AAH consultants

SEQUENTIAL SITE ANALYSIS

IN SUPPORT OF

PROPOSED CONSTRUCTION AND OPERATION OF A 48 MW SOLAR FARM COMPRISING GROUND-MOUNTED SOLAR PHOTOVOLTAIC ARRAYS TOGETHER WITH ASSOCIATED INFRASTRUCTURE AND LANDSCAPING

LAND NORTH OF ROMAN BANK AND EAST OF MIDDLE MARSH ROAD AT RED HOUSE FARM, HOLBEACH BANK, SPALDING, PE12 8BY

GRID REFERENCE: X536995 Y328849

January 2023

Sequential Site Analysis

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1.0 Introduction

1.1 This Sequential Site Analysis (SSA) has been prepared on behalf of the applicant by AAH Planning Consultants in support of a full planning application for a 48 MW Solar Farm at land north of Roman Bank and east of Middle Marsh Road at Red House Farm, Holbeach Bank, Spalding, PE12 8BY (Grid Reference X536995, Y328849).

1.2 AAH Planning Consultants are members of the Royal Town Planning Institute (RTPI) and the Institute of Environmental Management and Assessment (IEMA).

1.3 The SSA should be read in conjunction with all of the other submission documents, including the Planning Supporting Statement and Design and Access Statement. This Statement sets out our sequential site analysis, which needs to be considered in support of this application for a 48 MW Solar Farm.

1.4 The Sequential Site Analysis supports the full planning application for a 48 MW Solar Farm with regard to Paragraph 013 Reference ID: 5-013-20150327 of the National Planning Policy Guidance (NPPG) which sets out a number of matters that should be considered by the Local Planning Authority (LPA) in the determination of a planning application for large-scale solar farms. The first two bullet points of this paragraph are of particular relevance to this Sequential Site Analysis which states that:

'Particular factors a local planning authority will need to consider include:

- *encouraging the effective use of land by focussing large scale solar farms on previously developed and non-agricultural land, provided that it is not of high environmental value;*

- *where a proposal involves greenfield land, whether (i) the proposed use of any agricultural land has been shown to be necessary and poorer quality land has been used in preference to higher quality land; and(ii) the proposal allows for continued agricultural use where applicable and/or encourages biodiversity improvements around arrays. See also a speech by the Minister for Energy and Climate Change, the Rt Hon Gregory Barker MP, to the solar PV industry on 25 April 2013 and Written Ministerial Statement – Solar energy: protecting the local and global environment – made on 25 March 2015'*

2.0 Site Description and Context

2.1 The application Site measures approximately 80 hectares of greenfield land and is located between the villages of Holbeach St Marks, Holbeach Bank and Holbeach Hurn. The Site is bound by Middle Marsh Road to the west, bordered by farmsteads and isolated residential properties, Roman Bank to the south alongside drainage ditches and open countryside to the north and east. The Site boundaries are largely defined by drainage ditches that demarcate existing field boundaries, as well as the highway network as detailed above.

2.2 The Site and surrounding areas are largely comprised of arable agricultural land on all sides of the Site. There are also a number of residential properties located within, adjacent to and in close proximity to the site.



Figure 1: Site Location

2.3 Whilst in open countryside, the Site accommodates no national nor local landscape designations. The site is located within Flood Zone 3. The River Welland lies approximately 4.5km to the north-west of the site. There are several ditches within the Site used to drain the farmland. The Site contains large, irregular shaped open arable fields bound by these drainage ditches.

2.4 The Site is not located within a local or national ecological designation. The Wash SSSI, SPA, SAC, RAMSAR site and NNR are located approximately 4.8km to the north, and the site falls out with the Impact Risk Zone for the SSSI. It is noted that the Site is located in close proximity to an area that is likely to be sensitive by virtue of the avian species located on or around the Site, however, there are opportunities to retain existing landscape features, provide appropriate buffers and habitat improvements.

2.5 The Site is not located within a Conservation Area and contains no Listed Buildings, with the nearest listed buildings located within the settlements of Holbeach St Marks and around Penny Hill. It is understood, however, that the route of a medieval sea bank crosses the proposed site towards the southern end, around the area of Red House Farm, although there are opportunities to create landscape buffers.

3.0 Methodology

3.1 There is no guidance that sets a clear methodology for undertaking a sequential site analysis for potentially developable land for Large Scale Solar PV developments to meet the requirements of the Framework and NPPG. The assessment criteria comprise the following parts:

i) The proposed use of any agricultural land has been shown to be necessary and encouraging solar farms on previously developed and non-agricultural land

ii) Poorer quality land has been used in preference to higher quality land; and

iii) The proposal allows for continued agricultural use where applicable and/or encourages biodiversity improvements around arrays.

3.2 The NPPG states that this type of assessment is only required for 'large scale solar developments', albeit there is no definition of what constitutes a large-scale solar development. Nevertheless, the proposed development is considered to constitute a Large-Scale Solar Development

3.3 It is considered that the proposed methodology should consist of the following stages:

- Definition of the study area including consideration of connectivity to the electricity distribution network;

- Assessment that the use of agricultural land is necessary, including consideration of the availability of previously developed and non-agricultural land within the study area

- Assessment that there is no poorer quality land within the study area; and

- Assessment of continued agricultural use and/or biodiversity improvements.

Definition of the Study Area

3.4 The definition of the study area should take into account the location of the Application Site's grid connection and consideration of connectivity to the electricity distribution network. Due consideration is given to the potential to achieve a point of connection to the electricity distribution network, serving as a constraint and thereby reducing the study area to where a viable connection can be achieved. The further the distance from a suitable grid connection a site is located, the greater the challenge of transferring electricity generated to the grid. Also, increased cabling and labour costs, as well as potentially more third-party land easements increase costs dramatically, and can also render a project uneconomical.

3.5 Gaining grid connection in rural areas can be difficult and problematic. Power lines are generally congested, and most are at capacity. A 132kV line is the only viable line that can be connected to; therefore, the infrastructure to connect is severely restricted due to the lack of grid capacity. It is not considered that any other connection nearby is suitable, which severely limits the search area.

3.6 An application for a grid connection has been made to the relevant DNO. The DNO has confirmed that there is sufficient capacity for the scheme with a point of connection into the existing 132KV distribution network. If a site is more than 2 km from a grid connection, it usually makes the site uneconomical. Therefore, for the purposes of this assessment, the site search has set out to identify sites within a 2.2km distance of grid connection. The study area is shown at Appendix A.

Assessment that the use of agricultural land is necessary, including consideration of the availability of previously developed and non-agricultural land within the study area

3.7 The assessment of the necessity for using agricultural/greenfield land involves the identification and assessment of potential alternatives, comprising previously developed land and non-agricultural land.

3.8 The assessment seeks to ascertain whether there are any potential alternative sites of vacant or previously developed land (PDL) within the study area that would be capable of accommodating a scheme of a comparable MW output to the Proposed Development within the study area using the following sources:

- Brownfield Register
- Local Plan Allocations
- SHLAA Sites

Assessment that there is no poorer quality land

3.9 The assessment of there being no poorer quality land consists of a comparison of the agricultural land quality of the Application Site with any identified potential alternative sites within the study area. Consideration would first be given to the agricultural land classification to identify the potential for alternative sites of poorer quality land within the study area.

3.10 Whilst potential alternative sites of poorer quality land may be identified, it is by no means certain that they would be deliverable. Accordingly, where such potential exists, consideration would then be given to the deliverability of the poorer quality land for ground-mounted solar photovoltaic development.

3.11 Agricultural land quality is classified according to the Department of Environment, Food and Rural Affair's (Defra's) Agricultural Land Classification (ALC) as:

- Grade 1 – Excellent Quality
- Grade 2 – Very Good Quality
- Grade 3 – Good to Moderate Quality
- Grade 4 – Poor Quality
- Grade 5 – Very Poor Quality

Grade 3 is further divided into the sub-grades: Grade 3a – Good Quality and Grade 3b – Moderate Quality

3.12 Best and Most Versatile Land' (BMV) is defined (NPPF, Glossary) as being land of Grades 1, 2 or 3a. Therefore, land classified as being Grade 3b, 4 or 5 represents 'poorer quality land'.

Appendix B provides a map demonstrating the ALC classification of the site and surrounding area. It should be noted however these maps (produced by the former Ministry of Agriculture, Fisheries and Food) were published in the 1970s at 1:250,000 scale and based on reconnaissance field surveys. They use grade criteria that have been superseded by the currently used 1988 Agricultural Land Classification (ALC) Guidelines (ref). In line with Natural England guidance, they are therefore used as a guide and the application is supported by an ALC assessment that demonstrates that the agricultural land is Grade 2. Therefore, the assessment would consider only those sites of a lower published Defra ALC grade than the Application Site, and consideration would only be given to sites of Grade 3-5.

3.13 Whilst it is conceivable that lower grade agricultural land may be identified within the study area, it is by no means certain that a potential alternative site is deliverable with regards to a large-scale ground-mounted solar development of comparable size to the Proposed Development.

Assessment of continued agricultural use and/or biodiversity improvements

3.14 The final element of the policy criteria requires demonstration of the continued agricultural use and/or biodiversity improvements.

3.15 With respect to continued agricultural use, consideration would be given to the viability of continued agricultural use across the farm holding and to the potential for continued use of land within the solar photovoltaic development for agriculture, i.e., through the use of sheep grazing, hen-keeping, soft-fruit growing.

3.16 With respect to biodiversity improvements, reference would be made to the ecological and nature conservation enhancement measures identified within the planning application.

3.17 Where it is shown that continued agricultural use can be achieved and/or that biodiversity improvement would be delivered as part of the Proposed Development, it is deemed that compliance with this test (iii) has been demonstrated.

4.0 Sequential Site Analysis

4.1 The Sequential Site Study Area has been defined as 2.2km from the grid connection point for the reasons outlined in Section 3 of this Statement, and Appendix A shows a 2km buffer around the grid connection point. Appendix B demonstrates the Agricultural Land Classification for the area with Appendix C highlighting the environmental constraints to be avoided, such as Local sites of Nature Conservation and SSSI, all of which would not be suitable for a Solar Farm, and therefore they are discounted from the Sequential Site Analysis altogether.

Assessment that the use of agricultural land is necessary, including consideration of the availability of previously developed and non-agricultural land within the study area

4.2 There are no previously developed sites within this study area on South Holland District Councils Brownfield Register. It should be noted, however that whilst brownfield land might be ideal in some cases, the solar industry finds it hard to compete on land rental values compared to other forms of development such as residential or commercial. No suitable brownfield sites of a similar size have been identified within proximity to the grid connection.

4.3 There are 2 SHLAA sites within the Study Area, measuring 0.17 hectares and 87.12 hectares. The site measuring 0.17 hectares is not suitable for the proposed 48 MW Solar Farm based upon the feasibility and economic viability of accommodating a 48 MW Solar Farm development on a site considerably smaller than the proposed 80-hectare site. Disaggregation of the PV arrays is not considered appropriate or feasible, presenting greater environmental impacts than containment of the PV arrays within one site.

4.4 The site measuring 87.12 hectares is of a similar size to the proposed Site and therefore could theoretically accommodate a 48MW Solar Farm. However, the site, also located in Flood Zone 3, and therefore not sequentially preferred. It is also further from the grid connection, which would likely require greater length of cabling leading off site to facilitate grid connection. Furthermore, its close proximity to the settlement of Holbeach St Marks, means that any developed on this site is likely to have a greater impact on residential amenity and on designated heritage assets, which are located within the settlement when compared to the Site proposed for development.

4.5 There are no Local Plan Employment Allocations within the Study Area, and there are no residential commitments in the Local Plan within the Study Area. Therefore, there are no other sites that can accommodate the 48 MW Solar Farm which have been allocated for development, albeit for other uses.

Assessment that there is no poorer quality land within the study area

4.6 All of the land within the study area has an Agricultural Land Classification of Grade 2. Whilst considered to be Best and Most Versatile land, there is no land within the study area of a lower Grade quality (Grades 3-5). It should be noted that South East Lincolnshire has a high proportion of high-quality agricultural land, meaning it is largely made up of the best and most versatile agricultural land with little opportunity to locate developments on poorer quality land. The Agricultural Land Classification for the land within the study area is shown at Appendix B.

4.7 Additionally, due to the temporary nature of the proposed solar farm, where there would be no substantial areas of concrete construction, there is considered to be no permanent loss of agricultural land in the longer term. The amount of soil to be disturbed by construction practices is a relatively small area, and much of the soil disturbance is likely to be reversible during decommissioning. Furthermore, the land situated around the proposed solar arrays could remain in agricultural use through the grazing of animals. Therefore, when the development is decommissioned, the reversible effects and the potential grazing of the land may create betterment of the soil, leaving it even more fertile. Considering the above, it is not considered that there is a loss of agricultural land nor a significant issue.

Assessment of continued agricultural use and/or biodiversity improvements.

4.8 The development of the Site for a Solar Farm would not result in the permanent loss of agricultural land. Agricultural activities could take place alongside the operation of a solar farm, such as grazing. The development is proposed for a temporary period after which the Site will be restored to its former state and will continue in agricultural use; therefore, there will be no permanent loss of agricultural land as a result of the development of the Site.

4.9 In addition, the Proposed Development would provide considerable ecological and biodiversity benefits. The land between the panels will be left to encourage natural regeneration of the natural seedbank and existing natural features retained and enhanced

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

5.0 Conclusion

5.1 The search area for the sequential site analysis has been defined as 2 km from the grid connection point for the reasons identified within this Supporting Statement. The sequential site analysis has been carried out in accordance with the methodology described in this Supporting Statement. It is concluded that the proposed Development site meets the requirements of NPPF and NPPG for the following reasons:

- There are no suitable sites comprising land that is previously developed land or non-agricultural land of low ecological value within the identified study area;

- The proposed development site is located on land that is ALC Grade 2, which is considered to be Best and Most Versatile land; however, it is also considered that there is no permanent loss of this BMV land and due to the potential continued agricultural or pastoral use of the land, could leave the land even more fertile post decommissioning of the development.

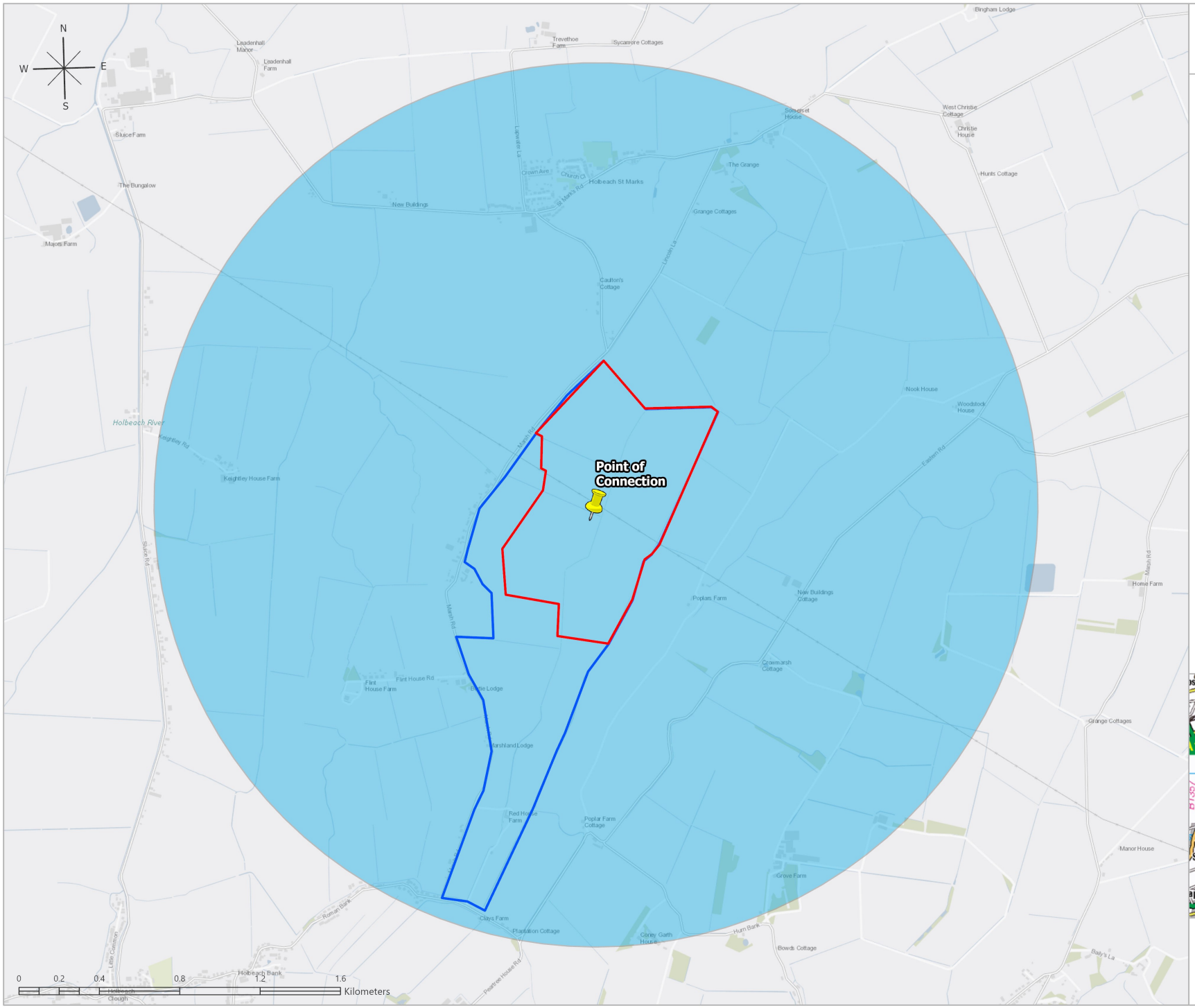
- There are no sites comprising land that is of a lower ALC grade (Grade 3-5) within the search area, which reflects the high-quality land that is found throughout South East Lincolnshire, therefore, providing little opportunity to locate developments on poor quality land.

- The proposed development of the agricultural land is necessary.

- The proposed development allows for continued agricultural use where applicable and encourages biodiversity improvements around arrays.

5.2 Additionally, the Development site is the closest to the grid connection of those assessed and will cause the least impact on residential amenity and heritage designations, thus maximising benefit and minimising environmental impact in respect of those two aspects.

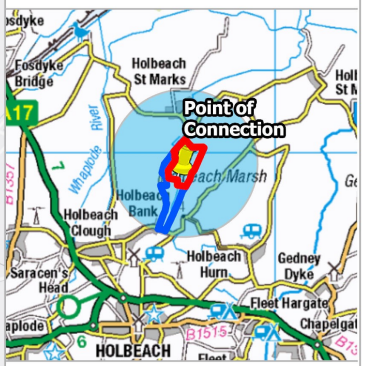
Appendix A: Sequential Site Analysis Study Area



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Legend

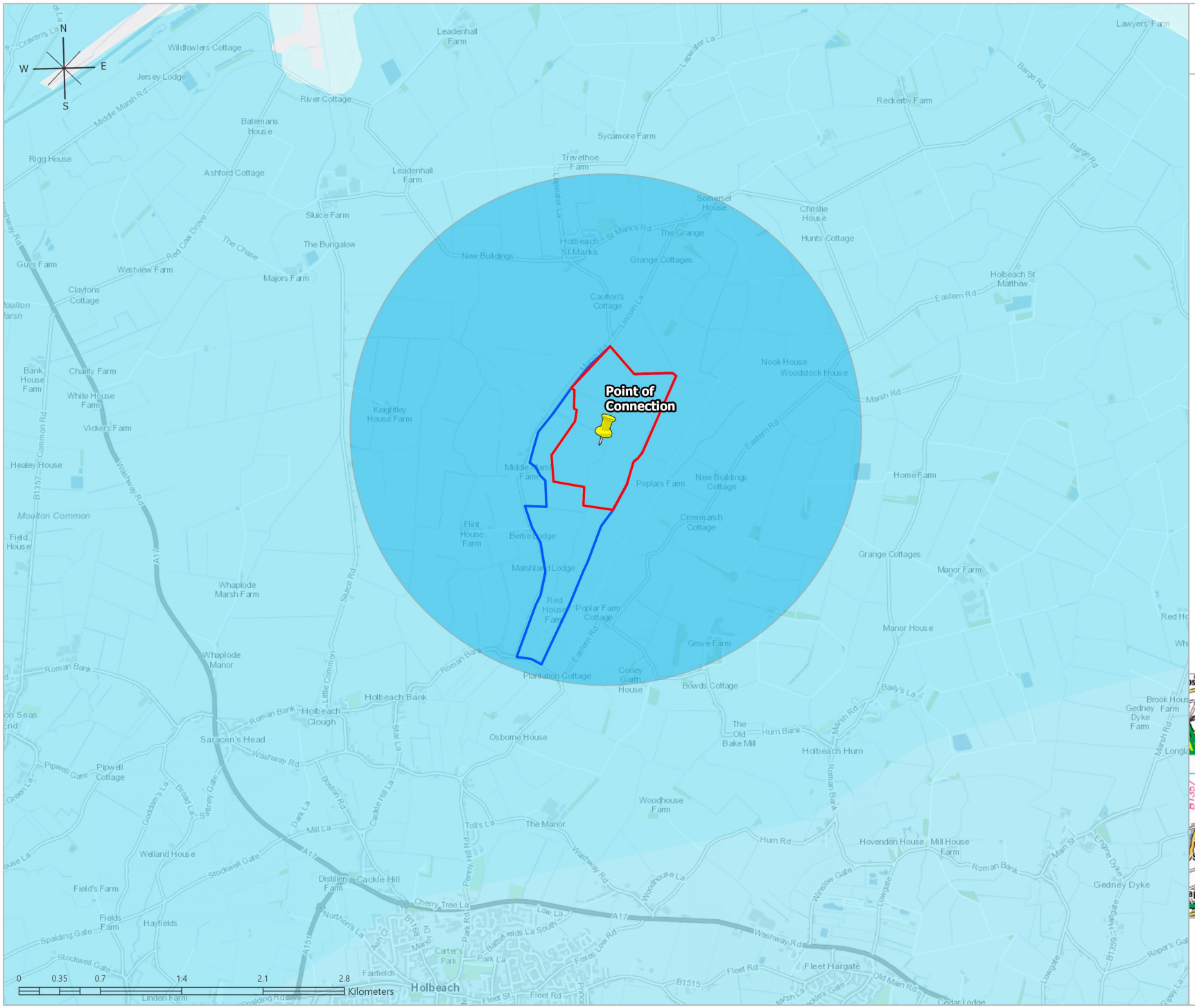
- Land Ownership Boundary
- Application Site
- Point of Connection
- Sequential Test Search Area (2.2km)



Sequential Test Search Area

Scale: 1:17,348
Date Exported: 14/09/2022
Created by AAH Planning

Appendix B: Agricultural Land Classification Map for Study Area



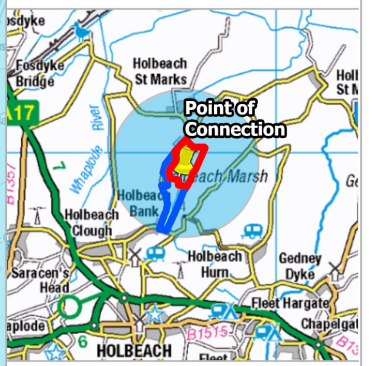
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Legend

- Land Ownership Boundary
- Application Site
- Point of Connection
- 2.2km Buffer

Agricultural Land Classification (ALC)

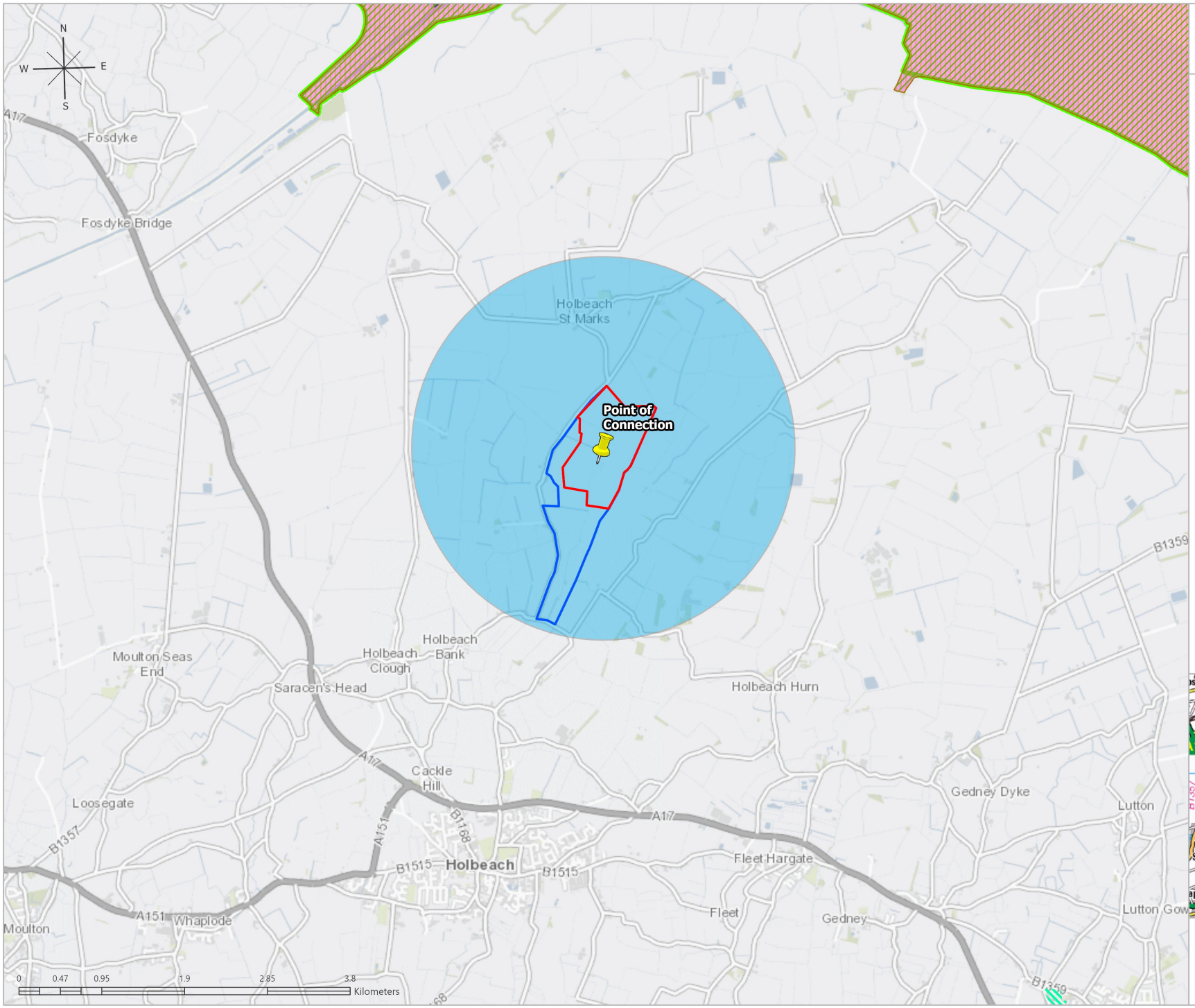
- Grade 1
- Grade 2



Agricultural Land Plan

Scale: 1:30,000
Date Exported: 14/09/2022
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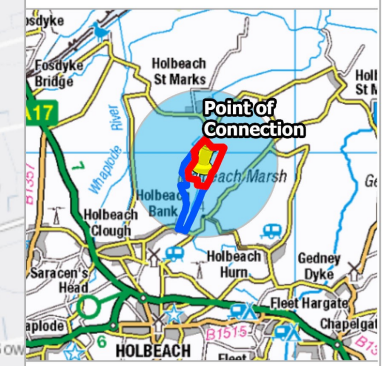
Appendix C: Environmental Constraints Map for Study Area



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Legend

- Land Ownership Boundary
- Application Site
- Point of Connection
- 2.2km Buffer
- Sites of Special Scientific Interest (SSSI)
- Special Protection Areas
- Local Nature Reserves
- Ramsar Sites
- Special Areas of Conservation
- National Nature Reserves



Ecology Constraints Plan

Scale: 1:40,000
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