUCTION

## 1.1 Background

1.1.1 RNA Energy Ltd has instructed Axis to prepare this Site Identification Report (SIR) to assist them in identifying a suitable site area for a proposed solar farm (the 'Scheme') with a generating capacity of 400 megawatts (MW). The Scheme would be classified as a Nationally Significant Infrastructure Project (NSIP) due to its generating capacity, and therefore would require a Development Consent Order (DCO) prior to construction.

1.1.2 The purpose of this SIR is to identify a preferred 'Search Zone' for the Scheme, taking into consideration a range of planning, environmental and operational factors. This Search Zone can then be taken forward by RNA Energy Ltd to identify and engage with landowners.

1.1.3 The SIR is supported by figures which are appended to the end of this report.

# 2.0 POLICY, GUIDANCE AND APPROACH

## 2.1 Guidance

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

2.1.2 Policy and guidance that is important and relevant and can help with determining a suitable site location for solar development can be found within:

i) National Policy Statements for Energy;
ii) Planning Practice Guidance; and
iii) Development Plan policy.

2.1.3 In addition the Local Authorities' Local Plans have been reviewed to identify whether there are any specific requirements for locating large-scale solar farms.

### National Policy Statements

2.1.4 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. Solar farms are not currently covered by a designated NPS.

2.1.5 The revised energy NPSs were published for consultation in September 2021. Solar PV generation is covered within the Draft NPS for Renewable Infrastructure (EN-3). It is anticipated that at the time the East Park Energy DCO is determined, the updated Draft NPSs will be designated and the current NPSs superseded.

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

i) **Irradiance and Site Topography** – irradiance of a site is influenced by surrounding topography, with an uncovered or exposed site of good elevation and favourable south-facing aspect more likely to increase year-round irradiance levels;

ii) **Proximity of a Site to Dwellings** – the two main impact issues that determine distances to sensitive receptors are likely to be visual amenity and glint and glare;

iii) **Capacity of a Site** – the scale of a site is influenced by its generation capacity, which should be measured based on AC installed capacity, and Applicant's may 'overplant' solar panel arrays to allow for light induced degradation;

iv) **Grid Connection** – the capacity of the local grid network is critical to the technical feasibility of a development, and the connection voltage, availability of network capacity, and distance from the solar farm to the existing network can have a significant effect on the commercial feasibility of a development proposal;

v) **Agricultural Land Classification and Land Type** – where possible solar projects should utilise previously developed land, brownfield land, contaminated land, industrial land, or agricultural land which is not 'Best and Most Versatile'; and

vi) **Accessibility** – access during construction for the delivery of solar arrays and associated infrastructure can be a significant consideration for solar farm siting.

## Planning Practice Guidance

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

- Encourage the effective use of land by focusing large scale solar farms on previously developed land and non-agricultural land, provided that it is not of high environmental value; and
- Where a proposal involves greenfield land, consider whether the proposed use of any agricultural land has been shown to be necessary and poorer quality land has been used in preference to higher quality land.

## Local Plans

### Bedford Local Plan 2030

2.1.8 Paragraphs 9.32 and 9.33 of the Bedford Local Plan 2030 set out the Authority's position in relation to identifying areas potentially suitable for large scale solar energy. This follows an approach of avoiding higher quality agricultural land where possible.

2.1.9 Paragraph 9.29 of the Bedford Local Plan 2030 repeats the Government guidance set out in PPG that proposals should seek to make effective use of previously developed land, and where a proposal requires the use of agricultural land, that poorer quality land should be used in preference to land of a higher quality.

2.1.10 Figure 13 of the Bedford Local Plan 2030 identifies '*Broad locations with potential for large scale solar energy development and constraints*'. At a high-level this figure essentially distinguishes between built-up areas and areas of agricultural land, identifying any agricultural land of Grade 3 or below as being potentially suitable for development.

2.1.11 Policy 56 of the Bedford Local Plan 2030 states that planning permission will be granted for large-scale solar development where the proposals are within the broad locations shown on Figure 13, and where the general impacts identified by Policy 57 have been met.

2.1.12 There is no further specific requirement within the Bedford Local Plan that would inform site selection.

**Huntingdonshire Local Plan to 2036**

2.1.13 Policy LP35 of the Huntingdonshire Local Plan to 2036 sets out the Authority's position in relation to Renewable and Low Carbon Energy development. This policy does not provide any specific strategic site identification requirements.

2.1.14 Policy LP10 repeats the Government guidance set out in PPG that proposals should seek to make effective use of previously developed land, and where a proposal requires the use of agricultural land, that poorer quality land should be used in preference to land of a higher quality.

2.1.15 Paragraph 4.112 in support of Policy LP10 states that '*A proposal involving built development on agricultural land should demonstrate that it is located on the lowest grade agricultural land suitable and available within the vicinity which is also compatible with other sustainability objectives. Development should avoid use of grade one agricultural land.*'

2.1.16 There is no further specific requirement within the Huntingdonshire Local Plan that would inform site selection.

## 2.2 Approach

2.2.1 Informed by the policy and guidance set out in Section 2.1 above, the approach taken by the Applicant for this SIR is as follows:

- Stage 1 – Identification of the Area of Search;
- Stage 2 – Review of Brownfield and Previously Developed Land;
- Stage 3 – The exclusion of land covered by planning, environmental and spatial constraints;
- Stage 4 – Factors influencing site selection; and
- Stage 5 – Recommendation.

# 3.0 STAGE 1 – IDENTIFICATION OF THE AREA OF SEARCH

## 3.1 Overview

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

## 3.2 Establishing a Point of Connection

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

i) Firstly, and most importantly, any solar scheme must be located proximate to an existing substation which has the available capacity to import the required amount of power into the National Grid, either directly into the substation or via a point of connection into the nearby transmission or distribution network;

ii) Secondly, solar schemes must be located close enough to the identified substation or transmission line to remain viable both in terms of cable deployment for the grid connection, and to ensure that minimum transmission losses occur.

3.2.2 These principles are supported by Draft NPS EN-3 which at paragraph 2.48.11 states that:

*"The capacity of the local grid network to accept the likely output from a proposed solar farm is critical to the technical and commercial feasibility of a development."*

3.2.3 Paragraph 2.48.11 goes on to state that:

*"the connection voltage, availability of network capacity, and the distance from the solar farm to the existing network can have a significant effect on the commercial feasibility of a development proposal."*

3.2.4 Furthermore, Paragraph 2.48.12 of Draft NPS EN-3 then states that *"The applicant may choose a site based on nearby available grid export capacity. Locating solar farms at places with grid connection capacity enables the applicant to maximise existing grid infrastructure, minimise disruption to local community infrastructure or biodiversity and reduce overall costs."*

3.2.5 A search for a Point of Connection (PoC) has been undertaken by RNA Energy Ltd which involved analysis of the National Grid to identify parts of the network with potential available capacity to connect a 400 MW solar scheme. Following an application to National Grid it has been established that the Eaton Socon Substation has the available capacity to connect a 400 MW solar scheme, and that this could be completed within a commercially viable timeframe and cost.

3.2.6 This SIR has therefore been undertaken on the basis of a PoC with the Eaton Socon Substation.

## 3.3 Establishing a Search Area

3.3.1 It is an essential requirement for solar schemes to be proximate to an existing substation or part of the transmission network which has the available capacity to import the required amount of power into the National Grid. In addition, schemes must be located close to the identified substation or transmission network to remain viable both in terms of cable deployment for the grid connection, and to ensure that minimum transmission losses occur.

3.3.2 RNA Energy Ltd has determined that for a 400 MW connection into the Eaton Socon Substation in this region and local geography, the maximum distance a project can be from the PoC before a scheme is no longer likely to be viable

is 15km, with costs and transmission losses increasing as distance from the point of connection increases within this 15km.

3.3.3 A commercially viable grid connection within this 15km area is also dependent on the characteristics of the land crossed by the grid connection. A 400 MW grid connection requires a construction corridor of approximately 15-25m and is therefore not suited to following local roads. Crossing any physical barriers such as rivers, railways, urban areas or major roads also adds significant complexity and can substantially increase cost of delivery. Therefore, a theoretical maximum 15km grid connection assumes a fairly simple route typography of crossing open farmland; if rivers, railways, urban areas or major roads are encountered then the maximum grid connection could not likely extend as far as 15km.

3.3.4 The Area of Search has therefore been set at a 15km radius from the Eaton Socon Substation.

3.3.5 The Area of Search is shown on Figure 1.

# 4.0 STAGE 2 – REVIEW OF BROWNFIELD AND PREVIOUSLY DEVELOPED LAND

## 4.1 Introduction

4.1.1 Draft NPS EN-3 states at 2.48.13 that "*Where possible, ground mounted solar PV projects should utilise previously developed land, brownfield land, contaminated land, industrial land …*"

4.1.2 Stage 2 therefore considers firstly the Scheme Specific Requirements in relation to the area of land required to deliver the Scheme, before considering Brownfield Land and Previously Developed Land that is of a size that meets the Scheme requirements. For the purposes of this report Brownfield Land has been taken from Brownfield Land Registers held by each of the Local Authorities, and Previously Developed Land has been identified as possible additional areas of land not registered as Brownfield Land that have been formerly developed and which could theoretically be suitable for solar development.

## 4.2 Scheme Specific Requirements

4.2.1 Paragraph 2.47.2 of Draft NPS EN-3 states that:

*"Along with associated infrastructure, generally a solar farm requires between 2 to 4 acres for each MW of output. A typical 50MW solar farm will consist of around 100,000 to 150,000 panels and cover between 125 to 200 acres, although this can vary significantly depending on the site and is also expected to change over time as the technology continues to evolve to become more efficient."*

4.2.2 Based on the above, as a starting assumption a 400 MW solar farm could be expected to require between 800 to 1,600 acres of land to deliver, which approximately equates to between 325 and 650 hectares.

4.2.3 The size of a potential site is a critical consideration in ensuring the required solar capacity can be installed, but also needs to allow for proposed landscaping and suitable buffers to be taken from residents around a site boundary and public rights of way.

4.2.4 Large parcels of land, or networks of smaller parcels of land that could be easily connected are a requirement.

## 4.3 Brownfield Land Registers

4.3.1 Local Authorities are required under Regulation 17 of the Town and Country Planning (Brownfield Land Register) Regulations 2017 to maintain and review a Brownfield Land Register.

4.3.2 Bedford Borough Council's most recently updated Brownfield Land Register was issued in December 2021 and is available at Appendix A.

4.3.3 Huntingdonshire District Council's most recently updated Brownfield Land Register was also issued in December 2021 and is available at Appendix A.

4.3.4 Brownfield land from each of these registers is mapped on Figure 2.

4.3.5 In summary, there is no land on either Brownfield Land Register that meets the minimum criterion of 325 hectares. With reference to Figure 2, neither are there any areas of brownfield land in close enough proximity that they could be connected to deliver a site of minimum 325 hectares.

## 4.4 Previously Developed Land

4.4.1 Following a review of the Brownfield Land Register, a review has been undertaken using aerial imagery and Ordnance Survey mapping to identify possible Previously Developed Land (PDL) within the Area of Search. The identification of PDL has not considered areas of land of less than 100 hectares. This is on the basis that a minimum of 325 hectares of land is required, but that several close proximity areas of land could be connected to meet the 325 hectare requirement.

4.4.2 Previously Developed Land is shown on Figure 2. Each area of PDL is given an ID on Figure 2, which is also used in Table 1 below.

4.4.3 Table 1 provides an overview of the areas of PDL within the Area of Search.

**Table 1: Previously Developed Land**

| ID | Area (approx.) | Review |
|---|---|---|
| **PDL-1** | 105 ha | PDL-1 appears to comprise a former airfield north of Kimbolton that is no longer in use and is now farmed. Part of the land at the airfield includes an existing solar farm. |
| **PDL-2** | 455 ha | PDL-2 comprises the Bedford Aerodrome which is currently in use by several businesses including for vehicle storage. PDL-2 is allocated as a 'Key Employment Site' in the Bedford Local Plan under Policy 70 and is therefore not considered further on the basis that large-scale solar development would not be compatible with this allocation. |
| **PDL-3** | 132 ha | PDL-3 comprises Little Staughton Airfield which has been identified as PDL, but is already host to an existing solar farm and is therefore considered unsuitable, and not considered further. |
| **PDL-4** | 200 ha | PDL-4 appears to comprise a former airfield to the west of Graveley that is no longer in use and is now farmed. There is an existing wind farm at the site of the airfield. |
| **PDL-5** | 148 ha | PDL-5 appears to comprise a former airfield to the south-east of Tempsford that is no longer in use and is now farmed. |

4.4.4 As demonstrated by Table 1 and Figure 2, there are no suitable areas of PDL that meet the minimum criterion of 325 hectares, and neither are there any areas in close enough proximity that they could be connected to deliver a site of minimum 325 hectares. However, the PDL is considered further following

a review of other spatial constraints to see if it can be used in combination with agricultural land. The PDL areas to be considered further are PDL-1, PDL-4 and PDL-5.

## 4.5 Summary

4.5.1 In summary, there is no Brownfield Land or Previously Developed Land within the Area of Search suitable for supporting the Scheme on its own. It is therefore judged that agricultural land will be required to deliver the Scheme, either exclusively or in combination with the PDL identified above.

4.5.2 The objective in identifying agricultural land for development is to avoid the development of higher-grade agricultural land, and therefore the PDL identified above would need to be in proximity to the Search Zones (once defined) to be considered further.

# 5.0 STAGE 3 – THE EXCLUSION OF LAND COVERED BY PLANNING, ENVIRONMENTAL AND OTHER SPATIAL CONSTRAINTS

## 5.1 Introduction

5.1.1 Stage 3 of the SIR has involved the mapping of planning, environmental and other spatial constraints which have been identified through a desk-based review of the area's context.

5.1.2 The purpose of this stage is to try and identify broad areas of land that are less constrained, and therefore likely to be less environmentally sensitive. Planning and environmental constraints have been reviewed within the Area of Search where they are of a spatial extent large enough to influence site selection. In this regard, smaller features such as listed buildings or scheduled monuments have not been considered owing to their very small scale in the context of the Area of Search.

## 5.2 Spatial Constraints

5.2.1 The following spatial constraints have been reviewed at Stage 3 and omitted from the Area of Search:

a) **Designated landscapes** – No National Parks, Areas of Outstanding Natural Beauty, Country Parks, or Special Landscape Areas have been identified in the Area of Search.

b) **Designated international and national ecological and geological sites** – Sites of Special Scientific Interest (SSSI), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, National Nature Reserves (NNR), and Local Nature Reserves (LNR) have been identified in the Area of Search and excluded.

c) **Designated heritage sites** – Registered Parks and Gardens have been identified within the Area of Search and excluded. There are no World Heritage Sites or Registered Battlefields within the Area of Search.

d) **Areas of high flood risk** – Flood Risk Zones 2 and 3 have been identified within the Area of Search.

e) **Green Belt** – there is no Green Belt land within the Area of Search.

f) **Urban areas** – All land identified as being within a settlement boundary within Local Development Plans has been identified within the Area of Search and excluded.

g) **Land allocated for other uses in an adopted Local Plan** – Land allocated for employment or housing, or allocated as public open space, has been identified within the Area of Search and excluded.

5.2.2 The above spatial constraints are shown on Figure 3.

5.2.3 Land excluded from the Area of Search is shown on Figure 4.

## 5.3 Agricultural Land Classification

5.3.1 Draft NPS EN-3 at Paragraph 2.48.15 states that:

*"It is recognised that at this scale* [for ground mounted solar arrays with a capacity greater than 50 MW]*, it is likely that applicants' developments may use some agricultural land, however applicants should explain their choice of site, noting the preference for development to be on brownfield and non-agricultural land."*

5.3.2 Paragraph 2.48.13 states that:

*"Where possible, ground mounted Solar PV projects should utilise … agricultural land preferably of classification 3b, 4, and 5 (avoiding the use of "Best and Most Versatile" cropland where possible). However, land type*

*should not be a predominating factor in determining the suitability of the site location."*

5.3.3 Natural England's Provisional Agricultural Land Classification has been reviewed across the Area of Search in order to try and avoid land of a higher environmental value.

5.3.4 Natural England's predictive Likelihood of Best and Most Versatile Agricultural Land mapping has also been reviewed for land within the Area of Search.

5.3.5 Both the Provisional Agricultural Land Classification and Likelihood of Best and Most Versatile Agricultural Land mapping are presented on Figure 5.

## 5.4 Search Zones

5.4.1 Based on the outcome of the spatial constraints, and the review of the agricultural land classification, a total of three 'Search Zones' have been identified.

5.4.2 The Search Zones are broad areas targeted primarily towards areas likely to be of lower agricultural quality. The Search Zones in the context of the Agricultural Land Classification are shown on Figure 6.

5.4.3 The Search Zones are shown in isolation on Figure 7.

# 6.0 STAGE 4 – FACTORS INFLUENCING SITE SELECTION

## 6.1 Appraisal of Search Zones

6.1.1 Stage 4 of this SIR reviews each of the identified Search Zones in line with the 'Factors Influencing Site Selection' (the 'Factors') set out in Section 2.48 of Draft EN-3 and summarised in Paragraph 2.1.5 of this SIR. These criteria are set out in the first column of Table 1 on the next page.

6.1.2 The tabulated appraisal includes a qualitative comparison of each Search Zone and rates each of the Factors on a scale as follows:

| | |
|---|---|
| | Search zone has a significant constraint that would be challenging to overcome |
| | Search zone has a notable constraint, but it may be possible to overcome |
| | Search zone has a constraint, but it should be possible to overcome |
| | Search zone has a limited constraint that could be easily overcome |

6.1.3 The purpose of rating Search Zone in this way is to give an illustrative indication of the likely advantages and disadvantages, and should not be taken as a quantitative scoring exercise. It should be noted that a single advantage or disadvantage could be enough to justify one Search Zone as better or worse than another.

6.1.4 Table 2 is presented over the following pages, followed by a summary of each of the Factors.

**Table 2: Appraisal of Search Zones**

| Factor | Zone A | Zone B | Zone C |
|---|---|---|---|
| | *Zone A is located either side of the A14 at the northernmost extent of the original Area of Search, to the north of Grafham Water, as shown on Figure 7.* | *Zone B is located across the north-west of the original Area of Search, to the south-west of Grafham Water, as shown on Figure 7.* | *Zone C is located to the east of the A1 between St Neots, Sandy and Potton in the south of the original Area of Search, as shown on Figure 7.* |
| **Irradiance and site topography** | The topography across Zone A is gently undulating, rising to the north and south. The land is generally suited to solar development. Where there are north-facing slopes these are gradual enough gradients that irradiance levels would not be significantly affected. | The topography across Zone B is varied, with a broad low-lying valley that is flat to gently undulating, with steeper slopes, ridgelines and hills to the west. The central and eastern parts of Zone B are generally suited to solar development, but the westernmost extent of the area should be avoided due to the underlying topography. Where there are north-facing slopes in the central and eastern areas these are generally gradual enough gradients that irradiance levels would not be significantly affected. | The topography across Zone C is generally flat and low-lying, but with a notable ridgeline separating the north-west from the south-east of the area. The north-west of the area is generally suited to solar development, but land south-east of the ridge should be avoided due to the underlying topography. Where there are north-facing slopes these are gradual enough gradients that irradiance levels would not be significantly affected. |
| **Proximity of a site to dwellings** | The land north of the A14 has limited settlement, with the villages of Spaldwick, Easton and Ellington alongside the south side of the A14, and Stow | Zone B has a number of villages and areas of settlement across its area, including Great Staughton, Little Staughton, Pertenhall, Kimbolton, Riseley, Keysoe and | Settlement in Zone C is primarily along the ridge to the south-east with dispersed individual dwellings in the lower-lying land. There are large enough areas |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Longa and Grafham located along the southern edge of Zone A. There are large enough areas separated from settlement such that a solar development could be accommodated and mitigation provided to individual dwellings at a design stage. | | Swineshead. There are large enough areas separated from settlement such that a solar development could be accommodated and mitigation provided to individual dwellings at a design stage. | | separated from settlement such that a solar development could be accommodated. | |
| **Capacity of a site** | Zone A is large enough that land could be found to deliver a solar farm of minimum 325 hectares as per the scheme specific requirements. | | Zone B is large enough that land could be found to deliver a solar farm of minimum 325 hectares as per the scheme specific requirements. | | Zone C is large enough that land could be found to deliver a solar farm of minimum 325 hectares as per the scheme specific requirements. | |
| **Grid connection** | Zone A is at the northern extent of the Area of Search and therefore any grid connection is going to be at the upper limit in terms of commercial viability.<br><br>Technical constraints to a grid connection include the A14 for land in the north of Zone A, and then a number of local roads the narrow valley of the Diddington Brook, and the River Kym.<br><br>The topography of the grid connection corridor would pose a slight constraint. | | The central and eastern extents of Zone B are in reasonable proximity to the Point of Connection.<br><br>Assuming that the development area is west or south of the River Kym then it is likely the grid connection could be delivered without significant technical constraints as there are no major roads or railways to cross, and only smaller ditches or watercourses to cross. Several local roads would need to be crossed. | | Zone C is in reasonable proximity to the Point of Connection.<br><br>Zone C is separated from the Point of Connection by the A1 and A421, a corridor of settlement, as well as a railway, the River Ouse, mineral workings, wildlife sites and flood plain. Collectively these create a significant barrier and would make a grid connection challenging to deliver. Any grid connection would likely result in significant environmental effects due to the nature of the intervening constraints, and be of | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | The topography of the grid connection corridor would not pose constraint. | | a complexity that could affect commercial viability.<br>The topography of the grid connection would pose a constraint. | |
| **Agriculture land classification and land type** | Zone A is predominantly identified as Grade 3 land on the provisional agricultural land classification.<br>Natural England's separate likelihood of BMV land mapping identifies that almost the whole area is of moderate likelihood of being BMV land. It is likely that the area would be a mix of BMV and non-BMV land. This would most likely include Grade 3a and Grade 3b land. | | Zone B is shown as a mixture of Grade 2 and Grade 3 land on the provisional agricultural land classification.<br>Natural England's separate likelihood of BMV land mapping identifies that the area includes land that is high, moderate and low likelihood of BMV land. It is likely that areas of BMV land would be present across the area, with the possibility of some smaller areas that are not BMV land. This would most likely include Grade 2, Grade 3a and Grade 3b land. | | Zone C is shown as a mix of Grade 3 and Grade 4 land on the provisional agricultural land classification.<br>Natural England's separate likelihood of BMV land mapping identifies that the area is mostly of a moderate likelihood of BMV land. It is likely that areas of BMV land would present across the area, but that a large proportion would not be BMV land. This would most likely include Grade 3a, Grade 3b and Grade 4 land. | |
| **Accessibility** | Zone A has potential access routes from the A14, although each of the closest junctions would require traffic coming south to go directly through a village, and with the villages having narrow roads that are likely unsuitable for HGV traffic. It is possible access from the | | Zone B has potential access from the A1 to its east via the B645. Direct access to the central and eastern areas of Zone B would be more easily achieved than access to the far west of Zone B. The topography and field pattern across the central and eastern areas would be suited to | | Zone C has potential access from the A1 to its west via Tempsford Road. The topography and field pattern would be suited to temporary construction routes to avoid villages if required. Overall, access is unlikely to be a significant constraint. | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | roundabout of the A14/A421 junction to the east of the area. The topography and field pattern would be suited to temporary construction routes to avoid villages if required. Overall, access is unlikely to be a significant constraint. | | temporary construction routes to avoid villages if required. Overall, access is unlikely to be a significant constraint. | | | |

## 6.2 Summary of Factors

**Irradiance and site topography**

6.2.1 The appraisal table demonstrates that each of the Zones are broadly comparable in relation to their topography and irradiance. Each zone has areas of suitable low-lying and broadly flat or gently undulating land, along with more elevated or sloping land that should be avoided if possible.

**Proximity of a site to dwellings**

6.2.2 Zones A and B are comparable in that the likely developable parts of the Search Zone are in reasonable proximity to settlements and dwellings. Zone C has larger areas away from areas of settlement and therefore could be slightly preferable, however for all Search Zones it should be possible to deliver a scheme that mitigates impacts on dwellings.

**Capacity of a site**

6.2.3 Each of the Search Zones has the land available to deliver the capacity required for the scheme and this is therefore not a differentiating factor.

**Grid connection**

6.2.4 It is clear that the grid connection for Zone B would be the most commercially viable to deliver, and would likely result in the least environmental impact.

6.2.5 The grid connection from Zone A is comparable to that from Zone B but would be notably longer, which affects viability, and is likely to affect a far greater number of landowners. In addition, the route and topography of the cable corridor would be more challenging than for Zone B resulting in greater complexity and potential for environmental impact.

6.2.6 Zone C is significantly constrained by the characteristics of the land between it and the Point of Connection. Any reasonably direct grid connection corridor would be required to cross the railway, the River Great Ouse, the A1 or A421, minerals working areas, and dispersed residential areas. The A428 Black Cat

to Caxton Gibbet highway scheme is also expected to be built between Zone C and the Point of Connection. The grid connection corridor would likely result in significant environmental effects due to the nature of the intervening constraints, and be of a complexity that could affect commercial viability. This constraint is significant enough that Zone C is not considered a reasonable prospect, and should be discounted.

**Agriculture land classification and land type**

6.2.7 Zone C is likely to have the poorest quality agricultural land when considering the provisional agricultural land classification, and Natural England's likelihood of best and most versatile land mapping.

6.2.8 Zone A and Zone B are each likely to include a mix of BMV land and non-BMV land, but with Zone B likely to have a greater proportion of BMV land.

**Accessibility**

6.2.9 Each of the Search Zones has potentially suitable access available from the strategic highway at either the A14 or A1. The access into Zone C is likely to be the most suitable as both Zone A and Zone B would likely require a greater amount of temporary road to avoid taking traffic through villages. Due to the characteristics of solar farms, traffic and access is unlikely to be a significant constraint to any search zone.

## 6.3 Further consideration of Previously Developed Land

6.3.1 At the conclusion of Stage 2 there were three areas of PDL that had been identified, being PDL-1, PDL-4 and PDL-5.

6.3.2 In relation to the Search Zones identified, PDL-1 is between Zone A and B; PDL-4 is not in proximity to any of the Search Zones, and PDL-5 is within Zone C.

6.3.3 It is considered that the land at PDL-1 could potentially be incorporated with Zone A or Zone B, however its position in relation to the surrounding topography is such that it may not be feasible to integrate with a site.

6.3.4 PDL-4 is not in proximity to any of the Search Zones and could not feasibly be connected, such that it should not be considered further.

6.3.5 PDL-5 is within Zone C and has therefore been considered within the review of Zone C.

# 7.0 CONCLUSION AND RECOMMENDATION

## 7.1 Conclusion and Recommendation

7.1.1 This SIR has found that within 15km of the Point of Connection there are no large-scale strategic statutory or non-statutory constraints such as AONBs, National Park, Green Belt or European Protected Sites that would rule out significant parts of the initial Area of Search.

7.1.2 Following the guidance set out in Draft NPS EN-3 this SIR has focused on firstly identifying and ruling out possible brownfield or previously developed land, before establishing that agricultural land would be required to deliver the Scheme. As agricultural land would be required, Search Zones have been identified following a desk-based review of the agricultural land classification datasets to try and identify a site area that is deliverable and of a lesser environmental value.

7.1.3 The Search Zones have been reviewed in line with the 'Factors Influencing Site Selection' set out in Draft NPS EN-3. This appraisal has identified that there is no Search Zone that is not constrained in some way, and that only by taking a balanced consideration of the Factors is it possible to make a recommendation as to a Search Zone to take forward.

7.1.4 The recommendation reached by this SIR is that RNA Energy should take forward Zone B and seek to identify a landowner(s) in the central and eastern parts of Zone B that may be interested in developing a project. Due to the characteristics of the surrounding land (including topography) it is unlikely that PDL-1 could be integrated with a site in the central and eastern part of Zone B, and therefore RNA Energy will need to focus on agricultural land.

7.1.5 If landowners do not come forward in Zone B, then Zone A would be the second choice. Zone C would likely have significant challenges around the grid connection and therefore is not recommended as a preferred option to take forward.

7.1.6 The key determining factor in recommending Zone B is that it is likely to have the most straightforward grid connection, which should in turn avoid and reduce environmental impacts, affect less landowners, and ensure that the Scheme remains commercially viable.

7.1.7 In terms of agricultural land classification it is likely that following a detailed site survey Zone B would be comparable or only slightly less favourable than Zone A. In addition, Draft NPS EN-3 is also clear at Paragraph 2.48.13 that '*land type should not be a predominating factor in determining the suitability of the site location*'. It has therefore been given less weight than the grid connection in determining site location.

7.1.8 With regards to potential impact on local communities, Zone A and Zone B are each located in proximity to several nearby villages and dwellings. It is considered that mitigation would be possible once landowners are identified to avoid or reduce impacts on nearby dwellings.

## 7.2 Refinement of Search Zone B

7.2.1 The recommendation is that RNA take forward Search Zone B, and that a landowner(s) should be identified in the central and eastern parts of Zone B due to the underlying topography.

7.2.2 Search Zone B covers a clay farmland vale formed by the River Kym and Pertenhall Brook, which are tributaries of the River Ouse to the east of the Search Zone. The vale is broader in the east of the Search Zone and narrower in the west, with the River Kym and Pertenhall Brook separately creating a more intimate ridge and valley landscape within the west of the Search Zone.

7.2.3 As shown on Figure 8, the west of the Search Zone is more undulating with a series of ridgelines, the most prominent of which runs south-west to north-east, to the west of Riseley and Swineshead. This ridgeline approximately demarcates the western edge of the Search Zone.

7.2.4 Figure 8 identifies the central and eastern part of Zone B is the most suited to solar development. Where there are north-facing slopes in the central and eastern areas these are generally gradual enough gradients that irradiance levels would not be significantly affected.

7.2.5 The Search Zone has therefore been updated to omit the west of Zone B, as shown on Figure 8.

7.2.6 The final Search Zone is shown on Figure 9.

7.2.7 If RNA Energy are able to agree terms with a landowner(s) in the Search Zone and put together enough land to create a viable project, then a further appraisal should be undertaken to refine the Site Location and the Application Boundary.

# FIGURES

Q:\3101-3150\3149-01 Eaton Socon Solar DCO\Dwgs\CAD\11. Alternatives\Figure 1 - Area of Search.qgz

Point of Connection

15km Area of Search



N

0 2,400 4,800 7,200 9,600 12,000 m

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**Site Identification Report**

Figure Number

**Figure 1**

Figure Title

**Area of Search**

Scale

**1:120000@A3**

Date

**January 2022**

Q:\3101-3150\3149-01 Eaton Socon Solar DCO\Dwgs\CAD\11. Alternatives\Figure 2 - Brownfield and PDL.qgz

PDL-1

PDL-2

PDL-3

PDL-4

PDL-5

HUNTINGDON

BEDFORD

BUSHDEN

KEMPSTON

Point of Connection

15km Area of Search

Brownfield Land

Previously Developed Land



N

0 2,400 4,800 7,200 9,600 12,000 m

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**Brownfield and Previously Developed Land**

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Date

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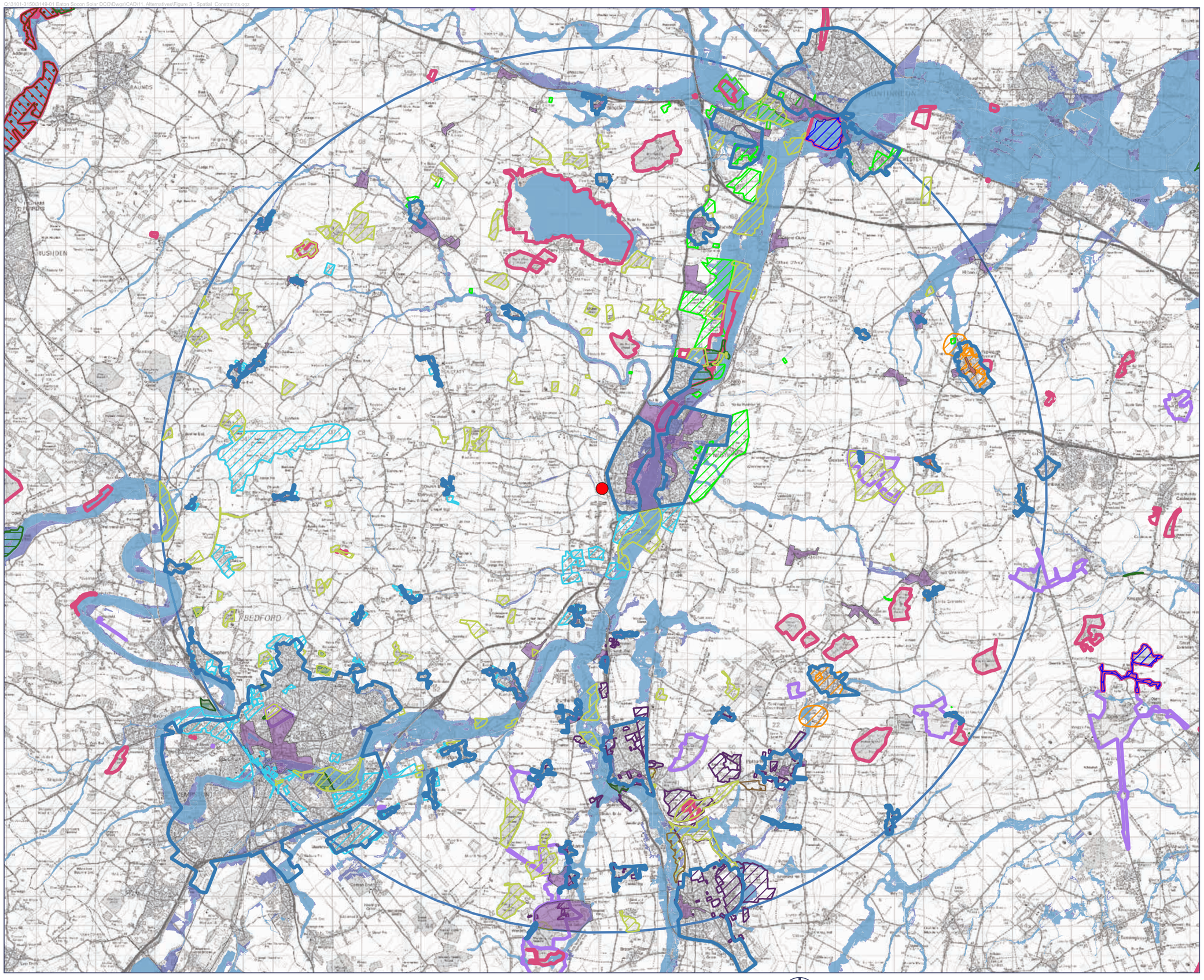
Q:\3101-3150\3149-01 Eaton Socon Solar DCO\Dwgs\CAD\11. Alternatives\Figure 3 - Spatial Constraints.qgz




- Point of Connection
- 15km Area of Search
- Settlement / Urban Boundaries
- Conservation Areas
- Registered Parks and Gardens
- Site of Special Scientific Interest
- Special Protection Area
- Ramsar
- County Wildlife Sites
- Local Nature Reserve
- Local Geological Sites
- Flood Zone 2
- Flood Zone 3
- Relevant Bedford Borough Designation or Allocation
- Relevant Huntingdonshire Distri Designation or Allocation
- Relevant South Cambs Designation or Allocation
- Relevant Central Bedfordshire Designation or Allocation



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**Figure 3**

Figure Title

**Spatial Constraints**

Scale

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Q:\3101-3150\3149-01 Eaton Socon Solar DCO\Dwgs\CAD\11. Alternatives\Figure 3 - Land Removed from Area of Search Rev A.qgz


Point of Connection

15km Area of Search

Land Removed from Area of Search



N

0 2,400 4,800 7,200 9,600 12,000 m

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**Figure 4**

Figure Title

**Land Excluded from Area of Search**

Scale

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Date

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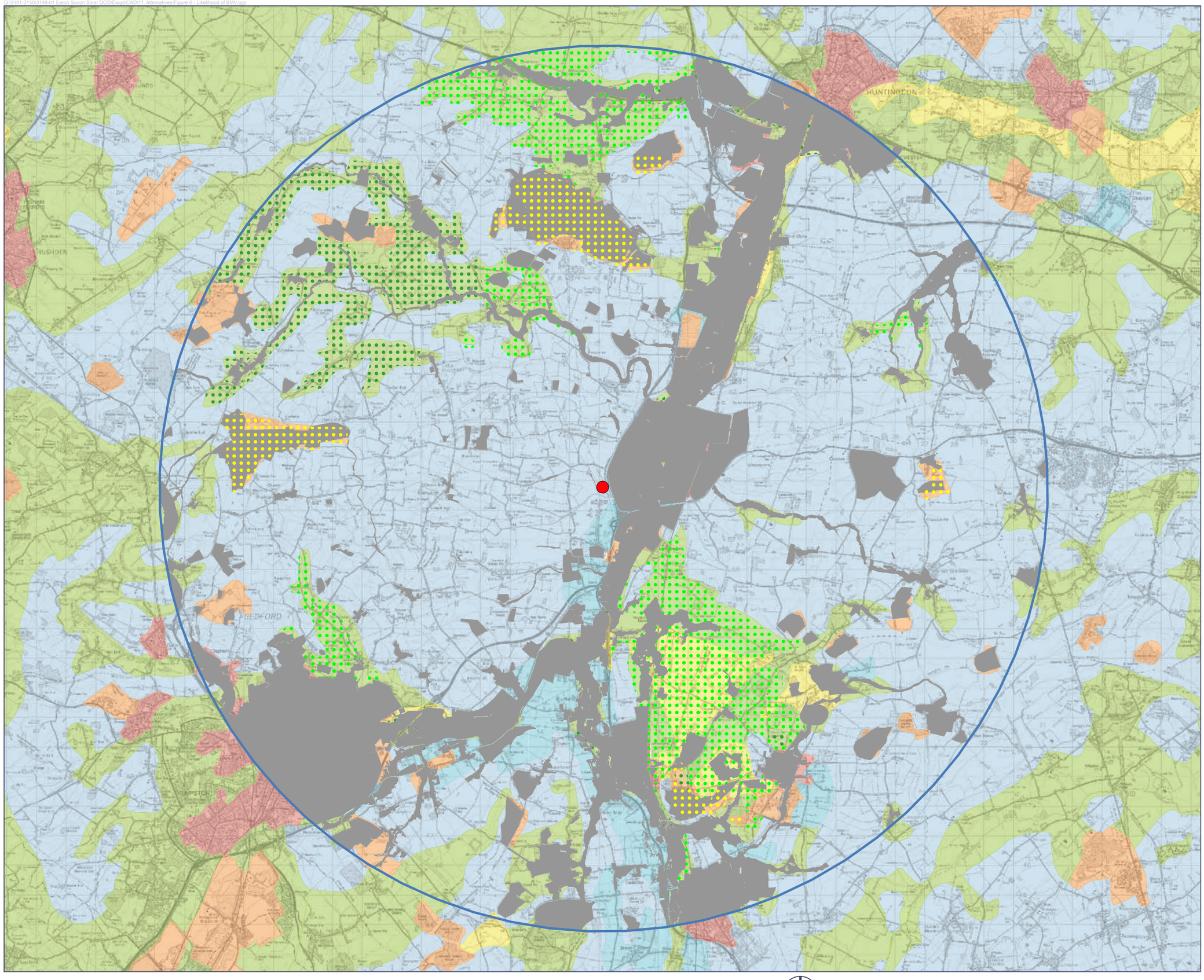
Q:\3101-3150\3149-01 Eaton Socon Solar DCO\Dwgs\CAD\11. Alternatives\Figure 6 - Likelihood of BMV.qgz




- Point of Connection
- 15km Area of Search
- Land Removed from Area of Search

Provisional Agricultural Land Classificaton:

- Grade 1
- Grade 2
- Grade 3
- Grade 4
- Non Agricultural
- Urban
- Moderate Likelihood of BMV Land
- Low Likelihood of BMV Land
- Non Agricultural (Likelihood of BMV Land)



N

0 2,400 4,800 7,200 9,600 12,000 m

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**Site Identification Report**

Figure Number

**Figure 5**

Figure Title

**Agricultural Land Classification**

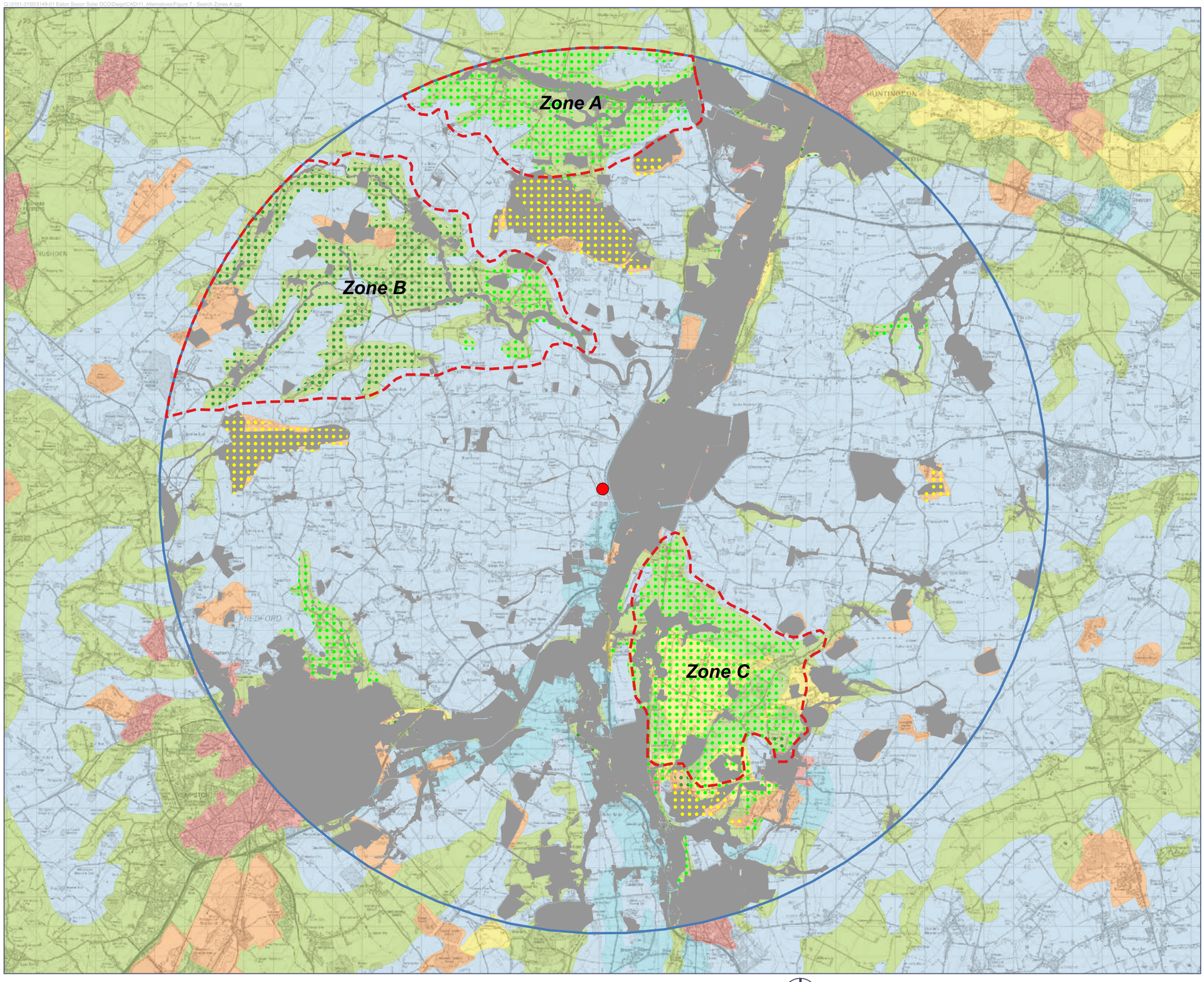
Scale

**1:120000@A3**

Date

**January 2022**

Q:\3101-3150\3149-01 Eaton Socon Solar DCO\Dwgs\CAD\11. Alternatives\Figure 7 - Search Zones A.qgz




Point of Connection

15km Area of Search

Land Removed from Area of Sea

Search Zones

Provisional Agricultural Land Classificaton:

Grade 1

Grade 2

Grade 3

Grade 4

Non Agricultural

Urban

Moderate Likelihood of BMV Land

Low Likelihood of BMV Land

Non Agricultural (Likelihood of BMV Land)



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Figure Number

**Figure 6**

Figure Title

**Agricultural Land Classification and Search Zones**

Scale

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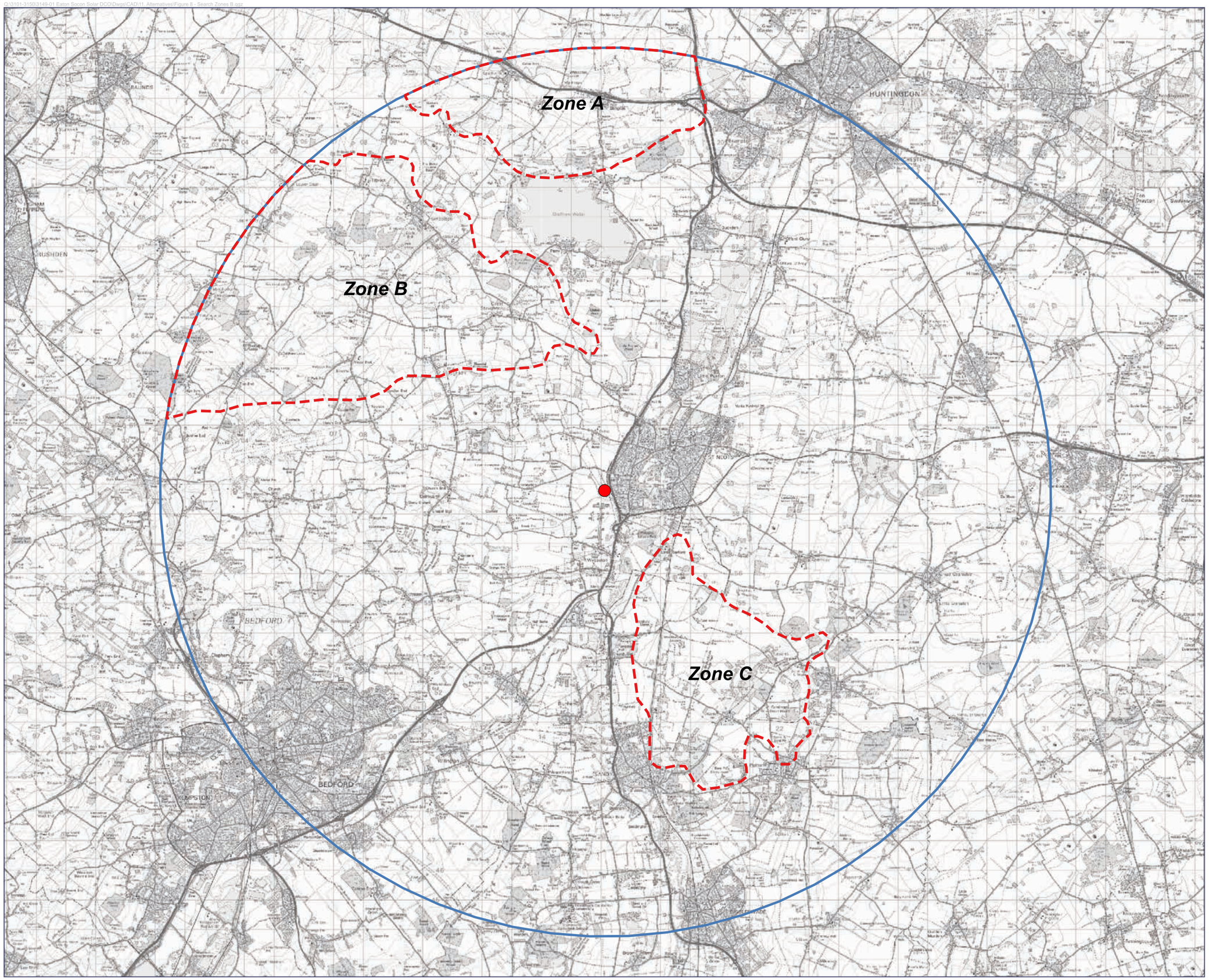
Date

**January 2022**

Q:\3101-3150\3149-01 Eaton Socon Solar DCO\Dwgs\CAD\11. Alternatives\Figure 8 - Search Zones B.qgz




Point of Connection

15km Area of Search

Search Zones



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**Figure 7**

Figure Title

**Search Zones**

Scale

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Date

**January 2022**

Q:\3101-3150\3149-01 Eaton Socon Solar DCO\Dwgs\CAD\11. Alternatives\East Park SIR - Figure 8 Refinement of Search Zone B.qgz

*Topography derived from Environment Agency National LIDAR Programme data, using the 1m Digital Elevation Model, sourced from https://environment.data.gov.uk*

Search Zone

Point of Connection

Land excluded from Search Zone due to less favourable topography

Topography (metres Above Ordnance Datum):

- <= 10
- 10 - 15
- 15 - 20
- 20 - 25
- 25 - 30
- 30 - 35
- 35 - 40
- 40 - 45
- 45 - 50
- 50 - 55
- 55 - 60
- 60 - 65
- 65 - 70
- 70 - 75
- 75 - 80
- 80 - 85
- 85 - 90
- > 90



N

0 1,000 2,000 3,000 4,000 5,000 m

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Figure Number

**Figure 8**

Figure Title

**Refinement of Zone B**

Scale

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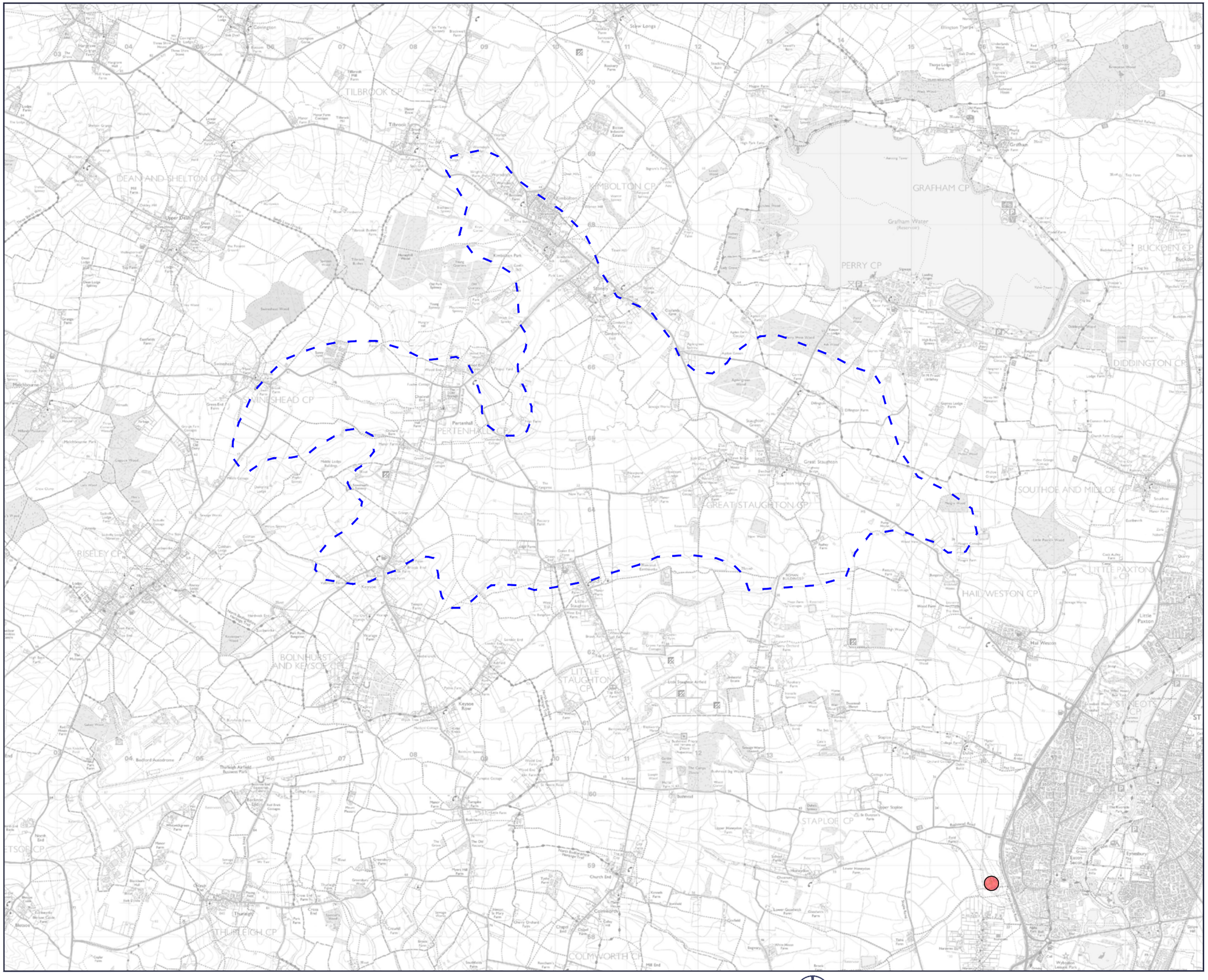


Point of Connection

Search Zone



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**Site Identification Report**

Figure Number

**Figure 9**

Figure Title

**Search Zone**

Scale

**1:50,000 @A3**

Date

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