Cottam Solar Project

Design and Access Statement

Part 1 of 4

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Cottam
SOLAR PROJECT

Contents

Issue Sheet

Report Prepared for: Cottam Solar Project Ltd.
DCO Submission

Design and Access Statement

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Executive Summary

This Design and Access Statement supports the application for a Development Consent Order (DCO) for the construction, operation, maintenance and decommissioning of a ground mounted solar energy generating station, energy storage facility, substations and grid connection (hereafter referred to as 'the Scheme'). The Applicant is Cottam Solar Project Limited, part of Island Green Power. The Scheme is located to the northwest of Lincoln, straddling the Lincolnshire-Nottinghamshire border.

The Scheme will make a significant contribution to the production, supply and storage of a renewable and more sustainable form of energy. This Design and Access Statement has been provided to support the DCO application by describing the design evolution process adopted for the Scheme, culminating in the proposals which are the subject of the application.

The project design team is comprised of qualified and experienced professionals, including solar energy specialists, highway and drainage engineers, planners, landscape professionals, heritage specialists, ecologists, and other environmental professionals. The contributions of all disciplines have been crucial to informing the design approach to the Scheme. The design team has also worked collaboratively with local stakeholders, residents, and other consultees to ensure that the design has been informed by local knowledge and expertise.

The overarching vision for the development seeks to ensure that the Scheme contributes to renewable energy policy targets and objectives, which includes responding positively to the existing site context, baseline analysis and assessment of potential impacts. The Scheme seeks to do so through delivery of a design that positively responds to its locational context, delivers on the potential substantial benefits to energy production, climate change, and biodiversity enhancement, whilst keeping negative impacts on the local and wider environment to a minimum. Design objectives were set by the Applicant and the project team to meet these criteria. These were:

- Delivery of a significant amount of affordable, renewable energy to contribute to national targets for reducing carbon emissions to net zero by 2050;
- Delivery of improved energy resilience by diversifying energy production and storing energy for when it is needed most;
- Contribution towards strategic improvements to local ecology and biodiversity;
- Develop the Scheme sensitively to the surrounding landscape, limiting the impact on views for key landscape receptors, residential properties, and recreational routes;
- Develop the Scheme sensitively in response to the presence of heritage assets and their settings;

- Safeguard surrounding hydrological systems, and ensure the Scheme is resilient to flooding and will not increase flood risk elsewhere, taking account of the impacts of climate change; and
- Ensure the protection, and where possible enhancement, of existing Public Rights of Way and ensure the continued safe use of the public highway network.

1 Introduction

1.1 Context

1.1.1 This Design and Access Statement supports the application for a Development Consent Order (DCO) for the construction, operation, maintenance and decommissioning of a ground mounted solar energy generating station, energy storage facility, substations and grid connection (hereafter referred to as 'the Scheme') and associated development. The Applicant is Cottam Solar Project Limited, which is part of Island Green Power.

1.1.2 The DCO application will be submitted under Section 37 of the Planning Act 2008 (the "Act")[1] to the Secretary of State for Department for Business, Energy & Industrial Strategy (BEIS). As the Scheme will have a generating capacity of over 50MW of electricity it is defined as a Nationally Significant Infrastructure Project (NSIP) under 14(1)(a) and 15(2) of the Act.

1.1.3 There is no specific guidance relating to the preparation of Design and Access Statements for Nationally Significant Infrastructure Projects (NSIPs), however the document has been prepared in line with national guidance on the subject, specifically:

- Design and Access Statement: How to Read, Write and Use Them, produced by CABE (2007); and
- Guidance on Information Requirements and Validation, published by the Department for Communities and Local Government (2010).

1.1.4 The Scheme will make a significant contribution to the production, supply and storage of a renewable and more sustainable form of energy. This Design and Access Statement has been provided to support the DCO application by describing the design evolution process adopted for the Scheme, culminating in the proposals which are the subject of the application. This document should therefore be read in conjunction with the DCO application documents as referenced in-text.

1.1.5 The Scheme is located to the northwest of Lincoln, straddling the Lincolnshire-Nottinghamshire border. The main built form of the Scheme, namely, the solar energy generating stations and associated development (including substations and energy storage facility) is to be situated in the District of West Lindsey in Lincolnshire. The only element of the Scheme within Nottinghamshire (within the Bassetlaw District), will be the buried cable connecting the solar farm and energy storage facility to the National Grid at Cottam Power Station (and any associated works within the National Grid substation operational area).

1.1.6 This Design and Access Statement provides, in accordance with Section 4.5 of the Overarching National Policy Statement for Energy (2011) (NPS EN-1), information regarding the context of the Scheme's location; how the design has evolved, including how it has been influenced by planning policy and stakeholder engagement; and the proposed outline design solution including access. This

document sets out how the fundamental principle of good design has been embedded in the Scheme.

1.1.7 The spatial extent of the Scheme is referred to as the Order limits and is shown on the **Works Plans [EN010133/APP/C2.4]** accompanying the DCO application which are secured by Article 3 of the **Draft DCO [EN010133/APP/C3.1]**. The Environmental Impact Assessment (EIA) presented in the **Environmental Statement (ES) [EN010133/APP/C6.1-6.5]** has been undertaken based on the maximum extents of each of the Work packages described in Schedule 1 to the Draft DCO as shown on the Works Plans. This approach is known as the use of a 'Rochdale Envelope' which is described in footnote 78 to paragraph 4.2.8 of NPS EN-1 as being an assessment based on a *"series of maximum extents of a project for which the significant effects are established. The detailed design of the project can then vary within this 'envelope' without rendering the environmental impact assessment inadequate"*.

1.1.8 Due to the rapidly evolving technology within the solar photovoltaics and energy storage system sectors, the in-built flexibility allows for the most up-to-date technology to be utilised for the development of the Scheme. The full detail design at the point of construction will be managed post-consent through the Requirements set out in Schedule 2 of the **Draft DCO [EN010133/APP/C3.1]**.

1.1.9 The project design team is comprised of qualified and experienced professionals, including solar energy specialists, highway and drainage engineers, planners, landscape professionals, heritage specialists, ecologists, and other environmental professionals. The contributions of all disciplines have been crucial to informing the design approach to the Scheme. The design team has also worked collaboratively with stakeholders to ensure that the design was informed by local knowledge and expertise.

1.1.10 Further details regarding the need for the Scheme are provided in the **Statement of Need [EN010133/APP/C7.11]** and **Planning Statement [EN010133/APP/C7.5]**, and details of the site selection process are provided in **ES Chapter 5: Alternatives and Design Evolution [EN010133/APP/C6.2.5]** and its associated Appendix 5.1 **[EN010133/APP/C6.3.5.1]**.

1.2 Document Structure

1.2.1 Supporting plans and Figures relating to this Design and Access Statement are provided in **Appendix 1**.

1.2.2 The following sections comprise the remainder of this Design and Access Statement.

Section 2: Design Policy and Guidance

1.2.3 This section sets out the policy context and guidance relating to large scale energy infrastructure including design objectives and strategies, and definitions of what constitutes 'good design'.

Section 3: Scheme Location and Context

1.2.4 Section 3 presents an overview of the Order limits and their surroundings. This section goes on to identify the characteristics and key environmental features that have informed the development of the Design Objectives identified in the following section.

Section 4: Design Objectives

1.2.5 This section establishes the overall vision and objectives that have guided and informed the iterative design process. The Design Objectives set out how the Scheme will deliver the overall vision whilst being sensitive to the character and features identified in Section 3.

Section 5: Design Evolution

1.2.6 This section sets out the sequential and iterative development of the design, showing the evolution of the Scheme at the different project stages in response to the baseline information gathered from desk and field-based assessments, from feedback from stakeholders and ongoing design workshops.

Section 6: Design Masterplan

1.2.7 The Design Masterplan visually illustrates how the spatial design of the Scheme meets its objectives.

Section 7: Access

1.2.8 This section sets out the access strategy for construction and operational traffic to the Sites. This section also shows the existence of public rights of way, the nature of temporary diversions or closures, and the creation of new permissive routes as part of the Scheme.

Section 8: Commitments

1.2.9 This section explains how the delivery of the design features and commitments presented in this document will be secured by the DCO.

2 Design Policy and Guidance

2.1 Overview

2.1.1 This section considers guidance and policy relevant to the design of major energy infrastructure. This includes policies set out in the adopted and draft National Policy Statements for Energy, the National Planning Policy Framework (NPPF) and relevant local planning policy considered important and relevant to the Secretary of State's decision. Other sections of this Design and Access Statement and supporting plans demonstrate how the Scheme complies with these policies, as supported by the **Planning Statement [EN010133/APP/C7.5]** submitted as part of the DCO application.

2.2 National Policy

National Policy Statements for Energy: July 2011

2.2.1 The Overarching National Policy Statement for Energy (EN-1) (hereafter "NPS EN-1")[2] sets out the Government's policy for delivery of major energy infrastructure.

2.2.2 The principles for good design by which all energy infrastructure should adhere to are set out in Section 4.5 of NPS EN-1. Paragraph 4.5.1 states that good design should *"produce sustainable infrastructure sensitive to place, efficient in the use of natural resources and energy used in their construction and operation, matched by an appearance that demonstrates good aesthetic as far as possible"*. Paragraph 4.5.1 goes on to acknowledge that *"the nature of much energy infrastructure development will often limit the extent to which it can contribute to the enhancement of the quality of the area"*.

2.2.3 Paragraph 4.5.3 requires energy infrastructure developments to be satisfactorily sustainable and be as *"attractive, durable and adaptable (including taking account of natural hazards such as flooding) as they can be"* taking into consideration both functionality and aesthetics, and potential limitations of choice in available energy infrastructure designs. Paragraph 4.5.4 expects the Secretary of State to consider the *"ultimate purpose of the infrastructure"* and its *"operational, safety and security requirements which the design has to satisfy"* in considering whether good design can be demonstrated.

2.2.4 NPS EN-1 identifies adapting to climate change as a key consideration of design. Specifically, paragraph 4.8.5 requires applicants to consider the impacts of climate change *"when planning the location, design, build, operation and, where appropriate, decommissioning of new energy infrastructure"*.

2.2.5 Together with NPS EN-1 The National Policy Statement for Renewable Energy Infrastructure (EN-3)[3] provides the primary basis for decision making on applications for nationally significant renewable energy infrastructure.

2.2.6 NPS EN-3 expects renewable energy NSIPs to demonstrate *"good design in respect of landscape and visual amenity, and in the design of the project to mitigate impacts such as noise and effects on ecology"* (paragraph 2.4.2).

2.2.7 National Policy Statement for Electricity Networks Infrastructure (EN-5)[4] also identifies that proposals for electricity networks infrastructure should demonstrate good design in their approach to mitigating potential adverse impacts (paragraph 2.5.1).

Draft National Policy Statements for Energy: September 2021

2.2.8 The Government is currently reviewing and updating the Energy NPSs in an effort to respond to updated national energy requirements, whilst also for the first time including specific policies for solar photovoltaic generation NSIPs. The suite of Draft Energy NPSs were published for consultation on 6 September 2021.

2.2.9 Draft NPS EN-1[5] sets out at section 4.6 that applicants should consider how 'good design' can be applied at the early stages of a project. It also recommends that applicants embed opportunities for nature inclusive design into their scheme and emphasises that wider impacts such as landscape and environmental impacts will be important factors in the design process.

2.2.10 Draft NPS EN-3[6] paragraph 2.51.4 and 2.51.5 set out that solar farm developers should consider the criteria for good design set out in section 4.6 of NPS EN-1, particularly in terms of layout, future maintenance and retention of boundary vegetation. It also sets out that solar farms should be designed sensitively to minimise environmental effects, including on landscape (paragraph 2.51.3) and heritage assets (paragraph 2.53.3).

National Planning Policy Framework: revised July 2021

2.2.11 The National Planning Policy Framework (NPPF)[7], most recently updated in July 2021, sets out the Government's planning policies for England and how these should be applied. Chapter 12 of the NPPF is concerned with how development can achieve well-designed places.

2.2.12 Good design is described in paragraph 126. It explains that *"the creation of high quality, beautiful and sustainable buildings and places is fundamental to what the planning and development process should achieve. Good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities."*

2.2.13 The NPPF goes on to define well-designed places at paragraph 130, with an emphasis given to ensure developments are reflective of *"local design policies and government guidance on design, taking into account any local design guidance and supplementary planning documents such as design guides and codes"* (paragraph 134). The NPPF also expects applicants to proactively engage with local planning authorities and communities during the evolution of development proposals, so that they can be more favourably considered.

2.2.14 The NPPF specifically demonstrates its requirement for the planning system to *"shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of*

existing resources" (paragraph 152); and for new development to be planned such that it is sufficiently resilient to the impacts of climate change (paragraph 154).

Levelling-up and Regeneration Bill – reforms to national planning policy: December 2022

2.2.15 The Government published on 22nd December 2022 a consultation document which sets out its proposed approach to updating the NPPF. The consultation is due to close on 2nd March 2023. It is understood that a fuller review of the NPPF will be undertaken in due course, with its scope dependent on the implementation of the government's proposals for wider changes to the planning system, including the Levelling-Up and Regeneration Bill.

2.2.16 In relation to design, the vast majority of Section 12 is to remain as per the July 2021 iteration (although paragraph numbers are to change). Additional emphasis is proposed to the preparation and use of local design codes, in line with the National Model Design Code (paragraph 135 of the consultation document). Furthermore, greater clarity regarding the use of planning conditions is made to make enforcement easier (paragraph 137 of the consultation document).

2.3 Local Policy

2.3.1 The below section provides an overview of design related policy identified within the relevant local development plans and neighbourhood plans. No supplementary design guidance documents have been identified as relevant to the Scheme due to its non-residential nature.

West Lindsey

Central Lincolnshire Local Plan (April 2017)[13]

2.3.2 Policies within the Central Lincolnshire Local Plan (April 2017) are applicable in West Lindsey District.

2.3.3 Policy LP17: Landscape, Townscape and Views seeks that development should help to *"protect and enhance the intrinsic value of* [West Lindsey's] *landscape and townscape, including the setting of settlements"*, through maintaining and responding positively to *"historic buildings and monuments, other landmark buildings, topography, trees and woodland, hedgerows, walls, water features, field patterns and intervisibility between rural historic settlements"* and any other features that *"positively contribute to the character of the area"*. Developments should also *"take account of views in to, out of and within development areas"* and therefore *"should be designed (through considerate development, layout and design) to preserve or enhance key local views and vistas and create new public views where possible."* Developments should also be conscious of the cumulative impacts on landscape and views.

2.3.4 Policy LP19: Renewable Energy Proposals sets out that in Central Lincolnshire, *"proposals will be supported where the benefit of the development outweighs the harm caused and it is demonstrated that any harm will be mitigated as far as is*

reasonably possible". Developments should therefore take account of "the surrounding landscape and townscape, heritage assets, ecology and diversity, residential and visual amenity, safety, and agricultural land classification.

2.3.5 Policy LP20: Green Infrastructure Network states that "*development proposals which are consistent with and help deliver the opportunities, priorities and initiatives identified in the latest Central Lincolnshire Green Infrastructure Study and Biodiversity Opportunity Mapping Study, will be supported."* Whereas *"Proposals that cause loss or harm to this network will not be permitted unless the need for and benefits of the development demonstrably outweigh any adverse impacts".* The policy sets out that *"Where adverse impacts on green infrastructure are unavoidable, development will only be permitted if suitable mitigation measures for the network are provided. Development proposals should ensure that existing and new green infrastructure is considered and integrated into the scheme design from the outset… Development proposals must protect the linear features of the green infrastructure network that provide connectivity between green infrastructure assets, including public rights of way, bridleways, cycleways and waterways, and take opportunities to improve such features."*

2.3.6 Policy LP21: Biodiversity and Geodiversity sets out that "*All development should: protect, manage and enhance the network of habitats, species and sites of international, national and local importance (statutory and non-statutory), including sites that meet the criteria for selection as a Local Site; minimise impacts on biodiversity and geodiversity; and seek to deliver a net gain in biodiversity and geodiversity."*

2.3.7 Policy LP26: Design and Amenity requires that all development *"must achieve high quality sustainable design that contributes positively to local character"* through taking account of the design principles set out in the policy:

- Effective and efficient use of land;
- Respect the existing topography, landscape character and identity;
- Incorporate and retain as far as possible existing natural and historic features;
- Incorporate appropriate landscape treatment;
- Provide well designed boundary treatments;
- Protect any important local views into, out of or through the site; and
- Use appropriate, high quality materials.

2.3.8 Developments should also ensure the amenity of existing and future occupants of neighbouring land and building is reasonably protected.

2.3.9 Policy LP55: Development in the Countryside refers primarily to buildings, however it does demonstrate that there is some level of support for development in the countryside, subject to the development being suitably accessible, justifiable in its location and of benefit to the local economy, and that it would not conflict with

neighbouring uses. This policy also seeks to protect best and most versatile agricultural land by seeking to minimise development on such land, or where feasible, once any development which is permitted has ceased its useful life, the land will be restored to its former use at of at least equal quality.

Central Lincolnshire Local Plan Review: Proposed Submission (March 2022)[14]

2.3.10 Policies within the Local Plan Review are subject to ongoing examination, and are anticipated to supersede policies within the adopted Local Plan (2017) once adopted.

2.3.11 Directly superseding Policy LP55 from the Local Plan (2017) Policy S5: Development in the Countryside in the Local Plan Review (2022) refers primarily to buildings, however it does demonstrate that there is some level of support for development in the countryside, subject to the matters set out in the policy.

2.3.12 Policy S14: Renewable Energy demonstrates Central Lincolnshire's continued support for suitably located renewable energy development, including solar farms in its efforts to transition to a net zero carbon future. Developments should have regard for scale, siting and design, and the consequent impacts on landscape character; visual amenity; biodiversity; geodiversity; flood risk; townscape; heritage assets and their settings; and highway safety; aviation and defence navigation system/communications; and sensitive neighbouring uses. Solar development specifically should also have regard for agricultural land classification, taking care to avoid best and most versatile agricultural land, peat land, or other carbon sinks.

2.3.13 Policy S48: Walking and Cycling Infrastructure highlights how the local plan seeks to support the facilitation of non-vehicular travel, and as such requires developments to *"protect, maintain and improve existing infrastructure, including closing gaps or deficiencies in the network, provide high quality attractive routes that are safe, direct, legible and pleasant and are integrated into the wider network."*

2.3.14 As in the previous iterations of this policy, Policy S53: Design and Amenity requires all development to achieve high quality sustainable design that contributes positively to local character, that responds actively and positively to context, local identity, built form, channels of movement, natural features and the environment, complementary land use, and uses high quality materials and a high standard of design to be able to ensure the development is adaptive throughout its lifetime.

Neighbourhood Plans

Corringham

2.3.15 The Site at Cottam 2, and the adjacent parts of the cable route within the parish of Corringham, fall under the Corringham Neighbourhood Plan (adopted 2021)[15], and as such, policies set out in the adopted neighbourhood plan are to be considered.

2.3.16 Policy CNP1: Sustainable Development Principles requires all development to be appropriately located and scaled, and of a high standard of design, having regard to the setting and character of the area. Developments should take account of key

landscape views, should not unacceptably affect residential amenity, and should respect the local built, social, cultural, historic and natural heritage assets.

2.3.17 Policy CNP5: Local character and the design of new development seeks to have development proposals recognise and complement the local character of the areas identified and described in the Corringham Character Assessment, respecting existing plot boundaries and the grain of development, predominant materials used in the area, reflect the predominant boundary treatments, and protect and retain watercourses as open features, with other sustainable drainage measures.

Glentworth

2.3.18 The part of the cable route within the parish areas of Glentworth falls under the Glentworth Neighbourhood Plan (adopted 2019)[16]. Under Policy 1: Views, development is required to take regard of identified Key Local Views, all development to be designed such that it does not significantly and adversely impact on residential amenity, character and appearance of the area, nor on social, built, historic cultural and natural assets in the neighbourhood plan area.

2.3.19 Policy 3: Design and Character of Development seeks for all new development to be designed or detailed to compliment the established character of the village, and reinforces the importance of retaining existing mature trees, hedgerows and verges, and to incorporate these in new development. Development should also take account of flood risk issues in the immediate locality and incorporate solutions appropriate to local circumstances.

Sturton by Stow, and Stow

2.3.20 A significant portion of the Site at Cottam 1, and the adjacent parts of the cable route, fall within the parishes of Sturton by Stow, and Stow, and as such fall under the Sturton by Stow and Stow Neighbourhood Plan (adopted 2022)[13].

2.3.21 Policy 1: Sustainable Development is predominantly aimed at controlling residential or employment development, but nevertheless demonstrates that the neighbourhood plan seeks for development to be located, designed, constructed and operated so as to be consistent with the national target of bringing the United Kingdom's greenhouse gas emissions to net zero by 2050, is designed to mitigate impacts on climate change, and incorporates design measures for adaptation and resilience to climate change.

2.3.22 Policy 5: Delivering Good Design requires developments to be appropriate in scale, nature and location, whilst demonstrating good quality design and respecting character and appearance of the surrounding area, as well as promoting renewable energy generation and energy efficiency, minimising risk of flooding, and ensuring the design of all aspects of the development incorporate climate change adaptation and resilience measures.

Bassetlaw District

Bassetlaw District Local Development Framework: Publication Core Strategy and Development Management Policies (adopted November 2010)[8]

2.3.23 Policy DM4: Design and Character expects development to be designed to a high quality that addresses the key areas of concern set out in the policy wording. New developments should respect its local character and its distinctiveness, complementing and enhancing the character of the surrounding built, historic, and natural environment and landscape character. Furthermore, "ne*w development should ensure that it does not have a detrimental effect on the residential amenity of nearby residents*", and "*will need to demonstrate that careful consideration has been given to minimising CO2 emissions*". Although the wording of the document is focussed on buildings, the policy seeks to "*[maximise] opportunities to integrate renewable and low carbon energy infrastructure*", demonstrating the importance of renewable energy to local policy commitments.

2.3.24 Policy DM09: Green Infrastructure; Biodiversity & Geodiversity; Landscape; Open Space and Sports Facilities states that "*Development proposals will be expected to support the Council's strategic approach to the delivery, protection and enhancement of multi-functional Green Infrastructure, to be achieved through the establishment of a network of green corridors and assets (please refer to the Council's Green Infrastructure work for a full list of Green Corridors and Nodes within, and running beyond, the District) at local, sub-regional and regional levels. Particular support will be given to proposals that will further the development of: The Idle Valley Project; The Trent Vale Partnership; Sherwood Forest Regional Park. Development proposals will be expected to demonstrate, in line with the Council's Green Infrastructure work, that:*

i. they protect and enhance green infrastructure assets affected by the development and take opportunities to improve linkages between green corridors;

ii. where they overlap with or will affect existing green infrastructure nodes or corridors, such assets are protected and enhanced to improve public access and use;

iii. where opportunities exist, development proposals provide improvements to the green infrastructure network that benefit biodiversity through the incorporation of retained habitats and by the creation of new areas of habitat; and

iv. they provide robust delivery mechanisms for, and means of ensuring the long-term management of, green infrastructure.

Development that will result in the loss of existing green infrastructure may be supported where replacement provision is made that is considered to be of equal or greater value than that which will be lost. Where new development may have an adverse impact on green infrastructure, alternative scheme designs that minimise impact must be presented to the Council for consideration before the use of mitigation measures (e.g. off-site or through financial contributions for improvements elsewhere) is considered."

2.3.25 Regarding biodiversity, the policies state that "*Development that will result in the loss of such features may be supported where replacement provision is made that is considered to be of equal or greater value than that which will be lost and which is likely to result in a net gain in biodiversity. Where new development may have an adverse impact on such features, alternative scheme designs that minimise impact must be presented to the Council for consideration before the use of mitigation measures is considered. Where sufficient mitigation measures cannot be delivered, compensation measures must be provided as a last resort.*"

2.3.26 Regarding landscape matters, the policy requires that *"New development proposals in and adjoining the countryside will be expected to be designed so as to be sensitive to their landscape setting. They will be expected to enhance the distinctive qualities of the landscape character policy zone in which they would be situated, as identified in the Bassetlaw Landscape Character Assessment. Proposals will be expected to respond to the local recommendations made in the Assessment by conserving, restoring, reinforcing or creating landscape forms and features accordingly."*

2.3.27 Policy DM10: Renewable and Low Carbon Energy sets out that the Bassetlaw District Council should be "*supportive of proposals that seek to utilise renewable and low carbon energy to minimise CO2 emissions*", where they comply with the identified locations for energy opportunities, and where they are:

- *"compatible with policies to safeguard the built and natural environment, including heritage assets and their setting;*
- *will not lead to the loss of or damage to high-grade agricultural land;*
- *are compatible with tourism and recreational facilities;*
- *will not result in unacceptable impacts in terms of visual appearance; landscape character; noise; shadow-flicker; watercourse engineering and hydrological impacts; pollution; traffic generation; or loss of features of recognised importance for biodiversity;*
- *will not result in an unacceptable cumulative impact in relation to the factors above."*

Bassetlaw Local Plan 2020-2038 Publication Version Composite (published for examination July 2022)[9]

2.3.28 Policies within the Local Plan 2020-2038 are subject to ongoing examination, and are anticipated to supersede policies within the Core Strategy (November 2010) document once adopted.

2.3.29 Policy ST35: Design Quality requires that *"all development must be of a high quality design"* that has a *"clear function, character and identity based upon a robust understanding of local context, constraints and distinctiveness, while reflecting the principles of relevant national and local design guidance; where appropriate, positively preserves, enhances and integrates landscape and townscape features, and natural and heritage assets; respects and complements the local context;*

incorporates and/or links to a well-defined green/blue infrastructure network; incorporates high quality landscape design and maximises opportunities for greening; and is sustainable in design and construction, and utilises modern construction methods and durable materials".

2.3.30 Policy ST37: Landscape Character sets out that the Council will be supportive of proposals that contribute to the nature and quality of Bassetlaw's landscapes, where it can be demonstrated they protect and enhance the distinctive qualities of the relevant landscape character zone.

2.3.31 Policy 48: Protecting Amenity expects proposed development to *"be designed and constructed to avoid and minimise impacts on the amenity of existing and future users, individually and cumulatively, within the development and close to it"* through ensuring it does not have *"a significant adverse effect on the living conditions of existing and new residents"* nor *"generate a level of activity, noise, light, air quality, odour, vibration or other pollution which cannot be mitigated to an appropriate standard"*.

Neighbourhood Plans

Rampton and Woodbeck

2.3.32 The part of the cable route within the parish areas of Rampton and Woodbeck, and the grid connection point, fall under the policy area of the Rampton and Woodbeck Neighbourhood Plan[10], and as such, the policies set out in the adopted neighbourhood plan are to be considered.

2.3.33 Policy 5: Development Principles, requires all development to be designed such that it safeguards important views, respects existing plot boundaries and the grain of development, and respects the predominant materials used in the area.

2.3.34 Policy 10: The Protection of the Parish Landscape requires development to be well designed to seek to enhance distinctive character of the villages, maintaining the villages' rural appearance, and to minimise the visual impact on the landscape setting.

Treswell and Cottam

2.3.35 The part of the cable route within the parish areas of Treswell and Cottam falls within the Treswell and Cottam Neighbourhood Plan Area, and as such, policies set out in the adopted neighbourhood plan are to be considered.

2.3.36 In the made Neighbourhood Plan (adopted 2019)[11], Policy 1: Development in Treswell and Cottam requires all development to be designed such that it does not significantly and adversely impact on residential amenity, character and appearance of the area, nor on social, built, historic cultural and natural assets in the neighbourhood plan area.

2.3.37 Furthermore, Policy 2: Design Principles requires developments to retain important views, respect the existing grain of development, respect local materials, and to retain and take inspiration from existing boundary treatments.

2.3.38 The Treswell and Cottam Neighbourhood Plan is currently under review and is at Pre-Submission Draft stage (as of January 2022)[12]. Although not yet adopted, the policies are of some weight due to their progression and consistency with the previous plan and updated Local Plan position. Policy 6: Design Principles carries over the requirements from Policy 2 of the adopted plan.

2.4 Industry Guidance

National Infrastructure Commission: Design Principles for National Infrastructure (2020)

2.4.1 Design Principles for National Infrastructure[18] are a set of key design principles developed by the National Infrastructure Commission's (NIC) design group to guide the planning and delivery of major infrastructure projects. These key principles are:

- Climate: Mitigate carbon emissions and adapt to climate change
- People: Reflect what society wants and share benefits widely
- Places: Provide a sense of identity and improve our environment
- Value: Achieve multiple benefits and solve problems well

2.4.2 These principles aim to promote a holistic approach to infrastructure design that improves environmental performance whilst focussing design measures around improving the scope of beneficial impacts infrastructure can bring.

Solar Energy UK: 11 Commitments on Solar Farms

2.4.3 Solar Energy UK is a non-profit trade association which represents a significant portion of the UK's solar energy businesses. Members of the association are expected to comply with best practice industry guidance through the adoption of 11 key commitments on their solar sites[19]. Those related directly to design are:-

- for design measures to enhance the biodiversity and natural capital value of all solar sites,
- being sensitive and complementing nationally and locally protected landscapes and nature conservation areas;
- deliver multi-functional land use by proposing co-location with agriculture and/or nature recovery projects for solar and energy storage developments;
- accommodate needs for rights of way and sites of archaeological importance;
- and to minimise visual impact where possible, making visual enhancements, and including appropriate screening.

BRE: Planning guidance for the development of large scale ground mounted solar PV system

2.4.4 The Building Research Establishment (BRE) provides research, advice, training, testing, certification and standards for both public and private sector organisations in the UK and abroad within the construction sector.

2.4.5 BRE have published guidance on the development of large-scale solar farms, which addresses documents that need to be provided within a planning application, as well as relevant considerations to the determination of planning applications for large scale solar.

3 Scheme Location and Context

3.1 Order Limits and Locational Context

3.1.1 The Scheme is located in the East Midlands, straddling the boundary of two district authorities in two counties, these being West Lindsey in Lincolnshire and Bassetlaw in Nottinghamshire.

3.1.2 The Scheme consists of four distinct electricity generation stations known as Cottam 1, Cottam 2, Cottam 3a and Cottam 3b, connected to each other and to the grid connection point at Cottam Power Station National Grid Substation by underground cables.

3.1.3 The Order limits and Scheme Location are shown in **Appendix 1: Figure 1.1** of this document.

Cottam 1

3.1.4 Cottam 1 consists of a discontinuous ring of sub-sites totalling 812.1ha in area, located around the hamlet of Coates, Lincolnshire. The sub-sites lie within the civil parishes of Cammeringham, Fillingham, Stow, Sturton-by-Stow, Thorpe in the Fallows, and Willingham.

3.1.5 The Site at Cottam 1 consists almost entirely of agricultural fields used for arable crops or animal grazing. A small amount of the Site consists of grassland, riverbank, and small areas of trees. The topography of Cottam 1 is relatively flat, falling within the wider plain of the River Till, which the Site traverses. The Site is interspersed with other landholdings that accommodate farmsteads. The Site includes existing farm access tracks and field accesses. The Site is crossed by a small number of Public Rights of Way, and is bounded and traversed by a number of local roads. Overhead lines (up to 33kV only) operated by the local distribution network operator (DNO) cross parts of the Site.

3.1.6 The surrounding area is predominantly arable farmland, interspersed with a significant number of woodland blocks, adjoining and within close proximity to the eastern portion of the landholding. The settlements at Coates and Thorpe le Fallows lie closest to the Site, whilst larger villages are found along north-south routes to the east and west of the Site, the largest of these being Sturton by Stow. The topography of the surrounding area is largely defined by the flood plains of the River Trent and River Till, and is bounded to the east by a limestone escarpment known as "The Cliff".

3.1.7 The Site's surrounding areas contain a number of historic designations including listed buildings, three Scheduled Monuments in close proximity to the Site, and a large number of conservation areas in the nearby villages.

3.1.8 The Site and its surroundings are home only to a small number of ecological designations, none of which are of national or international designation.

Cottam 2

3.1.9 Cottam 2 consists of a single site of 156ha in area, located approximately 1km northeast of the village of Corringham.

3.1.10 The Site at Cottam 2 consists almost entirely of agricultural fields used for arable crops with a small area of grassland and ponds, and a small area for agricultural storage. The topography of Cottam 2 is relatively flat and is predominantly well screened from its immediate surroundings by tall hedges. Corringham Beck and Yawthorpe Beck bound the northwestern and eastern sections of the site respectively. The fields are generally large and typically have dividing hedgerows. There are only isolated trees outside of field margins. The Site benefits from existing field accesses. The Site is not crossed by any Public Rights of Way. Overhead lines (11kV to 33kV) operated by the local DNO, cross parts of the Site.

3.1.11 The surrounding area is predominantly arable farmland, interspersed with a small number of woodland blocks, adjoining and within close proximity to the eastern portion of the landholding. The village of Corringham lies close to the southwest of the Site, whilst the hamlets of Aisby and Yawthorpe can be found to the northwest and east respectively. The topography of the surrounding area is largely defined by the hills above Gainsborough to the west, and to the east by a limestone escarpment known as "The Cliff".

3.1.12 The Site's surrounding areas contain a small number of historic designations including three Scheduled Monuments to the north of the Site. These are:-

1. Gilby medieval settlement and cultivation remains
2. Southorpe medieval settlement and cultivation remains
3. Dunstall deserted village

3.1.13 The nearby village of Hemswell contains a conservation area.

3.1.14 The Site and its surroundings are home only to a small number of ecological designations, none of which are of national or international designation. Notably, the area of The Cliff around Hemswell is designated as an Area of Great Landscape Value by the district authority.

Cottam 3a

3.1.15 Cottam 3a totals 169.49ha in area, located 1km east of the village of Blyton. The sub-site known as Cottam 3a lies within the civil parishes of Blyton and Laughton.

3.1.16 The Site predominantly comprises agricultural fields used for arable crops. However, parts are a former airfield and therefore feature areas of hardstanding used for material storage, and larger areas of grassland. The topography is relatively flat and is predominantly well screened from its immediate surroundings by hedges. The fields are generally large and typically have dividing ditches and hedgerows including some with tree rows. The Site benefits from existing field accesses and access via the entrance to Blyton Racetrack.

3.1.17 The surrounding area is predominantly arable farmland, interspersed with a small number of tree belts along major field boundaries. The village of Blyton and Pilham lie close to the west of the Site, whilst the villages of Northorpe and Laughton can be found to the northeast and northwest respectively. The topography of the surrounding area is largely defined by the hills above Gainsborough to the southwest, and to the east by a limestone escarpment known as "The Cliff". There is a significant area of woodland known as Laughton Forest approximately 3km to the northwest.

3.1.18 The Site's surrounding areas contain a small number of historic designations. Southorpe Scheduled Monument is located to the east of the Site. The majority of the Site is within an area that may contain archaeological remains.

3.1.19 The Site and its surroundings are home to a small number of ecological designations. The Site lies within the impact risk zones of several SSSIs, located around the villages of Laughton and Scotton to the northwest. Notably, the area of The Cliff to the east is designated as an Area of Great Landscape Value by the district authority.

Cottam 3b

3.1.20 Cottam 3b totals 74.27ha in area and is located to the east of the village of Pilham. Cottam 3b lies within the civil parishes of Blyton and Pilham. The site is entirely agricultural being used predominantly for arable crops.

3.1.21 The Site is crossed by a single Public Right of Way, and is bounded by a number of local roads including the B1205 Kirton Road. Overhead lines up to 132kV operated by the local DNO cross parts of the Site. The northern boundary is adjacent to the Brigg Branch of the Sheffield-Lincoln railway line.

3.1.22 The surrounding area is predominantly arable farmland, interspersed with a small number of tree belts along major field boundaries. The hamlet of Aisby lies to the south of Cottam 3b.

3.1.23 The Site and its surroundings are home to a small number of ecological designations. The Site lies within the impact risk zones of several SSSIs, located around the villages of Laughton and Scotton to the northwest. Notably, the area of The Cliff to the east is designated as an Area of Great Landscape Value by the district authority.

3.1.24 The Site's surrounding areas contain a small number of historic designations. Dunstall Scheduled Monument is located to the south-east of the Site, and Gilby Scheduled Monument to the south-west.

Cable Route Corridors

3.1.25 The Sites are connected to each other and to the grid connection point by some 27.5km of high voltage cable circuits. The routing of these cables is linear from Cottam 3a to Cottam 3b to Cottam 2 and then Cottam 1, where the 400kV substation

will be located. From there a 400kV cable runs to the connection point at Cottam Power Station.

3.1.26 The cable routes cross predominantly agricultural land, taking care to avoid unnecessary disruption or severance of land or ecological features. The cable will need to cross a number of key obstacles via the use of horizontal directional drilling. The main drilling sites will be located where the cable needs to cross the Main Line and Brigg Branch of the Sheffield-Lincoln railway, the River Till, and the River Trent. Smaller drilling sections may be required for other features such as roads and ditches. Full details of the likely required locations for horizontal directional drilling can be found in the **Crossing Schedule [EN010133/APP/C7.17]**. The cable route avoids urban areas such as Stow or Marton.

Additional Areas within the Order Limits

3.1.27 The Order limits of the DCO contain the full land area required to develop, operate, maintain, and decommission the Scheme. As such, these also include all access points and their visibility splays, as well as any additional land outside Local Highway Authority land required for the transportation of 'abnormal indivisible loads'.

3.2 Renewable Energy Constraints and Opportunities

3.2.1 The characteristics of the land and the Scheme's location are well suited for the generation of renewable solar energy. The land is predominantly flat or gently sloping, and predominantly (or capable of being) well screened from short- and long-range views. The Scheme is located in an area of the UK with good levels of solar irradiance, allowing the Scheme to efficiently produce energy. The Sites are well connected to the local highway network, allowing suitable construction and maintenance access. The Scheme is also located favourably close to a National Grid connection point with sufficient capacity as a result of the decommissioning of Cottam Power Station.

3.2.2 The Scheme encompasses a number of design practices which are detailed within **Section 8** of this document, which identifies a series of design commitments to be secured as part of the DCO.

3.3 Context Mapping

3.3.1 The Scheme has been subject to a desk-based review of constraints and features in the local context. These are shown in **Appendix 1: Figures 2.1-2.5** at the end of this document, and relate to the following subsections.

3.4 Landscape Character and Green Infrastructure

3.4.1 The geographic spread of the Scheme falls across three National Character Areas, which identifies landscape character at an England-wide scale. The Scheme also falls across five Regional Landscape Character Types (RLCT) as identified by The East Midlands Landscape Partnership, and four Local Character Areas identified by West Lindsey District Council. These character area maps are shown in **Appendix 1: Figures 2.1-2.2**. Full details of the character area assessments at all levels can be

found in the **ES Chapter 8: Landscape and Visual Assessment [EN010133/APP/C6.2.8]** and its associated figures.

3.4.2 NCA Profile 39: Humberhead Levels, is broadly characterised as a flat, low-lying and large-scale agricultural landscape bounded to the west by the low ridge of the Southern Magnesian Limestone and the east by the Yorkshire Wolds (north of the Humber). To the north it merges into the slightly undulating landscape of the Vale of York, at the line of the Escrick Moraine, and in the south it merges into the Trent and Belvoir Vales and Sherwood. NCA 39 lies immediately to the northwest of Cottam 3a and 3b.

3.4.3 Cottam 3a and 3b fall within NCA Profile 45: Northern Lincolnshire Edge with Coversands, which is broadly characterised by a ridge of Jurassic limestone running north from Lincoln to the Humber Estuary where the scarp slope rises prominently from adjacent low-lying land, forming the Edge or Cliff, and giving panoramic views out, in particular to the west. The Cliff runs north-south, nearby to the east of Cottam 1 and Cottam 2.

3.4.4 Cottam 1, Cottam 2, and the majority of the cable route fall within NCA Profile 48: Trent and Belvoir Vales. This area is broadly characterised by undulating, strongly rural and predominantly arable farmland, centred on the River Trent. A low-lying rural landscape with relatively little woodland cover, the NCA offers long, open views. Newark-on-Trent (generally referred to as Newark) lies at the centre with Grantham, Nottingham, Lincoln and Gainsborough on the peripheries. The southern and eastern edges of the Vales are defined by the adjoining escarpments of the Lincolnshire Edge and the Leicestershire and Nottinghamshire Wolds NCA.

3.4.5 The Applicant has followed a step-by-step site selection process which confirms the location of the Scheme is suitable for a large-scale solar farm. This has included the avoidance of sensitive landscape and environmental designations in confirming site suitability and consideration of alternative sites. Details of the process are set out within the ES at **Appendix 5.1: Site Selection Assessment [EN010133/APP/C6.3.5.1]**.

3.4.6 The following priorities have influenced the design of the Scheme:-

- Proximity of residential properties – with a proposed minimum 50m offset to curtilage boundary
- Identification of key visual receptors and key views

3.5 Agricultural Land

3.5.1 The majority of the land area within the Order limits is arable agricultural land. The vast majority of the land falls within Agricultural Land Classification Grade 3b, which is currently classified as lower quality agricultural land. The remaining land, which accounts for no more than 4.1% of the area of the Sites is classified as “best and most versatile” (BMV) agricultural land. These areas are identified in **Appendix 1:**

Figure 2.3a-c. The matter is reviewed in detail within **ES Chapter 19: Soils and Agriculture [EN010133/APP/C6.2.19]**.

3.5.2 Taking into account the baseline conditions, a number of opportunities for landscape and green infrastructure enhancement have been identified within the Order limits.

3.5.3 Where hedgerows and field-edge tree belts across the Order limits are fragmented or of a poorer quality, these can be improved through new supplementary planting and management of existing hedges to improve visual screening and ecological value. Within this, opportunity could be sought to diversify the age and species of the planting, whilst improving the provision of native species.

3.5.4 Whilst care has been given to exclude areas of greater landscape and ecological value from the Scheme Order limits, there are a number of valuable landscape features, such as woodland blocks and watercourses, that are within, bordered by, or encircled by the Order limits. The Scheme has therefore sought to avoid and reduce effects on such elements through adherence to minimum offsets and seek to enhance these where possible. These offsets have been determined through baseline ecological and landscape assessments, and are secured through the **Works Plans [EN010133/APP/C2.4]**, **Concept Design Parameters and Principles [EN010133/APP/C7.15]**, and the **Outline Landscape and Environmental Management Plan [EN010133/APP/C7.3]**.

3.5.5 There are a number of isolated residential properties and farmsteads in proximity to the Order limits, including a very small number that are partially encircled. The Scheme layout should therefore actively be sensitive to residential views, avoiding or reducing change wherever possible, and mitigating views of the solar arrays and supporting infrastructure through tailored planting measures. The Applicant and consultant team have been in close liaison with residents of these properties throughout the concept design and pre-application stages to understand and seek to respond to their concerns.

3.5.6 The following priorities have influenced the design of the scheme:-

- The avoidance of development of best and most versatile land where possible.

3.5.7 The land maximises the utilisation of low grade, non-best and most versatile (BMV) agricultural land with 95.9% of the land being classified as non BMV land as set out within the ES at **Appendix 5.1: Site Selection Assessment [EN010133/APP/C6.3.5.1].**

3.6 Ecology and Biodiversity

3.6.1 The habitats on the Sites are considered to be very much typical of their surroundings, and as such there is significant opportunity for Biodiversity Net Gain through the implementation of onsite habitat enhancement.

3.6.2 The Sites generally occupy arable farmland (cereals and oilseeds predominate) on level or gently undulating ground, characterised by large, open fields with a managed hedgerow and ditch network with narrow uncultivated margins. A small amount of permanent pasture is present, and this is either sheep grazed or managed as silage where present. Woodland and other habitats are generally absent within the Sites although a small number of shelter belts and copses are situated adjacent. In terms of wetland habitats, very few ponds are present on Site, with a small number a short distance away from field boundaries. The River Till runs adjacent to the western boundary of Cottam 1, while the Corringham and Yawthorpe Becks bound much of Cottam 2, and then Northorpe Beck forms the eastern boundary of Cottam 3a. Larger drains and permanently wet ditches can be found on each Site. Areas of known ecological value, or are of local, national, or international ecological designation are identified in **Appendix 1: Figure 2.4**.

3.6.3 Habitat creation and management priorities, as set out in the **Outline Landscape and Ecological Mitigation Plan [EN010133/APP/C7.3]** will be in part driven by the Biodiversity Opportunities Mapping produced by Greater Lincolnshire Nature Partnership and local policies promoting the connection of Green Infrastructure and Nature Recovery Networks, such as those associated with the River Till.

3.6.4 The following opportunities and priorities have influenced the design of the scheme:-

- Avoidance of national ecological designations
- Proximity to local ecological designations and sensitive ecological receptor – minimum 20m offset to designated area
- Proximity to major watercourses – minimum 20m offset
- Proximity to minor watercourses and ditches – minimum 8m offset
- Proximity to badger setts – minimum 30m offset
- Proximity to GCN sites – minimum 50m offset
- Proximity to trees with low, medium or high bat roost potential – minimum 8m, 12m, 20m offset

3.7 Cultural Heritage

3.7.1 Details of the heritage assets in the study area are presented and assessed in full in **ES Chapter 13: Cultural Heritage [EN010133/APP/C6.2.13].**

3.7.2 Due to the large scale and spread of the Sites, a number of designated and non-designated built heritage assets are located within the site or within the study area of the solar array Sites. These cultural heritage assets are identified in **Appendix 1: Figure 2.5**.

3.7.3 Although none are located within the Order limits, the 5km study area as set out in the **ES Chapter 13: Cultural Heritage [EN010133/APP/C6.2.13]** contains 21 Scheduled Monuments, and 35 Grade I or Grade II* listed buildings. The study area

also contains or partially covers 7 conservation areas, and 1 designated historic landscape asset. A 2km study area has been used for Grade II listed buildings, of which 74 have been identified. None of these are within the Scheme Order limits. There are also no non-designated heritage assets within the Order limits, although 7 are functionally surrounded by the Order limits and so are visually interpreted as being within the Scheme extents. A smaller 1km study area for non-designated archaeological assets has identified a total of 149no. assets, of which 17no. are within the Order limits.

3.7.4 The following priorities were identified to be taken forward through the design process:-

- Avoidance of national cultural heritage designations
- Areas of significant archaeology to be avoided
- Areas of moderate archaeology to be limited to restricted loading and non-penetrative foundations
- Context of cultural heritage assets to be considered

3.7.5 **ES Chapter 13: Cultural Heritage [EN010133/APP/C6.2.13]** addresses archaeological assessment and discusses the embedded mitigation measures that have been identified and adopted as part of the evolution of the project design at 13.1.62. This includes the removal of panels from especially archaeologically sensitive areas and the use of concrete feet and above ground cabling ducts to avoid impacts to archaeologically sensitive areas Where assets have been identified as requiring preservation in situ, with standard mitigation in place in the form of placing the panels on concrete feet, impacts would be avoided.

3.8 Hydrology

3.8.1 The majority of the Sites are at low risk of fluvial or surface water (pluvial) flooding, however, the location of the Scheme means that the Sites are crossed or bounded by a large number of watercourses. In particular, the River Till runs through Cottam 1, as do a number of its tributaries. As such, areas of the Sites closely related to watercourses are at greater risk of flooding. Surface water flooding channels also run through multiple parts of the Sites. Areas of known fluvial or pluvial flooding are identified in the **Flood Risk Assessment and Drainage Strategies at ES Appendices 10.1-10.6 [EN010133/APP/C6.3.10.1-6].**

3.8.2 These Flood Risk Assessments have been prepared for all the Sites to assess the flood risk from all sources before and after development. The impacts of the development are assessed in **ES Chapter 10: Hydrology, Flood Risk and Drainage [EN010133/APP/C6.2.10]**.

3.8.3 The following priorities were identified:-

- Avoidance of flood storage areas
- Avoidance of areas of surface water flooding greater than 1m depth

3.8.4 The design of the Scheme seeks to avoid the construction of vulnerable infrastructure in areas at risk of flooding. Less vulnerable infrastructure will be designed to ensure it can be resilient to flooding, and that its placement in areas of flood risk does not increase the risk of flooding elsewhere. Sustainable drainage systems (SuDS) will be implemented to ensure that the Scheme does not increase the risk of flooding elsewhere. The SuDS will be designed in such a way that they also deliver a biodiversity enhancement.

3.8.5 Inclusion of Sustainable Drainage Systems (SuDS) measures around any proposed vulnerable infrastructure (substations and batteries) and wildflower planting at the edge of the solar array areas will provide sufficient treatment as well as the attenuation required to maintain existing runoff rates.

3.9 Access and Movement

3.9.1 Each of the Sites has separate access routes, which will be used for construction, operation, maintenance and decommissioning. The local highway network has been assessed as being suitable for traffic associated with the Scheme at all phases.

3.9.2 Only the delivery of abnormal loads will require highways improvements or alterations, including the removal of boundary features to allow for the oversailing of third-party land.

3.9.3 **ES Chapter 14: Transport and Access [EN010133/APP/C6.2.14]** details new accesses to be created/upgraded as part of the scheme.

3.9.4 There are 11 Public Rights of Way that will be impacted by the Scheme, that are identified within table 14.5 of **ES Chapter 14: Transport and Access [EN010133/APP/C6.2.14]**. The Scheme has been designed so that it does not cause a permanent diversion or closure of a Public Right of Way, or make it so that the Public Right of Way is unsuitable or undesirable for use.

3.9.5 Where feasible, the design of the Scheme considers where additional accessibility, such as permissive paths or links between Rights of Way can be introduced to perform a level of community benefit or to enhance the walking and cycling network in the locality. This includes a new permissive path which is to be introduced to provide better connectivity and options for recreational walking between the village of Stow and Stow Pastures, allowing for circular walks to Normanby by Stow and Sturton by Stow. The permissive path route runs from Normanby Road, 100m north of School Lane, to field E3 in Cottam 1 before routing south to join Ingham Road.

4 Design Objectives

4.1 Vision

4.1.1 As stated in the introductory section of this document, the Scheme intends to make a significant contribution to the production of renewable energy. The Applicant is aiming to deliver the substantial benefits of the Scheme whilst being sensitive to potential impacts on the surrounding environment.

4.1.2 The Scheme would contribute to the UK's energy system meeting its renewable energy targets and policy objectives, whilst taking into full account the baseline analysis of the Sites and the assessment of potential impacts. The Scheme will deliver a design that positively responds to its locational context, delivers substantial benefits to energy production, climate change, and biodiversity enhancement, whilst minimising negative impacts on the local and wider environment.

4.2 Objectives

4.2.1 As part of the design process, the Applicant identified a number of key design objectives in order to achieve the project vision.

4.2.2 These objectives have been formulated to align with guidance published by the National Infrastructure Commission, Solar Energy UK and BRE.

Objective 1: Delivery of a significant amount of affordable, renewable energy to support policy objectives and national targets for reducing carbon emissions to net zero by 2050.

4.2.3 Each of the Sites have been designed to have a generating capacity of over 50MWe, with the Scheme having a total generating capacity of up to 600MW of renewable solar energy for 40 years for distribution by the National Grid. This will make a significant contribution towards meeting national energy demand, replacing approximately 30% of the former generation capacity of the coal powered Cottam Power Station.

4.2.4 The Scheme is anticipated to save a total of 5.9 million tonnes of carbon emissions to the atmosphere, as calculated in the **ES Chapter 7: Climate Change [EN010133/APP/C6.2.7]**. This is in comparison to the level of carbon emitted for the same energy generation as a standard gas fired Combined Cycle Gas Turbine (CCGT). This carbon reduction will support policy objectives and national targets to reach net zero carbon emissions by 2050, and is thus in compliance with the policy objectives as set out in NPS EN-1, EN-3 (and their draft revisions), EN-5 (and draft revisions) and in the NPPF (and consultation iteration).

Objective 2: Delivery of improved energy resilience by diversifying energy production and storing energy for when it is needed most.

4.2.5 The Scheme generates electricity through solar energy, which improves national energy resilience by reducing the need for fossil fuel-based energy production,

which is influenced to a large degree by international energy market pricing and supply fluctuations, which are often affected by world events beyond the control of infrastructure developers. Solar energy is a method of energy production that is independent of, and not as influenced by, these external factors, which can contribute to creating a resilient supply of energy helping to fulfil domestic energy demand, which is less sensitive to price volatility.

4.2.6 The design of the Scheme includes for the storage of either approximately 1,200MWh or 2,400MWh of energy, which can be stored from production on site, or from surplus energy on the Grid, so that it can be released back onto the Grid at times of peak demand. This is equivalent to either a 2-hour or 4-hour discharge time at maximum export to the Grid. These options have been selected by the developer as predicted responses to meet needs of the electricity market, and to allow for optionality to respond to advancements in solar panel and battery energy storage technology. This will help to support policy objectives for delivery of renewable energy by reducing demand for non-renewable energy at peak times, and by providing grid balancing services to help increase the resilience of the electricity distribution network. The developer will give consideration to these factors when determining which option to pursue post-consent.

Objective 3: Contribution towards strategic improvements to local ecology and biodiversity.

4.2.7 The area within the Order limits consists of fragmented areas of good quality ecological habitats, with much of the Scheme consisting of low biodiversity agricultural land. The Scheme will support, enhance, and link areas of ecological significance with green infrastructure interventions. The Scheme also will increase local biodiversity through new planting and groundcover where currently under arable agricultural use. The Scheme will deliver Biodiversity Net Gain as set out within **ES Chapter 9: Ecology and Biodiversity [EN010133/APP/C6.2.9]**. This is due to the large-scale reversion of arable to permanent grassland, as well as the adoption of generous ecological buffer zones (including of watercourses and marginal habitat) which will be sympathetically managed to maximise biodiversity value (within the **Outline LEMP [EN010133/APP/C7.3]**). Furthermore, significant planting of new hedgerows and tree lines will contribute to the enhancement of linear habitats.

Objective 4: Develop the Scheme sensitively to the surrounding landscape, limiting the impact on views for key landscape receptors, residential properties, and recreational routes.

4.2.8 The design of the Scheme ensures that the siting and scale of the development can be contained in the local landscape, with measures included to mitigate against direct impacts, whilst employing planting and landscaping improvements to enhance existing landscape features whilst helping to make the proposals assimilate with the existing working agricultural landscape. These improvements are set out

within the **Outline Landscape and Ecological Management Plan [EN010133/APP/C7.3]**, to be secured as part of the DCO.

- General Planting Implementation & Management
- Hedgerow Planting and Management
- Hedgerow Tree Planting and Management
- Woodland and Shelterbelt Planting and Management
- Scattered Trees with Native Shrub Planting and Management
- Buffer Areas including Flower Rich Pollinator Strips and Successor Scrub
- Beneath Panel Habitats
- Bird Mitigation Habitats including Turtle Dove Area, Wetland Bird Habitat and Set-Aside

Objective 5: Develop the Scheme sensitively with regard to heritage assets and their settings.

4.2.9 The Scheme is designed to avoid direct impacts on above and below ground heritage assets and seeks to preserve the setting of heritage assets within the Order limits and in the surrounding context. The **Outline Construction Environment Management Plan [EN010133/APP/C7.1]** sets out that a number of measures will be taken to ensure impacts on heritage assets are avoided – this includes providing mitigation as follows:-

- Provision for archaeological mitigation and monitoring is detailed in the Written Scheme of Investigation (WSI, see **ES Appendix 13.7 [EN010133APP/C6.3.13.7]**). The WSI must be adhered to during constructional phases.
- Areas where concrete feet are required will be laid out by a surveyor in line with the requirements of the WSI.
- All archaeological works will be undertaken by suitably qualified and experienced professional archaeological specialists.
- All archaeological works will be undertaken in line with national guidance (i.e. Historic England and CIfA guidance).
- The Archaeological Project Manager and/or Lincolnshire Heritage Team will monitor the completion of works in accordance with the programme set out in the WSI.

Objective 6: Safeguard the surrounding hydrological systems, ensure the Scheme is resilient to flooding and will not increase flood risk elsewhere, taking account of the impacts of climate change.

4.2.10 The Scheme is designed to ensure that sensitive onsite infrastructure is not at risk from flooding, and that the development of the Scheme will not increase the risk of

flooding elsewhere. This should also include measures to ensure the Scheme is resilient to climate change, and that changes to hydrological systems as a result of climate change, are not exacerbated by the Scheme. This is set out within Sections 10.7 and 10.8 of **ES Chapter 10: Hydrology Flood Risk and Drainage [EN010133/APP/C6.2.10]** which lists mitigation measures that have been built into the design with regard to flood risk and drainage.

Objective 7: Ensure the protection, and where possible enhancement, of existing Public Rights of Way and ensure the continued safe use of the public highway network.

4.2.11 The design of the Scheme ensures that Public Rights of Way are safeguarded from unnecessary diversions or closures, with all efforts made to ensure they can be protected, integrated into the Scheme design, and where feasible enhanced by planting and greater connectivity through the introduction of permissive paths. The public highway should also be protected, and as such the design of the Scheme should ensure that access to it does not negatively impact on the safety and desirability of the use of the public highway for all users. The **Outline CEMP [EN010133/APP/C7.1]** and **Public Rights of Way Management Plan [EN010133/APP/C6.3.14.3]** set out how Public Rights of Way will be managed during construction.

4.3 Delivery of Design Objectives

4.3.1 The table below sets how each of the Scheme's design objectives are addressed through the proposed design measures, and how these measures will be secured in the DCO application.

Table 4.1: Delivery of Design Objectives

Design Measure	How measures are secured.
Objective 1: Delivery of a significant amount of affordable, renewable energy to support policy objectives and national targets for reducing carbon emissions to net zero by 2050.	
Construction and operation of photovoltaic panels with a generating capacity over 50MW.	The Works Plans define the extents of the Scheme (some 897.4ha) permitted for the locating of PV panels.
Use of north-south axis tracking panels or east-west axis fixed panels. This will ensure that energy generation is optimised through the use of the most appropriate technology.	The Concept Design Parameters document defines the type of PV panels and mounting structures to be used in the Scheme and is secured by a DCO requirement.
Flexibility to select the most efficient technology, within defined parameters	The Concept Design Parameters document defines parameters for the component parts of the Scheme and is secured by a DCO requirement.

Objective 2: Delivery of improved energy resilience by diversifying energy production and storing energy for when it is needed most.	
The generating stations and energy storage systems will be connected to the National Grid at Cottam Power Station to allow for two-way transmission of electricity.	The Works Plans define the extent of the energy storage system.
Approximately 1,200MWh or 2,400MWh energy storage system will be included in the Scheme design to help to meet the needs of the electricity market, by reducing demand for non-renewable energy at peak times, and by providing grid balancing services to help increase the resilience of the electricity distribution network.	The Works Plans define the extents of the energy storage system (up to 15.1ha) permitted for the locating of the energy storage.
Objective 3: Contribution towards strategic improvements to local ecology and biodiversity.	
Include sufficient offsets from ecological receptors to onsite infrastructure	The Works Plans [C2.4] define the extents of the Scheme permitted for the locating of PV panels, with the offsets detailed in the OLEMP and is secured by a DCO requirement.
Provide planting to enhance linear green infrastructure to aid ecology and biodiversity improvement, and grassland and wildflower meadow planting underneath panelled areas to improve in-field biodiversity from the arable field baseline.	The Works Plans define the extents of the planting (Works No. 7A, 7B, 7C, 7D) and habitat creation areas (Works Scheme 10), with the detailed measures set out in the OLEMP and is secured by a DCO requirement.
Creation of permanent habitats for wetland, in-field, and field-side ecosystems.	The Works Plans define the extents of the planting (Works No. 7A, 7B, 7C, 7D) and habitat creation areas (Works No. 10), with the detailed measures set out in the OLEMP and is secured by a DCO requirement.
Objective 4: Develop the Scheme sensitively to the surrounding landscape, limiting the impact on views for key landscape receptors, residential properties, and recreational routes.	
The layout takes account of the surrounding landscape and respects the intrinsic value of the landscape character.	The Works Plans (Works No. 1A, 1B, 1C, 1D) define the extents of the Scheme permitted for the locating of PV panels, and for landscape planting measures.
Electrical and telecommunications cabling associated with the Scheme is to be buried in cable trenches.	The Concept Design Parameters document requires that sets out whether cabling will be above ground or below ground as well

	as the techniques to be used. Where possible, cabling will be below ground in order to minimise impacts.
Proposed planting has been designed to take account of sensitive views; and retain openness where important to key views.	The extents of where planting is proposed, and the nature of the planting proposed are set out in the OLEMP and secured by a DCO requirement.
Land parcels known to be of greatest landscape sensitivity have been excluded from siting of PV panels. This has been established through the iterative design process as detailed in chapter 5 of this document (See 5.4.7-5.4.18)	The Works Plans define the extents of the Scheme permitted for the locating of PV panels.
Minimum offsets from PV panels and associated infrastructure to woodland, hedgerows, PRoWs and waterbodies are embedded in the Scheme design.	The Works Plans define the extents of the Scheme permitted for the locating of PV panels, including where there are offsets from defined features.
Retaining existing field boundaries and on-site vegetation where practicable.	The Works Plans define the extents of the Scheme permitted for the locating of PV panels, including where offsets from existing field boundaries are located. The extent of where on-site vegetation is proposed to be retained, removed, or enhanced, are set out in the OLEMP and secured by a DCO requirement.
Siting energy storage and the onsite substations within visually contained parts of the Order limits. This will help meet the objective to develop the Scheme sensitively to the surrounding landscape, limiting the impact on views for key landscape receptors, residential properties, and recreational routes. This is detailed in parts 5.4 and 5.5 of this Statement.	The Works Plans define the extents of the Scheme permitted for the locating of energy storage and substation infrastructure. The Concept Design Parameters document defines parameters for the component parts of the Scheme and is secured by a DCO requirement.
A baseline 50m offset has been provided from all residential property boundaries to the locating of PV panels.	The Works Plans define the extents of the Scheme permitted for the locating of PV panels, including where there are offsets from defined features.
Further bespoke arrangement of the proposed panels close to residential properties as a result of LVIA and resident consultation. Where necessary, bespoke	The Works Plans define the extents of the Scheme permitted for the locating of PV panels, including where there are offsets from defined features. The extents of where new planting areas are proposed are set

landscaping and planting will be delivered to mitigate impacts on amenity.	out in the OLEMP and secured by a DCO requirement.
Objective 5: Develop the Scheme sensitively in response to heritage assets and their settings.	
Refinement of the Order limits and extent of PV arrays and ancillary infrastructure in the vicinity of above and below ground heritage assets so as to reduce direct impact, and visual impact on the setting of the assets. Existing woodland and hedgerows have been used wherever possible to provide screening.	The Works Plans define the extents of the Scheme permitted for the locating of PV panels, including where there are offsets from defined features. Key heritage assets have been identified and the impacts upon them assessed in the ES Chapter 13: Cultural Heritage. The extents of where new planting areas are proposed are set out in the OLEMP and secured by a DCO requirement.
Areas of archaeological interest within the Order limits have been carefully avoided through the removal of PV panel structures, or overlaid by PV panel structures with non-intrusive foundations.	The Works Plans define the extents of the Scheme permitted for the locating of PV panels, including where there are offsets from defined features. Areas of archaeological interest requiring non-intrusive foundations have been identified and mapped in the ES Chapter 13: Cultural Heritage. This is set out within Works Scheme 1A, 1B, 1C and 1D.
Objective 6: Safeguard the surrounding hydrological systems, ensure the Scheme is resilient to flooding and will not increase flood risk elsewhere, taking account of the impacts of climate change.	
All onsite infrastructure will be located to be resilient to flooding. Sensitive infrastructure will be located solely in Flood Zone 1 or where able, lifted above maximum flood depths. Only compatible infrastructure will be located in Flood Zone 2 or 3.	The Works Plans define the extents of the Scheme permitted for the locating of any infrastructure. Areas of greater risk of flooding are identified in the Flood Risk Assessments with mitigation strategies set out in the ES Chapter 10: Hydrology, Flood Risk and Drainage and appendices 10.1-10.8.
Where electrical cabling is required to cross a major watercourse, these will be buried below the bed of the watercourse and be constructed by directional drilling.	The Crossing Schedule document sets out the requirements for where directional drilling of electrical cabling is needed to cross major watercourses, and is secured by a DCO requirement.
The drainage design strategy takes account of the impacts of climate change and will ensure that there is no increase in flood risk.	The drainage and SuDs strategy is set out in the ES Chapter 10: Hydrology, Flood Risk and Drainage and accompanying appendices 10.1-10.8.

The detailed design of drainage features will consider their potential to enhance biodiversity.	The drainage and SuDs strategy is set out in the ES Chapter 10: Hydrology, Flood Risk and Drainage and accompanying Flood Risk Assessment and Drainage Strategy set out in appendices 10.1-10.8. Additional drainage features for biodiversity enhancement are set out in the OLEMP.
Surface water run-off rates will be limited to greenfield rates.	The drainage and SuDs strategy is set out in the ES Chapter 10: Hydrology, Flood Risk and Drainage [C6.2.10] and accompanying Flood Risk Assessment and Drainage Strategy set out in appendices 10.1-10.8. .
Objective 7: Ensure the protection, and where possible enhancement, of existing Public Rights of Way and ensure the continued safe use of the public highway network.	
Existing PRoWs will be retained in all instances with no permanent closures or diversions proposed. Temporary closures and local diversions during construction will be limited to minimum duration required to ensure continued connectivity.	The Access and Rights of Way Plan shows the PRoW and highway network within the Order limits. The Outline Construction Environmental Management Plan details how construction impacts on PRoW are to be managed and is secured by a DCO requirement. Access points to and public rights of way within, the Order limits, have been visually summarised in the Cable Route and Access Location Plan.
The safe use of PRoWs and highways will be managed through design mitigation and onsite construction traffic management including dedicated crossing point and bankspersons for highway accesses where required.	The safe use of PRoWs and highways has been assessed in the ES Chapter 14: Transport and Access. Any required mitigation or management measures are set out in the Construction Traffic Management Plan and is secured by a DCO requirement.
The new permissive paths will enhance connectivity within Stow Parish	The Works Plans define the extents of the proposed permissive paths, with details of planting set out in the OLEMP and secured by a DCO requirement.
Proposed points of access have been designed including temporary accesses for construction and decommissioning, permanent access for construction, or maintenance and operation, or for all stages of the development.	The Access and Rights of Way Plan shows the locations and design of accesses associated with the Scheme development, and has been influenced by engagement with stakeholders, including the relevant highway authorities. The proposed new permissive path follows Statutory Consultation in order to address the

	comments of consultees, as detailed in part 5.5 of this Statement.
Adequate visibility splays will be provided at all new access points, commensurate with existing vehicle speeds or speed limits.	The Access and Rights of Way Plan shows the locations and design of accesses associated with the Scheme development. Full details of the accesses, traffic counts, and visibility requirements are set out in the ES Chapter 14: Transport and Access and the Construction Traffic Management Plan and secured by a DCO requirement.
Temporary highway improvements, such as widening, bridge strengthening, hedge and verge clearance, and oversail areas will be required to facilitate the movement of Abnormal Indivisible Loads to the Sites during construction.	The Works Plans [C2.4] define the extents of the works required for AIL movements, with full details set out in the AIL Report. These are also set out in the Construction and Traffic Management Plan.

5 Design Evolution

5.1 Introduction

5.1.1 The design and extent of the Scheme has been subject to an iterative process involving the Applicant, the design team and the environmental consultant team. The design has also been informed by considering feedback from various forms of consultation including with stakeholders and statutory consultees, host authorities, local communities, local residents and through the EIA scoping process.

5.1.2 This section presents a summary of the design evolution of the Scheme – from the first round of non-statutory consultation in November 2021 to the point of submission in January 2023. It describes the main design changes associated with the solar array sites, supporting landscaping and ecological mitigation design, substation design, and the development of the cable routes. A more detailed description of these stages is set out in **ES Chapter 5: Design Evolution and Alternatives [EN010133/APP/C6.2.5]**. Where field reference numbers are used, refer to **Appendix 1: Figures 6.1-6.3**.

5.2 Stage 1 – Non-Statutory Consultation November-December 2021

5.2.1 Early feasibility work including site identification and the consideration of constraints and opportunities took place throughout 2021.

5.2.2 The initial phases of the Scheme design were developed through Applicant and landowner parameters, set against desk-based assessment work to determine outline design objectives and identify areas of required preliminary investigation.

5.2.3 The primary site selection stage was undertaken by the Applicant and landowners following the establishment of the grid connection offer at Cottam Power Station. The sites selected and optioned by the Applicant were chosen on the basis that they were a suitable proximity to the point of connection, avoided specific heritage and ecological designations, and areas known to be of high agricultural land value. Cable routes were selected on the basis of using the shortest possible routes whilst avoiding environmental designations, but with a large amount of optionality available.

5.2.4 On-site options for the locations of substations and battery storage areas were explored in tandem with the non-statutory consultation using a desk-based approach. The proposed locations of these pieces of on-site infrastructure were at an early stage during this Stage 1 Consultation and as such were not included in the consultation materials.

5.3 Stage 2 – EIA Scoping January 2022

5.3.1 The EIA Scoping for the Scheme signified the first formal stage of engagement with statutory bodies. For this stage, the outline design of the Scheme published at non-statutory consultation was presented alongside desk-based and initial field assessments of the proposed Scheme. The boundary of the Scheme subject to EIA Scoping can be found at **Appendix 1: Figure 3.1**.

5.3.2 Internally, a maximum capacity layout was produced to help the project team identify where predicted significant effects with respect to all ES chapters were likely to be generated as a result of the Scheme, or if the anticipated effects were expected not to be significant, thus allowing for the relevant topic or assessment area to be requested to be scoped out of the ES. These findings were then presented to the Planning Inspectorate (PINS) and the notified statutory bodies to comment on the scope of assessment required for the proposals, through the submission of the EIA Scoping Request.

5.4 Stage 3 – PEIR/Statutory Consultation June-July 2022

5.4.1 Following feedback from the Planning Inspectorate and statutory consultees during the EIA Scoping stage, the design of the Scheme evolved in tandem with further desk-based and field assessments. Consultation with neighbouring residential properties was undertaken during this period to determine any direct impacts and suitable mitigation measures. The preliminary designs produced during February to April 2022, along with the Preliminary Environmental Information Report, were presented to the public and statutory consultees for statutory consultation in June-July 2022. The preliminary Order limits and site layout design presented at statutory consultation has been provided at **Appendix 1: Figures 3.2-3.3.**

Solar Array Sites

5.4.2 For PEIR and statutory consultation, the chosen panel design across the Scheme was for tracker panels. This was presented to provide a maximum design scenario for the purpose of assessment, whilst retaining flexibility for future changes provided they fell within the maximum parameters set out. The chosen tracker panel design was aligned on a north-south axis, with a maximum height of 4.5m above ground level when the panel is at its greatest rotation – 60° from horizontal. The design of the mounting structures at this point was for screw piles as standard, or for shallow concrete feet where non-intrusive foundations were required for archaeological mitigation.

5.4.3 The design for the solar array sites was initiated through the development and subsequent implementation of key design parameters. These parameters were set out in response to initial findings from the project EIA team, Applicants, nearby resident consultation, and landowner requirements.

5.4.4 The implementation of key parameters sought to regularise the solar array across the Sites by providing buffers for hydrological features such as ditches, drains, and ponds, ecological features, utilities and telecoms, and a standardised 50m offset from residential curtilage boundaries. Additional setoffs were introduced at this stage along the River Till due to flood risk and its designation as a major watercourse. Areas of flood depths of more than 0.9m were to be avoided entirely, with only non-vulnerable infrastructure to be located within areas of shallower than 0.9m flooding. Offsets from important roads and railways were introduced to

reduce potential glint and glare impacts or provide space to allow for mitigation measures to be installed.

5.4.5 Specific design changes were made to each of the Sites ahead of publication for PEIR and statutory consultation.

5.4.6 On Cottam 1, field numbers A3, B1, and D19 (refer to field numbering plans at **Appendix 1: Figures 6.1-6.3**) were removed to address residential amenity concerns. Fields D1, D7 (west end), D8, and E3 were removed at the request of Stow Parish Council and F1, F2, and F7 were removed upon request by Stow Parish Council on behalf of the residents of the hamlet of Normanby by Stow. The removed fields in Site F were also due to be removed as a result of archaeological interest in the Normanby by Stow mediaeval village. The proposed solar arrays were removed from C28, F1, F2 and F7 due to results of geophysical surveys which indicated areas of unmitigable archaeological interest.

5.4.7 On Cottam 2, buffers to the encircled residences were combined to provide a clear corridor without panels. This in turn was used to develop the landscape and ecology mitigation strategy. In fields H5 and H8, where existing ecologically significant habitats were surveyed, buffer areas were extended to provide space for protective and enhancing planting and groundcover.

5.4.8 Cottam 3a featured 132kV overhead power lines which required substantial offsetting for access easements to be enforced. Furthermore, the outcome of ecological assessments of trees along the eastern boundary was the requirement for offsets to be maintained at 20m. Areas of panels were also removed in K12 and K18 for the siting of turtle dove mitigation, and to reduce landscape impacts from the B1205. On Cottam 3b, offsets were provided from the Public Right of Way traversing the Site.

Supporting Infrastructure and Design Measures

5.4.9 'Supporting infrastructure' consists of equipment such as conversion units, means of enclosure and measures such as landscape and ecological enhancements.

5.4.10 For PEIR, conversion units (consisting of switchgear and inverters) were preliminary designed to be singular containerised units, located to service approximately 1MW-2MW of solar panel capacity.

5.4.11 Across the four Sites, proposals for noise barriers were introduced around conversion units where potential impacts on residential amenity were found through detailed assessment work.

5.4.12 Where field areas were removed from solar panel siting, ecological and landscape mitigation measures were included to compensate for loss of habitat (such as for skylarks) elsewhere on the Site, and for views into the Site from sensitive receptors to be mitigated.

Substations and Energy Storage

5.4.13 The siting of the Scheme substations and energy storage were provisionally determined through a desk-based "RAG" rating, taking into account a number of technical constraints and electrical design requirements.

5.4.14 Leading into Stage 3, two preferred areas were identified for the main 400kV substation on Cottam 1, at G1-3 and F3-6. Due to its size and importance to the electrical design of the Scheme, the driving design feature for the identification of these locations was their positioning relative to the cable routes. Following landscape assessment and archaeological investigation works, the preferred location for the substation was identified as field G1 due to its more favourable position. The location at G1 has favourable conditions when considering technical considerations such as flooding, ecological designations, cultural heritage, landscape, residential amenity, and separation from existing utilities.

5.4.15 The substation for Cottam 2 was located in the north of field H5, which fell within the broad preferred location as identified by desk-based assessment undertaken in parallel with the Stage 1 consultation . Although located centrally rather than at the cable exit point, this location was selected as a best compromise between electrical design and the onsite constraints relating to flood risk, ecological impacts, existing utilities, and residential properties nearby to the Site. Primarily, the substation is located more than 300m from the nearest residential dwelling, and is not located in an area of river or surface water flood risk.

5.4.16 As a result of the minimal onsite constraints present at Cottam 3a, the substation site's preferred location was identified as a large area covering much of the south half of the Cottam 3a Site. To minimise visual impact, the substation was located in the northeast of field K7.

5.4.17 The desk-based assessment for siting the substation at Cottam 3b was undertaken ahead of PEIR. The northwest corner of field J4 was deemed most preferable as a result of its accessibility, proximity to the anticipated cable route, location away from areas of flood risk, and potential for landscape screening.

5.4.18 On Cottam 1, two options for the locations of energy storage systems were identified and presented in the statutory consultation: Option A – located in the centre of field G1; and Option B – located as per option A plus two small areas in G2 and G3.

Cable Routing and Grid Connection

5.4.19 The cable corridor presented at the PEIR stage was based on the initial cable route options from EIA Scoping. Optionality remained a driving factor in retaining a wide cable route, as constraints and environmental assessments were only progressed to a preliminary stage. The cable routes presented at this time, consisted of entire fields, with any enclaved residential or business premises excluded from further investigation. A number of small amendments to the cable route corridor were made to better align with land ownership boundaries and existing field boundary features. Intra-site cable routes were also partially developed to demonstrate the Sites' interconnectivity. Intra-site cable routing between the areas consisting Cottam

1 were also amended to reflect landowner feedback and addressing onsite constraints such as crossing points for major watercourses and important local link roads such as Ingham Road and Willingham Road.

5.4.20 The cable route options for crossing the River Trent were reduced from three options to a single preferred option between Trent Port and Torksey. The option to the north of Marton was removed due to significant heritage concerns regarding impacts on Roman artifacts associated with the Roman Road and nearby Segelocum Roman Town at Littleborough. Likewise, the southernmost option was removed due to potential heritage concerns related to the Torksey Viking Camp, Torksey Viaduct, and due to ecological designations between Cottam Power Station and the River Trent opposite Torksey village.

5.4.21 No changes were made to the provision of the Grid Connection Point at Cottam Power Station ahead of PEIR and statutory consultation as there were no reasonable alternatives, such as at West Burton or High Marnham Power Stations that if used would not have significantly altered the Scheme design.

5.5 Stage 4 – DCO Submission October 2022

5.5.1 Stage 4 of the design process takes on the feedback received during statutory consultation, including feedback from members of the public, statutory consultees, and final design requirements from landowners. The development of the Environmental Impact Assessment has also had a reciprocal impact on the design, as mitigation requirements for hydrology, landscape, ecology and other environmental topics were fed back into the overall Scheme design. The development of the design through Stage 4 has culminated in the site layout masterplan for submission as part of the DCO application.

Solar Array Sites

5.5.2 In response to statutory consultation with landowners, local residents, and local parish groups, and additional focussed non-statutory consultation with nearest neighbours to the Sites, a number of changes to the solar array Sites have been implemented in preparation for the DCO application submission.

5.5.3 On all Sites, the buffer zones to ecological receptors, watercourses, and utilities have been remodelled following completion of baseline surveys; and receipt of updated information from utilities undertakers with assets that could be affected by the Scheme.

5.5.4 The design of the solar panels and their mounting structures across the Scheme has largely remained as per the maximum design scenario set out at PEIR. As a requirement for the ES assessment, maximum parameters set out for the proposed panel, whilst retaining flexibility for future changes. The panel design for submission is for either tracker or fixed panels. Tracker panels are aligned on a north-south axis, with a maximum height of 4.5m above ground level when the panel is at its greatest rotation – 60° from horizontal. Fixed panels are aligned in east-west rows, have a maximum height of 3.5m, and are angled facing south with a fixed slope of between

15° and 35° from horizontal. The design of the mounting structures allows for screw piles or driven piles as standard, or for shallow concrete feet where non-intrusive foundations were required for archaeological mitigation.

5.5.5 On Cottam 1, the panel arrangement within the southern end of field A4 has been squared off to retain resident views from North Farm to the northeast. Fields C14, D24 and D25 have been removed from the Order limits of the Scheme to address landowner concerns. In the south of Cottam 1, requests made by Stow Parish Council ahead of PEIR have been considered, with Fields D1 and E3 removed from the Order limits due to their nearest proximity and therefore greatest level of visual impact to residents in the village of Stow. Furthermore, Fields D5, D6, E4, F4 and F5 have largely been removed from the Order limits except for retention of access arrangements to reduce impacts on best and most versatile agricultural land. Fields D3 and D7 have been modified as a result of updated flood modelling from the River Till. Areas at highest risk of long-term flooding have therefore been excluded from the siting of panels. Similarly, fields E1, E2, E5, F3 and F6 have had revised buffers to the River Till added. Field E6 has also been removed from the array area due to flood risk potential, as was identified by local consultation attendees, and as such is to be set aside for ground-nesting or wetland bird habitat mitigation instead of panels. This is secured through the strategies set out in the **Outline Landscape and Ecological Management Plan [EN010133/APP/C7.3]**.

5.5.6 An additional buffer has been introduced along the south of field D14 as a result of the identification (by geophysical survey) and confirmation (through trial trenching) of archaeological remains associated with the Thorpe le Fallows mediaeval village. The ecological buffer to the Willingham Lane LWS has also been remodelled following ecological assessment work.

5.5.7 On Cottam 2, the area between Corringham Grange and The Cottage in field H1 has been squared off to provide a more consistent panel-free corridor to improve residential amenity.

5.5.8 On Cottam 3a, changes made to the solar array sites have been driven by updated parameters being implemented, specifically with regard to updated ecology buffers from trees and hedgerows, and the removal of isolated areas otherwise cut off as a result of utility crossings, such as in field K12 which has been moved to habitat creation. The majority of fields K2 and K15 have been removed from the Order limits due to containing best and most versatile agricultural land.

5.5.9 The layout of the Site at Cottam 3b has undergone few changes, specifically those related to updated ecology buffers, revised spacing requirements for glint and glare mitigation for the adjacent railway, and for planting along the Public Right of Way traversing the Site.

Supporting Infrastructure and Design Measures

5.5.10 Conversion units, consisting of inverters, transformers, switchgear, and monitoring and control systems have been designed as having flexibility to be either singular

containerised units, or small compounds containing standalone equipment. Either design is able to be sat on standard concrete and aggregate foundations or non-intrusive concrete plinths where required. Conversion units are to be located to service a minimum of 2.5MW of peak installed solar capacity.

5.5.11 Alongside the solar arrays, an outline landscaping and ecological mitigation design has been developed to supplement the design of the Scheme. These have been detailed and assessed in full in the relevant chapters of the ES and supporting documents. Full details are set out in the Outline LEMP [EN010133/APP/C7.3].

5.5.12 The landscaping mitigation set out in the Outline LEMP consists of areas of planting for mitigation, such as woodland, tree belt and hedgerow planting, both new and enhancement of existing. On site, landscape planting includes low level planting such as native scrub and wildflower meadow planting. This has the triple purpose of providing biodiversity net gain, providing groundcover to let the soils underneath rest, and allowing for potential grazing options for optioned farm holdings. Within the Sites, low-level growth is proposed to ensure that the landscaping proposals do not conflict with the operational efficiency of the arrays.

5.5.13 The ecological mitigation set out in the Outline LEMP seeks to provide biodiversity net gain across the Scheme through the supplementation of existing habitats and provision of new species rich planting, whilst providing mitigation for loss of habitat for ground-dwelling bird species.

5.5.14 On Cottam 1, panels have been removed from field C26 to address concerns raised by the landowner over visual impacts to residences. As a result of this, it is proposed that the field will be used for skylark and lapwing mitigation due to its largely open character. Furthermore, areas removed from the solar array due to flood risk along the River Till are now included in the design of the Scheme to provide wetland ecological mitigation and enhancement, including a significant area immediately to the west of the River Till east of Normanby by Stow. Cottam 2 features existing semi-permanent ponds or basins which are proposed to be enhanced through ecological buffers.

5.5.15 On Cottam 3a, the eastern wooded belt is to be supplemented with additional planting to enhance bat roosting potential. Scrub planting is proposed to the north and south of the Blyton Park derby track, to reduce intervisibility without causing shadows on the proposed arrays. The ecological enhancement plan also proposed an ecological link to be established along the K6-K7 field boundary, whilst the areas underneath the 132kV overhead power lines are to be planted with a wildflower seed and scrub mix. Any set-aside mix will be planted in fields K12 and the southeastern corner of K18 for turtle dove habitat provision.

5.5.16 On Cottam 3b, existing vegetation along the railway line will be enhanced by supplementary planting or opaque fencing where identified as required in **ES Chapter 16: Glint and Glare [EN010133/APP/C6.2.16]**, whilst planting along the public right of way traversing the Site will be utilised to screen the majority of views.

Substations and Energy Storage

5.5.17 For the DCO application, full detail plans and elevations of the substations have been provided by the electrical design consultants as part of the **Detailed Site Design Drawings** document **[EN010133/APP/C2.7]**. These measures are also shown on the indicative Design Masterplan at **Appendix 1: Figures 4.1-4.2**. As part of this, input from noise and hydrology consultants have been brought in to determine the suitable location of noise attenuation barriers, and of any flood mitigation requirements, or firefighting water storage and catchment features. These matters are to ensure the substations are sufficiently mitigated with regard to impacts on any nearby residential dwellings and public rights of way, and that fire safety and flood resilience are designed into the substation and energy storage layouts.

5.5.18 The control buildings will be a painted block building with external colours and finishes to be confirmed prior to construction but likely to be a grey colour such as Goose Grey (HEX code 848889). Maximum parameters for control buildings are based on indicative substation layout designs with an additional level of tolerance to allow for detailed building designs to be determined prior to construction.

5.5.19 The siting of the substation at Cottam 1 has undergone a minor revision to allow flexibility for its location within field G1. This flexibility has also been extended to the location of the smaller energy storage option. This allows for the detailed layout of the substation and smaller energy storage option to be flexible up to the detailed design stage. The location and overall layout of the substations at Cottam 2, 3a, and 3b has not changed between statutory consultation and the DCO application.

5.5.20 The energy storage on Cottam 1 has continued to be presented in two options, for the storage of energy for either a 2-hour or 4-hour discharge time. These are located within fields G1, G2 and G3. A full indicative layout of the energy storage has been presented for submission. The design incorporates flood resilience measures, such as location away from surface water flood paths and appropriate surface water drainage, and integrated and external fire suppression systems, with the layout itself meeting industry standards to limit the propagation of flames. Water storage for firewater has been designed to retain optionality at the DCO submission stage both with regard to design and location. The sizing of water storage for firewater is set at a minimum of 228,000 litres per source as agreed with Lincolnshire Fire and Rescue Services. Water would be stored in either steel panel tanks or bunded open water areas. Used firewater would then be contained through channelling from the impermeable energy storage area surface into a bunded lagoon with excess capacity to accommodate used firewater from an emergency event.

5.5.21 The proposed design includes the following fire safety measures:-

- The **Concept Design Parameters and Principles [EN010133/APP/C7.15]** for the Scheme include the following for water storage structures for the purposes of firefighting.

- External firefighting water storage structures will be located no less than 50m and no more than 300m from the battery containers.
- The external firefighting water storage units will be no less than 228,000 litres in capacity.
- Water storage will either be in sectional steel panel tanks, or cylindrical steel tanks, above or below ground; or will be bunded or excavated ponds.
- Where above ground, tanks will be supported on structural concrete slab foundations to a maximum depth of 1m.
- The **Illustrative Site Layout Plans** for Cottam 1, West A **[EN010133/APP/C6.4.4.3]** and Cottam 1 West B **[EN010133/APP/C6.4.4.4]** (also shown in this document at **Appendix 1: Figures 4.1c-d**) show the potential locations of the water storage facilities (tanks or ponds).

Cable Routing and Grid Connection

5.5.22 The design of the cable route corridor has been significantly developed for submission of the DCO application, with a preferred route selected based on landowner requirement, baseline conditions determined through the PEIR, and surveyed and assessed in full for the ES. That notwithstanding, the routing of the cable through the solar array Sites retains significant flexibility to be located as required to align with the final detailed layout design of the Scheme. An indicative cable route has been integrated into the illustrative Design Masterplan shown at **Appendix 1: Figures 4.1-4.2**.

5.5.23 The cable route corridor running between the Sites has been developed through landowner and technical consideration. Landowners affected by the PEIR cable corridor were contacted to discuss their preferred route for the cable crossing their land. These preferences were combined to form a continuous primary target route corridor. This indicative route corridor – predominantly 100m in width, was fully surveyed by geophysical surveys, ecological surveys, and landscape assessments to generate options within the target route. An optioneering workshop was undertaken to determine a final cable route corridor. This route was determined through consideration of archaeological potential, avoidance of ecological features of significance, and limiting the number of hedgerow crossings required. Further consideration was given to ensure the cable route largely lay alongside existing linear features to minimise the impact on the future productivity and accessibility of agricultural land and mineral resources.

5.5.24 The final cable route corridor is predominantly 50m in width. This allows for micro-siting of the cable route therein to avoid identified archaeology, linear features, and provides sufficient flexibility to include for the micro-siting therein of construction laydown areas, and sections requiring directional drilling. Drilling is required underneath major obstacles such as ditches, railways, and rivers to avoid ecological and landscape impacts from overhead wires, or major disruption to key transport corridors.

5.5.25 The shared cable route corridor with West Burton Solar Project and Gate Burton Energy Park retains a far greater width to account for micro-siting of the joint cable routes. The increased spatial requirements of the shared route requires greater flexibility to ensure avoidance of archaeology, important linear features, and that there is sufficient space for parallel drilling sites where required,

5.5.26 Access to the cable route for construction has also been included within the Order limits to ensure construction access (including that for abnormal loads) is possible for the entirety of the length of the cable route.

6 The DCO Design Masterplan

6.1 Design Masterplan

6.1.1 The Design Masterplan is a collective set of plans showing how the Site may be developed as part of the DCO application. This information is indicative, as opposed to the information within the Scheme of Works which is fixed.

6.1.2 The design masterplan submitted with the DCO application consists of the illustrative layouts for each Site, and the site landscape layout and mitigation strategy plans for each Site. These are provided at **Appendix 1: Figures 4.1a-h** and **Figures 4.2a-k**.

6.1.3 The design masterplan represents the completion of an extensive exercise as described within Chapter 5 of this document, from development concept to DCO application submission. The design addresses the findings of a multi-disciplinary baseline study and environmental assessment, with input from the local community, stakeholders and technical consultants.

6.1.4 The DCO design masterplan demonstrates how the Applicant has pursued the development of an exemplar Scheme that meets the design objectives set within Section 4 of this document; is sensitive to its receiving environment, mitigates impacts, provides benefits to local communities whilst making a significant contribution to renewable energy generation.

7 Access

7.1 Overview

7.1.1 The access strategy developed for the Scheme has been formulated to ensure safe access to and from the Order limits through the construction, operational, and decommissioning phases of the Scheme. Access and accessibility are addressed and secured through the DCO application in the following documents which should be read in conjunction with this document:

- Public Rights of Way Plan **[EN010133/APP/C2.5]**;
- Access Plan **[EN010133/APP/C2.5]**;
- ES Appendix 14.1: Construction Traffic Management Plan (CTMP) **[EN010133/APP/C6.3.14.1]**;
- ES Appendix 14.2: Abnormal Indivisible Loads (AIL) Report **[EN010133/APP/C6.3.14.2]**;
- Outline Construction Environment Management Plan (CEMP) **[EN010133/APP/C7.1]**; and
- Decommissioning Statement **[EN010133/APP/C7.2]**.

7.1.2 The Access Plan and Public Rights of Way Plan together provide a visual representation of the location of the access and egress points for all vehicular, cycling, and pedestrian movements within and associated with, the Order limits, whilst the CTMP, AIL Report, CTMP, and Decommissioning Statement set out the detailed measures required to ensure the feasibility of construction traffic movements and the safety of the public and workers on the Site is maintained at all phases of the development of the Scheme. These documents are secured as requirements of the DCO.

7.1.3 Access points to and public rights of way within, the Order limits, have been visually summarised in the Access to Works Plan and Public Rights of Way Plan presented at **Appendix 1: Figure 5.1** and **5.2** respectively.

7.2 Construction Access

7.2.1 Traffic movements generated by the construction of the Scheme can be broken into three main groups:

- Construction worker traffic movements;
- Construction HGV movements; and
- Abnormal Indivisible Loads.

7.2.2 It can be approximated that the movements and locational requirements for construction access will be the same for decommissioning on the solar array Sites.

7.3 Maintenance Access

7.3.1 All of the Sites will need to retain access routes throughout the operational lifetime of the Scheme. However, the number of vehicles required is anticipated to be small and will consist predominantly of light goods vehicles or vans for landscaping management, site management and inspection, and operational maintenance purposes. Larger vehicle movements would only be required in the event of a replacement piece of equipment being required, and as such would be ad hoc and limited in nature. This is assessed within **ES Chapter 14: Transport and Access [EN010133/APP/C6.2.14]**, specifically within Section 14.7.

7.4 Access Locations

7.4.1 The location of access points to the Sites for construction, operation, and decommissioning are listed in **Table 7.1** below (and shown on the Access to Works Plan presented at **Appendix 1: Figure 5.1**).

Table 7.1: Accesses to the Scheme

Scheme Access	Location	Type and Phase Use of Access
AC001 Cottam 1 (D south)	Thorpe Lane, at Thorpe Bridge	Improved existing field access Construction use and permanent operational access
AC002 Cottam 1 (D east)	Fleets Lane, 200m south of Ingham Road	Improved existing field access Construction use and permanent operational access
Solar 3 Cottam 1 (D1)	Fleets Lane, 200m south of Ingham Road	Improved existing field access Construction use and permanent operational access
AC003 (north) Cottam 1 (C south and centre) Cottam 1 C-D link cable	Stow Lane, between Blackthorn Hill and Furze Hill	Improved existing field access Temporary construction use and AIL access
AC003 (south) Cottam 1 C-D link cable	Stow Lane, between Blackthorn Hill and Furze Hill	New access Temporary construction use and AIL access
AC004 Cottam 1 (C south)	Stow Lane, Grange Farm access	Existing access Permanent operational access
AC005 (north) Cottam 1 (B)	Willingham Road, Fillingham Grange track	Improved existing access Construction use, AIL access, and permanent operational access

AC005 (south) Cottam 1 (C east)	Willingham Road, adj. Greystones Farm	Improved existing access Construction use and permanent operational access
AC006 Cottam 1 (A)	Willingham Road, adj. North Farm	Existing access Construction use and permanent operational access
AC007 Cottam 1 (C3, C9)	Willingham Road, 200m west of Turpins Bungalows	Improved existing field access Construction use and permanent operational access
AC008 Cottam 1 (E5-6) Cottam 1 D-E link cable	Ingham Road, 100m east of 31 Ingham Road	Improved existing field access Temporary construction use and AIL access
AC009 Cottam 1 (E5-6)	Green lane Track from Coates Lane to Ingham Road, 400m north of Ingham Road	Improved existing field access, or new access Permanent operational access
AC010 (east) Cottam 1 (E1)	Coates Lane, at River Till bridge	Improved existing field access Construction use and permanent operational access
AC010 (west) Cottam 1 (F6-7)	Coates Lane, 400m west of River Till bridge	Improved existing field access Permanent operational access
AC011 (north) Cottam 1 E-F link cable	Coates Lane, 200m east of River Till bridge	Improved existing field access Temporary construction use
AC011 (south) Cottam 1 (E2)	Coates Lane, 200m east of River Till bridge	Improved existing field access Construction use and permanent operational access
AC012/AC117 Cottam 1 (F, G) Cable from Cottam 1 substation to South Lane, Willingham	South Lane, opp. Lowfield Farm	Improved existing field access, or new access Construction use, AIL access, and permanent operational access
AC013 (north) Cottam 1 (G1)	Stone Pit Lane, at Cot Garth Lane	New access Temporary construction use and AIL access
AC013 (south) Cottam 1 (G1)	Stone Pit Lane, 50m south of Cot Garth Lane	Improved existing access Permanent operational access
AC014 Cottam 2	Unnamed road from East Lane to A631, adj.	Improved existing access

	Corringham Grange	Construction use, AIL access, and permanent operational access
AC015 Cottam 3a (K8-9, K13-18)	B1205 Kirton Road, Blyton Park Driving Centre access	Existing access Construction use, AIL access and permanent operational access
AC016 Cottam 3a (K1-4)	B1205 Kirton Road, 150m west of JG Pears	Existing access Construction use and permanent operational access
AC017 Cottam 3b	Station Road/Pilham Lane, adj. Glebe Farm	Improved existing access, including temporary AIL improvement Construction use, AIL access, and permanent operational access
AC101 Shared cable route from Cottam Power Station to Rampton Thorns drains	Torksey Ferry Road, 250m west of Nightley's Road	Improved existing field access, or new access Temporary construction use and AIL access
AC102 Shared cable route from Rampton Thorns drains to Cottam Lane	Cottam Lane, 350m west of Cow Pasture Lane	Improved existing field access, or new access Temporary construction use and AIL access
AC103 Shared cable route from Cottam Lane to Cow Pasture Lane	Cottam Lane, adj. Cow Pasture Lane	Improved existing field access, or new access Temporary construction use and AIL access
AC104 Shared cable route from Cow Pasture Lane to Cottam Power Station branch railway	Cow Pasture Lane	Improved existing access Temporary construction use and AIL access
AC105 Shared cable route from Cottam Power Station branch railway to Headstead Bank	Headstead Bank, 250m south of Broad Lane	Improved existing field access, or new access Temporary construction use and AIL access
AC106 Shared cable route from Headstead Bank to River Trent	Headstead Bank, 100m south of Broad Lane	Improved existing field access, or new access Temporary construction use and AIL access
AC107 Shared cable route from River Trent to Brampton drain	A156 Lea Road, via Footpath Bram/66/1	Improved existing access, or new access Temporary construction use and AIL access

AC108 (west) Shared cable route Brampton drain to A156	A156 High Street, opp. sewage works	Improved existing access, or new access Temporary construction use and AIL access
AC108 (east) Shared cable route from A156 to West Burton Solar Project WB3 Site	A156 High Street, adj. sewage works	Improved existing access, or new access Temporary construction use and AIL access
AC109 Shared cable route from north of A1500	A1500 Stow Park Road, 300m west of Marton Grange	Improved existing field access, or new access Temporary construction use and AIL access
AC110 Shared cable route from West Burton Solar Project WB3 Site to A1500	A1500 Stow Park Road, 250m west of Marton Grange	Improved existing access, or new access Temporary construction use and AIL access
AC111 Cable from A1500 to Sheffield-Lincoln railway line	A1500 Stow Park Road, Marton Grange track	Improved existing access Temporary construction use and AIL access
AC112 Cable from Sheffield-Lincoln railway line to Sustain Solar Farm	A1500 Till Bridge Lane, Manor Farm track	Improved existing access Temporary construction use and AIL access
AC113 Cable from Sustain Solar Farm to Wooden Lane	Wooden Lane	Improved existing access Temporary construction use and AIL access
AC114 Cable from Wooden Lane to B1241	B1241 Normanby Road, West Farm access	Improved existing access Temporary construction use and AIL access
AC115 Cable from B1241 to River Till	B1241 Normanby Road, East Farm access	Improved existing access Temporary construction use and AIL access
AC116 Cable from South Lane, Willingham to Moor Bridge drain	South Lane, 50m south of Lowfield Farm	Improved existing field access, or new access Temporary construction use and AIL access
AC012/AC117 Cottam 1 (G2-3) Cable from River Till to Cottam 1 substation, and Cottam 1 substation to South Lane, Willingham	South Lane, opp. Lowfield Farm	Improved existing field access, or new access Construction use, AIL access, and permanent operational access

AC118 Cable from to Moor Bridge drain to Gipsy Lane Bridge	Fillingham Lane, 200m east of Moor Bridge	Improved existing field access, or new access Temporary construction use and AIL access
AC119 Cable from Gipsy Lane Bridge to Kexby Road, Glentworth	Glentworth Road, 600m south of Kexby Road/Cow Lane	Improved existing field access, or new access Temporary construction use and AIL access
AC120 Cable from Kexby Road to Cow Lane	Kexby Road, 200m east of Cow Lane/Glentworth Road	Improved existing field access, or new access Temporary construction use and AIL access
AC121 Cable from Cow Lane to unnamed drain	Cow Lane, 1100m east of Upton Grange	Improved existing field access, or new access Temporary construction use and AIL access
AC122 Cable from unnamed drain to Heapham	Common Lane, 100m west of Heapham Cliff	Improved existing field access, or new access Temporary construction use and AIL access
AC123 Cable from Common Lane to Bratt Field South Road	Common Lane, 250m west of Heapham Cliff	Improved existing field access, or new access Temporary construction use and AIL access
AC124 Cable from Bratt Field South Road to School Lane	School Lane, 500m west of Grange Cottages	Improved existing field access, or new access Temporary construction use and AIL access
AC125 Cable from School Lane to A631	School Lane, 650m west of Grange Cottages	Improved existing field access, or new access Temporary construction use and AIL access
AC126 Cable from School Lane to A631	A631 Harpswell Lane, 800m west of Grange Lane	Improved existing field access, or new access Temporary construction use and AIL access
AC127 Cable from A631 to Cottam 2	A631 Harpswell Lane, 600m west of Grange Lane	Improved existing field access, or new access Temporary construction use and AIL access
AC128 Cable from Corringham Beck to Pilham Lane	Pilham Lane, 400m east of Aisby Lane	Improved existing field access, or new access Temporary construction use and AIL access
AC129 Cable from Pilham Lane to Aisby Beck	Pilham Lane, 400m east of Aisby Lane	Improved existing field access, or new access Temporary construction use and AIL access

AC130 Cable from Aisby Beck to Green Lane	Green Lane, 400m west of Pilham Lane	New access Temporary construction use and AIL access
AC131 Cable from Green Lane to Cottam 3b	Green Lane, 400m west of Pilham Lane	Improved existing field access, or new access Temporary construction use and AIL access
AC132 Cable from Cottam 3b to 3a	B1205 Kirton Road, 300m east of The Fields	Improved existing field access, or new access Temporary construction use and AIL access

7.5 Public Rights of Way and Highways

7.5.1 The Order limits encompass a large geographic area, and as such a number of Public Rights of Way (PRoW) and local highways will be directly and indirectly impacted by the Scheme. The **Public Rights of Way Plans [EN010133/APP/C2.5]** and **Access to Works Plans [EN010133/APP/C2.6]** submitted with the DCO application and shows those PRoWs that fall within or immediately adjacent to the Order limits.

7.5.2 As detailed in the preceding section, the scheme has been designed to avoid the need to close or divert Public Rights of Way unless this is unavoidable. A full table of the identified PRoWs and local highways is shown below, with their location and nature of impact, or how the Scheme interacts with them documented.

Table 7.2: Public Rights of Way within or bounded by the Order Limits

Public Right of Way Identifier	Location	Nature of Impact
LINCOLNSHIRE		
Pilh/20/1 Public footpath	Pilham CP Through Cottam 3b	Construction access route (temporary impacts) Crosses through Site (permanent impacts)
Fill/85/2 Public bridleway	Fillingham CP West of Cottam 1 (B) access	Visual impacts only (permanent impacts)
Fill/767/1 Public bridleway	Fillingham CP Southeast of Cottam 1 (A)	Visual impacts only (permanent impacts)
Fill/86/1 Public bridleway	Fillingham CP West of Cottam 1 (C29-30)	Visual impacts only (permanent impacts)
Stow/83/1-Ingh/26/3 Public footpath	Stow CP Ingham CP	Joins construction access route (temporary impacts)

	Through Cottam 1 (C)	Crosses through Site (permanent impacts)
Camm/31/1-TLFe/31/2 Public bridleway	Cammeringham CP Thorpe in the Fallows CP Through Cottam 1 (D)	Crosses through Site (permanent impacts)
TLFe/32/1 Public footpath	Thorpe in the Fallows CP Southwest of Cottam 1 (D)	Joins construction access route (temporary impacts) Visual impacts (permanent impacts)
Stur/80/1 Public footpath	Sturton by Stow CP Southwest of Cottam 1 (D)	Joins construction access route (temporary impacts) Visual impacts (permanent impacts)
Stow 70/1 Public bridleway	Stow CP West of Cottam 1	Crossed by shared cable corridor (temporary impacts) Visual impacts (permanent impacts)
Mton/68/1 Public footpath	Marton CP West of Cottam 1	Crossed by shared cable corridor (temporary impacts)
Mton/66/4 Public footpath	Marton CP West of Cottam 1	Construction access route (temporary impacts) AIL route requiring alterations (temporary impacts) Crossed by shared cable corridor (temporary impacts)
NOTTINGHAMSHIRE		
Cottam FP1 Public footpath	Cottam CP Northeast of connection point	Crossed by shared cable corridor (temporary impacts)
Cottam FP1 Public footpath	Cottam CP Northeast of connection point	Crossed by shared cable corridor (temporary impacts)
Cottam RB4 (Overcoat Lane) Restricted byway	Cottam CP North of connection point	Crossed by shared cable corridor (temporary impacts)
South Leverton BOAT16 (Cow Pasture Lane) Byway open to all traffic	South Leverton CP North of connection point	Construction access route (temporary impacts) AIL route requiring alterations (temporary impacts)

		Crossed by shared cable corridor (temporary impacts)
Rampton FP5 Public footpath	Rampton CP West of connection point	Crossed by shared cable corridor (temporary impacts)
Rampton FP6 Public footpath	Rampton CP West of connection point	Crossed by shared cable corridor (temporary impacts)
Rampton BOAT13 (Torksey Ferry Road) Byway open to all traffic	Rampton CP Southwest of connection point	Construction access route (temporary impacts) AIL route requiring alterations (temporary impacts) Crossed by shared cable corridor (temporary impacts)

Table 7.3: Highways within or bounded by the Order Limits

Highway Identifier	Location	Nature of Impact
LINCOLNSHIRE		
Road to Blyton Grange from A159 Unclassified highway (LCC hierarchy 7)	Blyton/Laughton CP North of Cottam 3a (K1)	Visual impacts only
B1205 Kirton Road B-class highway (LCC hierarchy 3)	Blyton CP South of Cottam 3a	Construction access point Crossed by cable route corridor
Station Road C-class highway (LCC hierarchy 4)	Blyton /Pilham CP West of Cottam 3b	Construction access point
Green Lane Unclassified highway (LCC hierarchy 5)	Pilham CP South of Cottam 3b	Construction access point Crossed by cable route corridor
School Lane Unclassified highway (LCC hierarchy 5)	Coringham CP North of Cottam 2	Construction access point Crossed by cable route corridor
Unnamed road: East Lane-A631 Unclassified highway (LCC hierarchy 5)	Corringham CP South of Cottam 2	Construction access point

A631 Harpswell Lane A-class highway (LCC hierarchy 1)	Corringham/Springthorpe CP South of Cottam 2	Construction access point Crossed by cable route corridor
School Lane Unclassified highway (LCC hierarchy 7)	Springthorpe CP South of Cottam 2	Construction access point Crossed by cable route corridor
Common Lane Unclassified highway (LCC hierarchy 5)	Heapham CP South of Cottam 2	Construction access point Crossed by cable route corridor
Cow Lane Unclassified highway (LCC hierarchy 7)	Upton CP North of Cottam 1	Construction access point
Kexby Road Unclassified highway (LCC hierarchy 5)	Glentworth CP North of Cottam 1	Construction access point Crossed by cable route corridor
Glentworth Road Unclassified highway (LCC hierarchy 5)	Kexby CP North of Cottam 1	Construction access point
Willingham Road C-class highway (LCC hierarchy 4)	Fillingham CP Through Cottam 1 (C)	Construction access point Crossed by cable route corridor
Stow Lane C-class highway (LCC hierarchy 4)	Stow/Cammeringham CP North of Cottam 1 (D30)	Construction access point Crossed by cable route corridor
Blackthorn Lane Unclassified highway (LCC hierarchy 5)	Cammeringham CP Through Cottam 1 (D)	Construction access point Crosses solar array area
Thorpe Lane Unclassified highway (LCC hierarchy 5)	Thorpe in the Fallows CP South of Cottam 1 (D)	Construction access point
Fleets Lane Unclassified highway (LCC hierarchy 5)	Stow/Sturton by Stow CP West of Cottam 1 (D)	Construction access point
Ingham Road C-class highway (LCC hierarchy 4)	Stow CP North of Cottam 1 (D)	Construction access point Crossed by cable route corridor

Unnamed road: Coates Lane-Ingham Road Green lane (LCC hierarchy 8)	Stow CP Through Cottam 1(E)	Construction access point Crossed by cable route corridor
Coates Lane Unclassified highway (LCC hierarchy 7)	Stow CP North of Cottam 1 (E), south of Cottam 1 (F)	Construction access point Crossed by cable route corridor
B1241 Normanby Road B-class highway (LCC hierarchy 3)	Stow CP West of Cottam 1 (F)	Construction access point AIL route requiring alterations Crossed by cable route corridor
B1241 Stow Road B-class highway (LCC hierarchy 3)	Willingham CP West of Cottam 1 (G)	AIL route requiring alterations
Cot Garth Lane Unclassified highway (LCC hierarchy 6)	Willingham CP West of Cottam 1 (G)	AIL route requiring alterations
Stone Pit Lane Unclassified highway (LCC hierarchy 7)	Willingham CP West of Cottam 1 (G)	Construction access point
South Lane Unclassified highway (LCC hierarchy 7)	Willingham CP West of Cottam 1 (G)	Construction access point Crossed by cable route corridor
Wooden Lane Green lane (LCC hierarchy 8)	Stow CP West of Cottam 1	Construction access point AIL route requiring alterations Crossed by cable route corridor
A1500 Stow Park Road A-class (LCC hierarchy 2)	Marton CP West of Cottam 1	Construction access point AIL route requiring alterations Crossed by shared cable corridor
A156 High Street A-class (LCC hierarchy 1)	Marton CP West of Cottam 1	Construction access point AIL route requiring alterations

		Crossed by shared cable corridor
NOTTINGHAMSHIRE		
Headstead Bank Unclassified highway	Cottam CP North of connection point	Construction access point AIL route requiring alterations Crossed by shared cable corridor
Cottam Lane/ Outgang Lane C-class/unclassified highway	South Leverton CP Northwest of connection point	Construction access point AIL route requiring alterations Crossed by shared cable corridor

7.6 Permissive Paths

7.6.1 The Scheme incorporates a new permissive path, defined as Work No.11 in **Schedule 1** of the **Draft DCO [EN010133/APP/C3.1]**, which is to be introduced to provide better connectivity and options for recreational walking between the village of Stow and Stow Pastures, allowing for circular walks to Normanby by Stow and Sturton by Stow. The permissive path route runs from Normanby Road, 100m north of School Lane, to field E3 in Cottam 1 before routing south to join Ingham Road. The path was included in the Scheme following consultation with Stow Parish Council between the EIA Scoping and the statutory consultation periods. The path was added to address the comments raised during the course of the Statutory Consultation.

8 Commitments

8.1 Project Flexibility and Concept Design Parameters

8.1.1 National Policy Statements acknowledge that with Nationally Significant Infrastructure Projects there will be some uncertainty regarding the exact design, layout and technology to be used given their timescales.

8.1.2 The Scheme has employed a maximum design scenario approach (the 'Rochdale Envelope'). This provides a 'worst case' scenario approach to the assessment of environmental impacts. It allows for the project to be framed within set parameters, for these parameters to be assessed in order to provide flexibility, while ensuring all potentially significant effects (positive or adverse) have been considered. The use of a Rochdale Envelope is acknowledged by Energy Statement EN-1.

8.1.3 The maximum design scenarios are identified from the range of potential options for each design parameter for the Scheme. These have been determined through baseline surveys and analysis of the existing physical and environmental constraints relating to landscape, ecology, flooding, cultural heritage, built environment, and utilities and telecommunications infrastructure. The maximum design scenario assessed is that which would give rise to the greatest potential impact. These maximum design scenarios define the parameters set out in the **Concept Design Parameters and Principles [EN010133/APP/C7.15]** document which is secured by a requirement in the Draft DCO.

8.1.4 Parameters have been selected in order to ensure that the proposed Scheme meets the objectives identified. They are categorised as either relating to the Scale of Development (i.e. it's extent or size, location, or design parameters).

8.1.5 The DCO process enables flexibility to be built into the Scheme (through the definition of the authorised development as set out in Schedule 1 to the Draft DCO and the Works Plans). Key areas of optionality that have been included in this application are:

i. PV panel type – 'trackers' and 'fixed'. Whilst it is currently envisaged that the Scheme will utilise tracker solar panels, the DCO application seeks consent for the Applicant to be able to utilise either tracker or fixed panels in order to allow use of tracker technology if this becomes feasible. Tracker panels have a maximum height of 4.5 metres, whereas fixed panels are up to 3.5 metres. The tracker panels have been assessed as a worst-case option.

ii. Energy Storage. The application proposes that the energy storage for the Scheme will be located within the Cottam 1 Site. Two alternative layouts are presented for energy storage. Anticipating advances in technology and different use cases, Option A proposes a 2-hour storage system covering a smaller area of up to 6.5 ha for battery storage, with Option B allowing for a 4-hour storage system over a more extensive area of up to 15.2 ha. In the Option A scenario, solar panels will be constructed where land is not required for battery storage. These options will help meet needs of the electricity

market, support policy objectives for delivery of renewable energy at peak times, and by providing grid balancing services to help increase electricity distribution network. The developer will give consideration to these factors when determining which option to pursue post-consent.

iii. Fire suppression water storage. Water will be stored on site in close proximity to the energy storage systems. This water will be stored in either above ground tanks or open water bodies so that they can be accessed by the fire service in the unlikely event of a fire. Both options are included in the DCO application within Works Package No.2 and Works Package No.3 and assessed in the ES, being set out in **ES Chapter 4: Description of Development [EN010133/APP/6.2.4]**.

8.1.6 The DCO Works Plans show the maximum extents of different types of elements within the development (i.e. panels, sub-stations, cabling etc.) . The Works Plans show the parameters within which each Works Package comprising the authorised development may be constructed. These parameters have been assessed within the Environmental Statement.

8.1.7 Whilst illustrative layout plans (as shown at **Appendix 1: Figure 4.1a-h**) have been included in the DCO application, this represents one way in which the Sites could be developed. The ability of the Applicant to micro-site during construction is an important consideration and is necessary in order to incorporate any technological advancement or changes in plant design or shape. The **draft DCO [EN010133/APP/C3.1]** submitted with the application includes pre-commencement Requirements for the submission and approval of phasing plans and detailed design proposals prior to construction. These Requirements are intended to, and would have the effect of:

- Clarifying the construction & operational sequencing of the Scheme;

8.1.8 Demonstrating that the final detailed design remains within the parameters set out in the **Concept Design Parameters and Principles [EN010133/APP/C7.15]** and therefore the Rochdale Envelope assessed in the ES. The requirements must be approved by the LPAs, meaning they retain a degree of control over the final phasing / design for the Scheme, to ensure it is acceptable and within the limits of what was assessed in the DCO application.

8.2 The DCO

8.2.1 Development consent for the Scheme is granted by the DCO. Schedule 1 to the DCO defines the “authorised development” for which development consent is granted.

8.2.2 The development listed in Schedule 1 comprises the Scheme in its entirety. The key elements of the Scheme are allocated specific Work Numbers. Schedule 2 to the DCO sets out the Requirements in accordance with which the Scheme must be constructed, operated, maintained and decommissioned. This includes a requirement that the Scheme is developed in accordance with the **Concept Design Parameters and Principles [EN010133/APP/C7.15]** and that the detailed design of

the Scheme will be required to be submitted to and approved by the relevant planning authorities.

8.2.3 As part of the DCO application, a **Draft DCO [EN010133/APP/C3.1]** and accompanying **Draft Explanatory Memorandum [EN010133/APP/C3.2]** have been prepared by the Applicant. The draft DCO sets out the intended scope of the DCO powers applied for, whilst the supporting memorandum provides and explains how the provisions of the draft DCO secure and control how the Scheme can be built and operated.

8.3 Works Plan

8.3.1 The **Works Plans [EN010133/APP/C2.4]**, define the locations and extents of each of the works numbers set out in Schedule 1 to the DCO within the Order limits. The DCO, if granted, would not permit any work number outside the land in which it is shown to be located by the Works Plans.

8.4 Environmental Commitments

8.4.1 The landscape and ecological features of the design described in this Design Statement will be delivered through the **Outline Landscape and Ecology Management Plan [EN010133/APP/C7.3]**. Matters of flood risk mitigation and drainage are committed to and delivered through the measures set out in **ES Chapter 10: Flood Risk, Hydrology and Drainage [EN010133/APP/C6.2.10]** and its supporting Flood Risk Assessment and Drainage Strategies at **ES Appendices 10.1-10.6 [EN010133/APP/6.3.10.1-6.3.10.6],** as well as the **Outline Construction Environmental Management Plan [EN010133/APP/C7.1]**. Delivery of the commitments set out in these documents will also be secured by requirements of the DCO. These will commit the Applicant to developing a detailed landscape and ecology management plan and a detailed surface water drainage scheme which accord with the relevant outline plans referred to above.

9 References

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Ref.19 Solar Energy UK (2022). 11 Commitments on Solar Farms. Solar Trade Association 2022: London. Available at solarenergyuk.org

Appendix 1: Supporting Figures

Order Limits

1.1 Order Limits and Scheme Location Plan

Scheme Context and Constraints Mapping

2.1 National Landscape Character Area Mapping

2.2 Regional and Local Landscape Character Types Mapping

2.3a-c ALC Mapping

2.4 Ecological designations

2.5 Cultural heritage designations

Previous Design and Layout Iterations

3.1 Scoping Red Line

3.2 PEIR Red Line

3.3a-g PEIR layouts

Design Masterplan

4.1a-h Submission Illustrative Site Layouts

4.2a-k Landscape Layouts and Mitigation Strategy

Access Points

5.1 Access to Works Plan

5.2 Public Rights of Way Plan

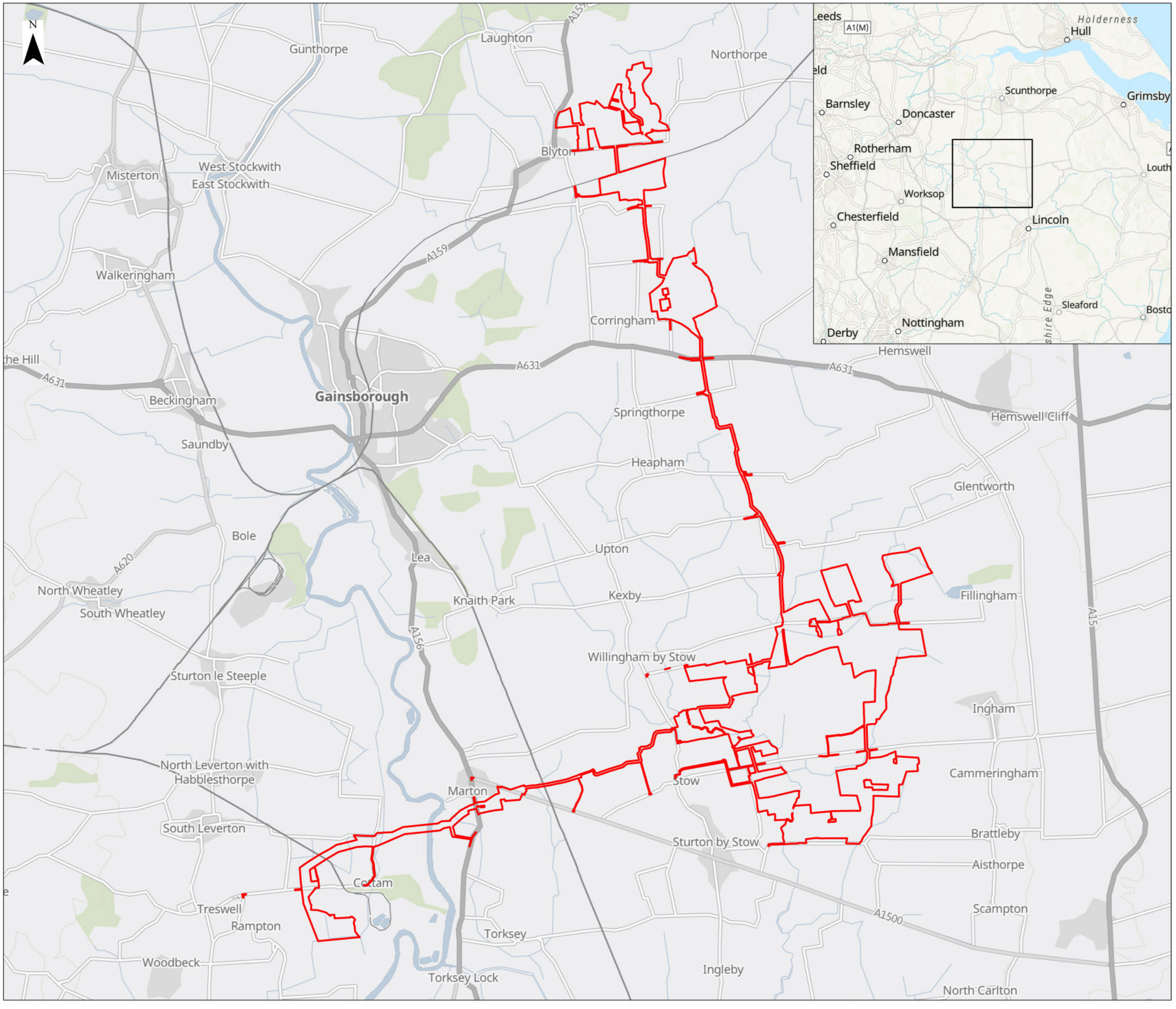
Field Numbering

6.1 Field Numbering Plan (Cottam 1)

6.2 Field Numbering Plan (Cottam 2)

6.3 Field Numbering Plan (Cottam 3a and 3b)

Figure 1.1 Order Limits and Scheme Location Plan



Island GREEN POWER

Lanpro

Key

Order Limits

Layers: Lanpro, 2022
Base map: Esri, CGIAR, USGS, Esri UK, Esri, HERE, Garmin, Foursquare, FAO, METI/NASA, USGS, Contains OS data © Crown Copyright and database right 2022
Contains data from OS Zoomstack

0 2 4 km

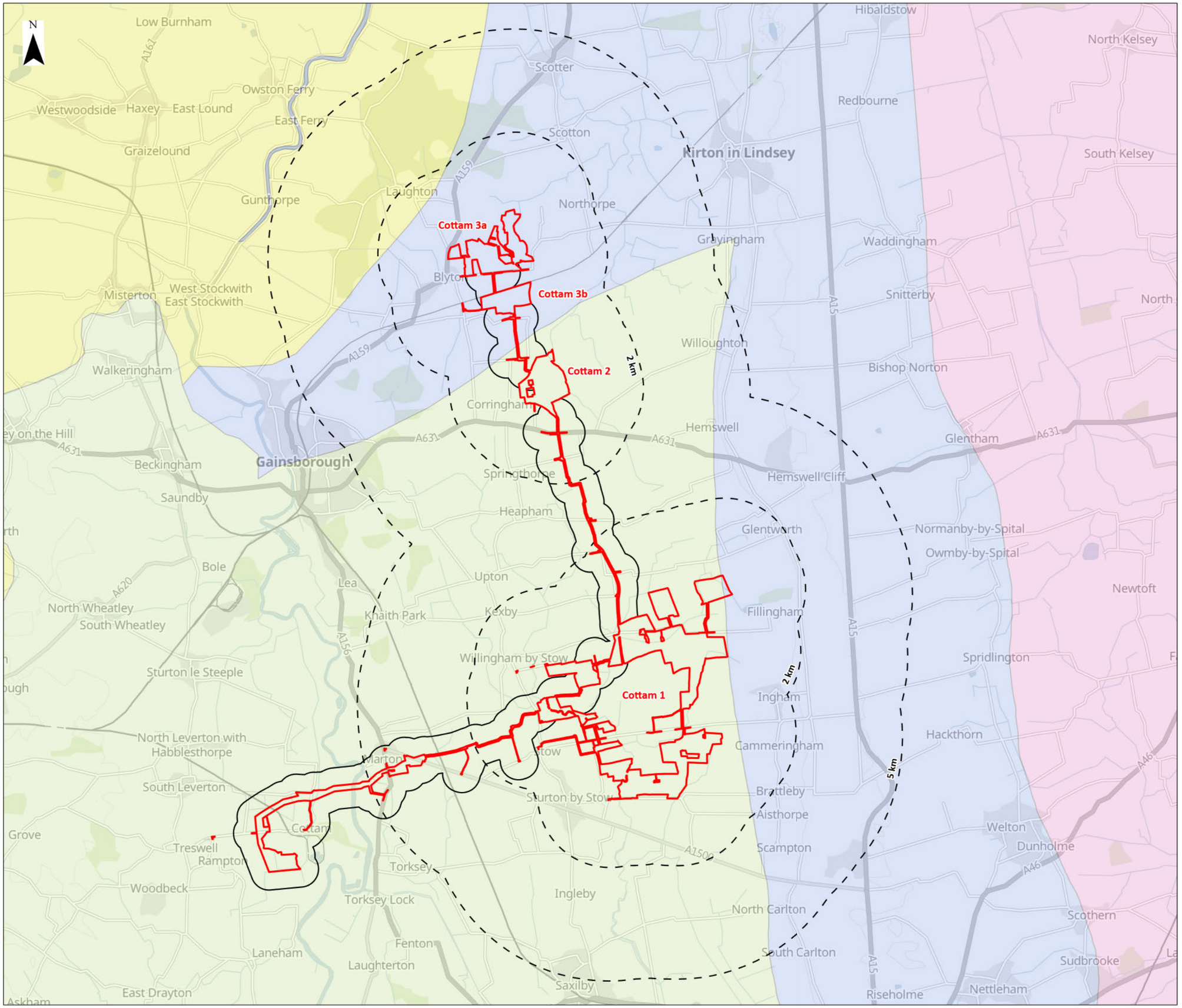
Scale: 1:75,000@ A3

APFP Regulation: 5(2)(a)	Application Doc No. C6.4.1.1
Ref: P2981_LPR_ZZ_ON_DR_Z_0158	Date: 03/12/2022
Drawn by: AZ	Checked by: ID

Figure 1.1
Cottam
Site Location Plan

COTTAM SOLAR PROJECT
Introduction
Environmental Statement (ES)

Figure 2.1 **National Landscape Character Area Mapping**



Island GREEN POWER

Lanpro

Key

- Order Limits
- Study Area
- 500m Cable Corridor Study Area

National Character Area (NCA)

- Central Lincolnshire Vale (44)
- Humberhead Levels (39)
- Northern Lincolnshire Edge with Coversands (45)
- Trent and Belvoir Vales (48)

Layers: Natural England, 2022; Lanpro, 2022
Base map: Contains OS data © Crown Copyright and database right 2022
Contains data from OS Zoomstack

0 1 2 3 4 5 6 km
Scale: 1:100,000@ A3

APFP Regulation: 5(2)(a)	Application Doc No. C6.4.8.4
Ref: P2981_LPR_ZZ_ON_DR_Z_0037	Date: 04/01/2023
Drawn by: AZ	Checked by: MT

Figure 8.4
Cottam 1, 2, 3a and 3b
Landscape Character - National

COTTAM SOLAR PROJECT
Landscape and Visual Impact Assessment
Environmental Statement (ES)

Figure 2.2 **Regional and Local Landscape Character Types Mapping**

Island GREEN POWER

Lanpro

Key

- Order Limits
- Study Area
- 500m Cable Corridor Study Area
- The Historic Landscape Character of The County of Lincolnshire (Sept 2011)

East Midlands Regional Landscape Character Area

- 2b: Planned and Drained Fens and Carrlands
- 3a: Floodplain Valleys
- 4a: Unwooded Vales
- 4b: Wooded Vales
- 5b: Wooded Village Farmlands
- 6a: Limestone Scarps and Displies
- Built-up Area

Trent Vale Landscape Character Area

- TVP One - Vale Market Towns
- TVP Two - Vale Meadowlands
- TVP Three - Industrial / Restored Vale
- TVP Four - Vale Farmlands

Layers: Natural England, Trent Vale Partnership, Lanpro, 2022
Base map: Contains OS data © Crown Copyright and database right 2022
Contains data from OS Zoomstack

0 1 2 3 4 5 6 km
Scale: 1:100,000@ A3

APFP Regulation: 5(2)(a)	Application Doc No. C6.4.8.5
Ref: P2981_LPR_ZZ_ON_DR_Z_0044	Date: 05/01/2023
Drawn by: AZ	Checked by: MT

Figure 8.5
Cottam 1, 2, 3a and 3b
Landscape Character - Regional

COTTAM SOLAR PROJECT
Landscape and Visual Impact Assessment
Environmental Statement (ES)

Figures 2.3a-c ALC Mapping

Island GREEN POWER

Lanpro

Key

Order Limits

Detailed Agricultural Land Classification (ALC)

Grade 2

Grade 3a

Grade 3b

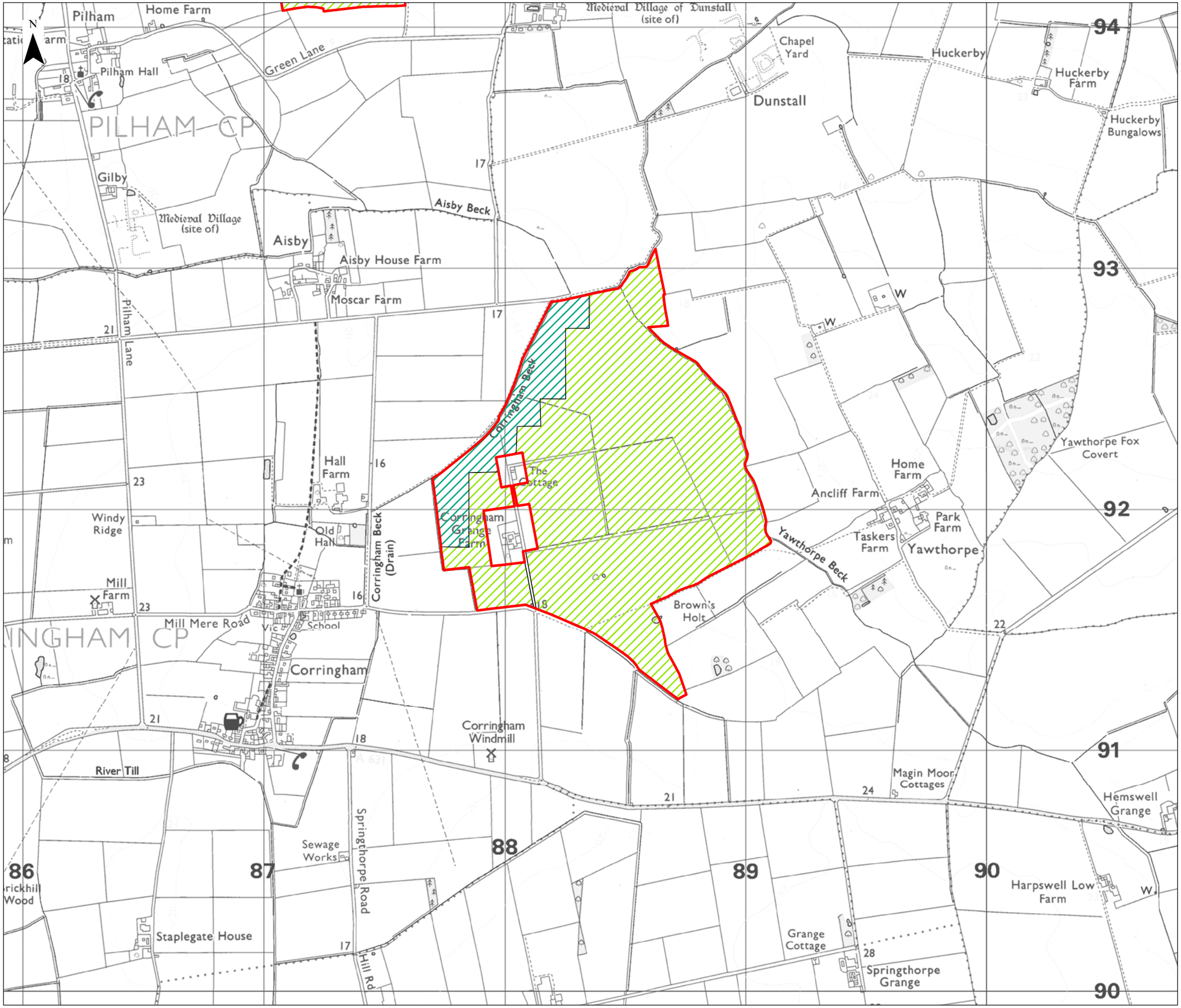
0 400 800 1,200 Metres

Scale: 1:25,000@ A3

APFP Regulation: 5(2)(a)	Application Doc No. C6.4.19.1
Ref: P2981_LPR_ZZ_ON_DR_Z_0148	Date: 22/12/2022
Drawn by: AZ	Checked by: DB

Figure 19.1
Cottam 1
Agricultural Land Classification Grade Distribution

COTTAM SOLAR PROJECT
Soils and Agriculture
Environmental Statement (ES)



Island GREEN POWER

Lanpro

Key

Order Limits

Detailed Agricultural Land Classification (ALC)

Grade 3a

Grade 3b

0 400 800 Metres

Scale: 1:15,000@ A3

APFP Regulation: 5(2)(a)	Application Doc No. C6.4.19.1
Ref: P2981_LPR_ZZ_ON_DR_Z_0148	Date: 22/12/2022
Drawn by: AZ	Checked by: DB

Figure 19.2
Cottam 2
Agricultural Land Classification Grade Distribution

COTTAM SOLAR PROJECT
Soils and Agriculture
Environmental Statement (ES)

Island GREEN POWER

Lanpro

Key

- Order Limits

Detailed Agricultural Land Classification (ALC)

- Grade 2
- Grade 3a
- Grade 3b

0 400 800 Metres

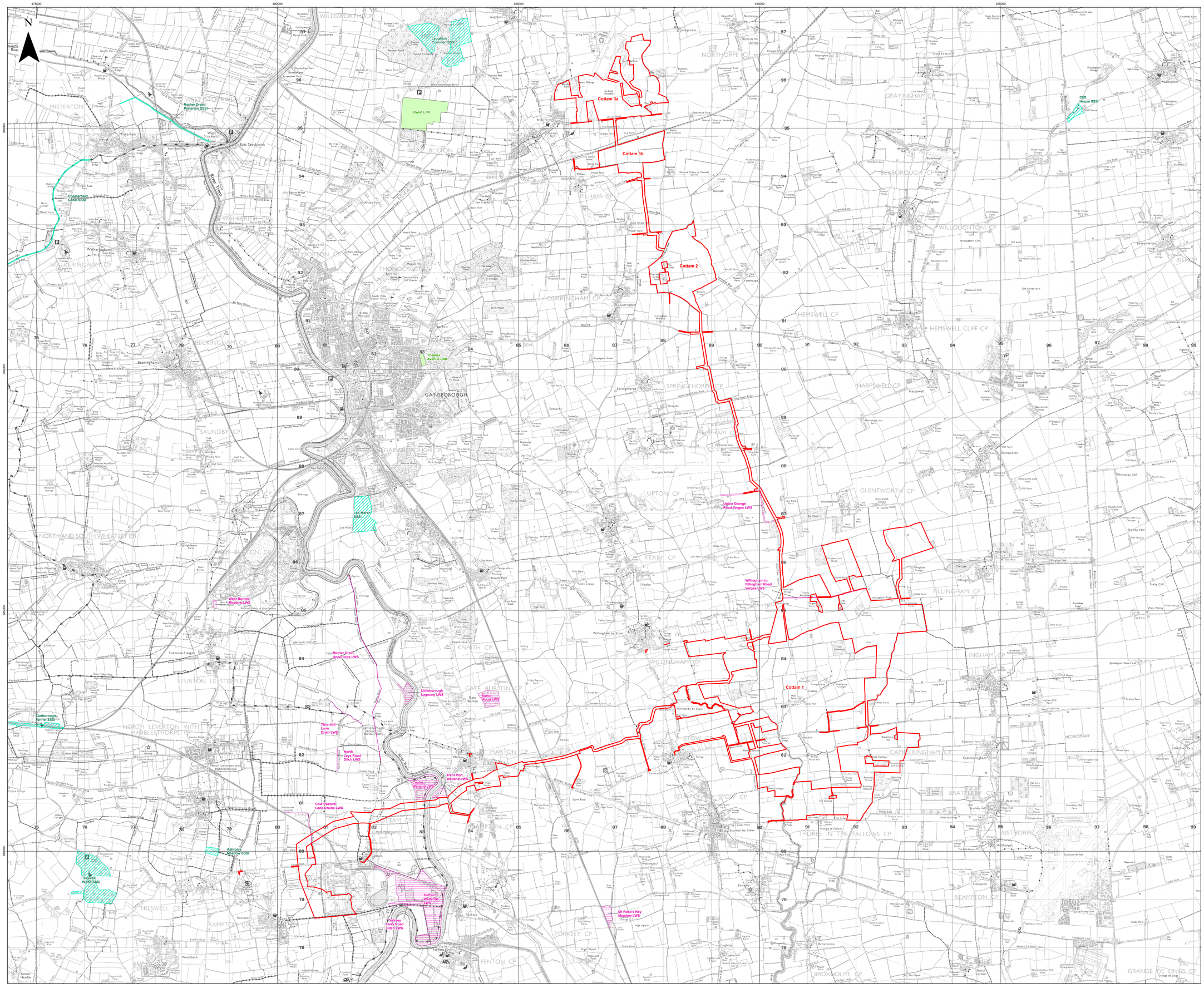
Scale: 1:15,000@ A3

APFP Regulation: 5(2)(a)	Application Doc No. C6.4.19.1
Ref: P2981_LPR_ZZ_ON_DR_Z_0148	Date: 22/12/2022
Drawn by: AZ	Checked by: DB

Figure 19.3
Cottam 3a and 3b
Agricultural Land Classification Grade Distribution

COTTAM SOLAR PROJECT
Soils and Agriculture
Environmental Statement (ES)

Figure 2.4 **Ecological Designations**



Key

- Order Limits
- Site of Special Scientific Interest (SSSI)
- Local Wildlife Site (LWS)
- Local Nature Reserve (LNR)

Layers: Natural England, 2022; Lanpro, 2022; IGP, 2022

0 1 2 3 Kilometres

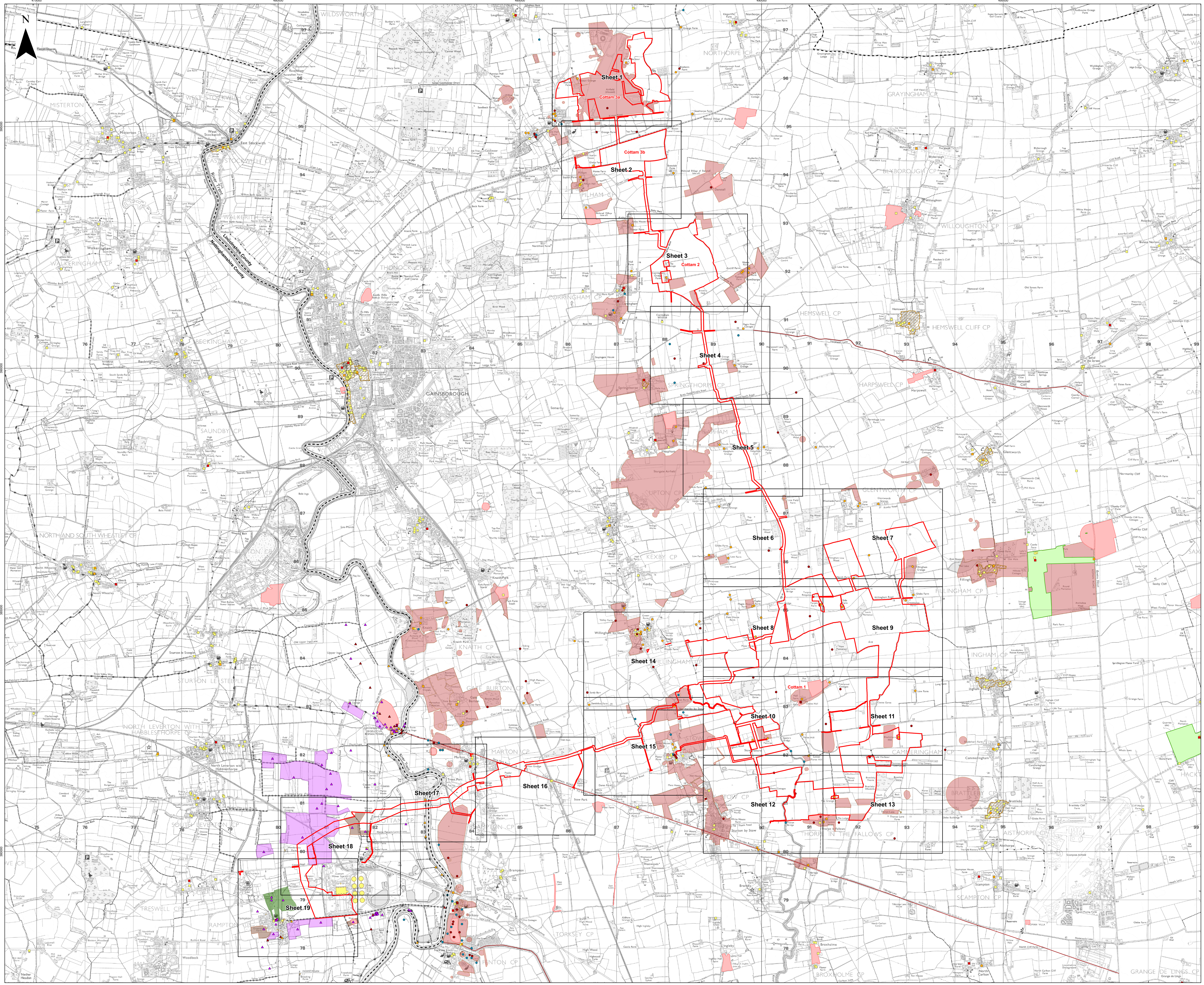
Scale: 1:25,000@ A0

APFP Regulation: 5(2)(l)	Application Doc No. C2.7
Ref: P2981_LPR_ZZ_ON_DR_Z_0108	Date: 15/12/2022
Drawn by: AZ	Checked by: ID

Plan of Statutory / Non-statutory Sites or Features of Nature Conservation

COTTAM SOLAR PROJECT

Figure 2.5 **Cultural Heritage Designations**



Island GREEN POWER

Lanpro

Key

- Order Limits
- Sheet Index
- County Boundary

Listed Building

Grade

- I
- II*
- II
- Conservation Area
- Scheduled Monument
- Registered Park and Garden

Lincolnshire HER (point)

- Building
- Find Spot
- Monument

Lincolnshire HER (Line)

- Building
- Monument

Lincolnshire HER (poly)

- Building
- Monument
- Park and Garden

Nottinghamshire HER (point)

- Building
- Element
- Find Spot
- Monument

Nottinghamshire (poly)

- Building
- Element
- Monument
- Park and Garden

Note:
Full details of the Historic Environmental Record (HER) sites and monuments depicted can be found in the gazetteers within the Desk Based Assessment (DBA) which are included in Appendix 13.1 of the Environmental Statement (ES), and the designated assets on Historic England's National Heritage List for England are discussed in detail in the Heritage Statement included in Appendix 13.5 of the ES

Layers: Historic England, 2022; Nottinghamshire County Council, 2022; Lincolnshire County Council, 2022; Lanpro, 2022; IGP, 2022

0 1 2 3 Kilometres

Scale: 1:25,000@ A0

APFP Regulation: 5(2)(m)	Application Doc No. C2.8
Ref: P2981_LPR_ZZ_ON_DR_Z_0122	Date: 15/12/2022
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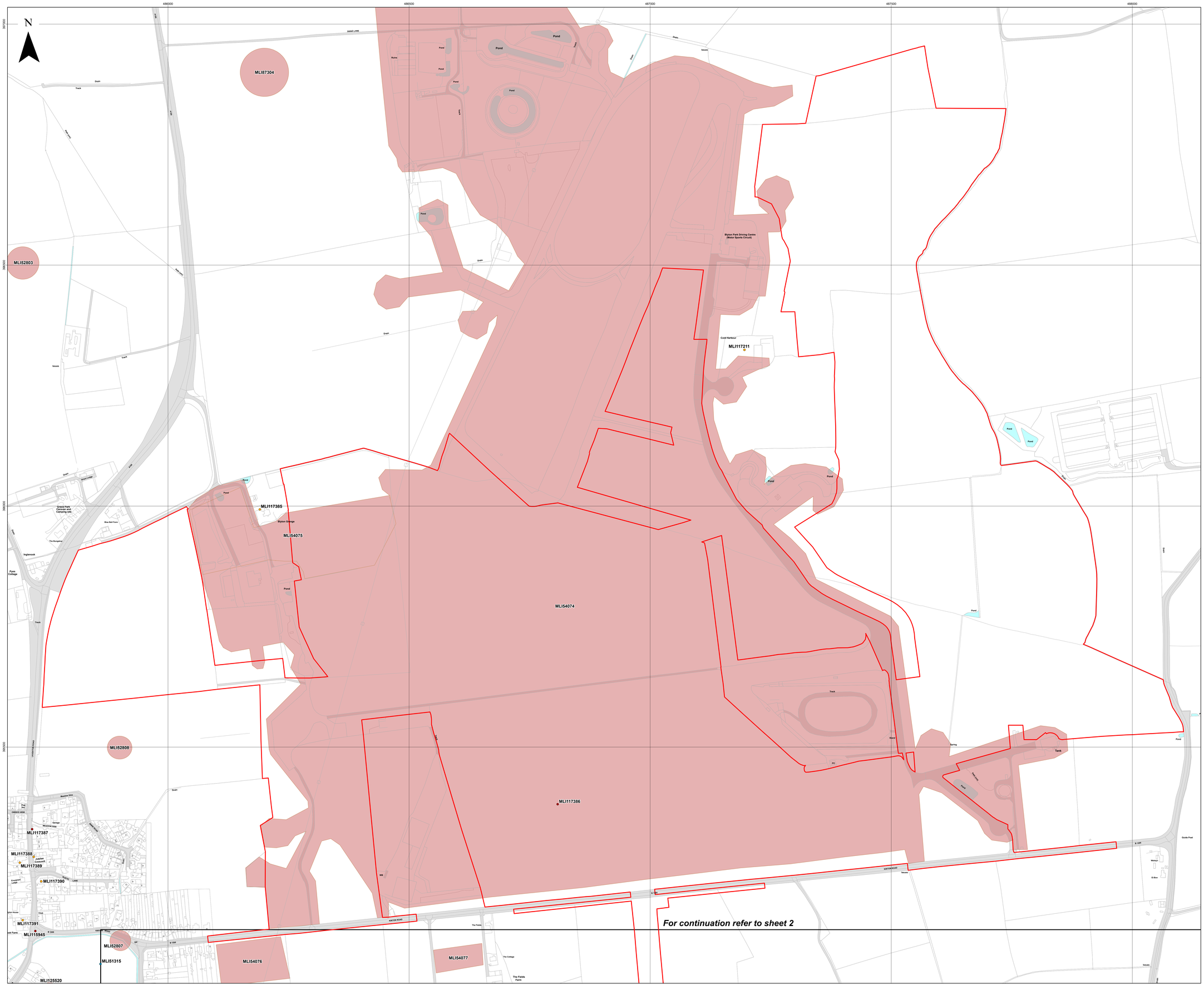
Plan of Statutory and Non-statutory Features of Historic Environment

Index Sheet

COTTAM SOLAR PROJECT



Key

☐ Order Limits
☐ Sheet Index
Lincolnshire HER (point)
● Building
● Find Spot
● Monument
Lincolnshire HER (poly)
▨ Monument
▭ County Boundary

Note:
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0 100 200 Metres

Scale: 1:2,500@ A0

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Plan of Statutory and Non-statutory Features of Historic Environment

Sheet 1 of 19

COTTAM SOLAR PROJECT

Island GREEN POWER

Lanpro

Key

- Order Limits
- Sheet Index

Listed Building

Grade

- II*
- II
- Scheduled Monument

Lincolnshire HER (point)

- Building
- Find Spot
- Monument

Lincolnshire HER (Line)

- Building

Lincolnshire HER (poly)

- Building
- Monument
- County Boundary

Note:
Full details of the Historic Environmental Record (HER) sites and monuments depicted can be found in the gazetteers within the Desk Based Assessment (DBA) which are included in Appendix 13.1 of the Environmental Statement (ES), and the designated assets on Historic England's National Heritage List for England are discussed in detail in the Heritage Statement included in Appendix 13.5 of the ES

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0 100 200 Metres

Scale: 1:2,500@ A0

APFP Regulation: 5(2)(m)	Application Doc No. C2.8
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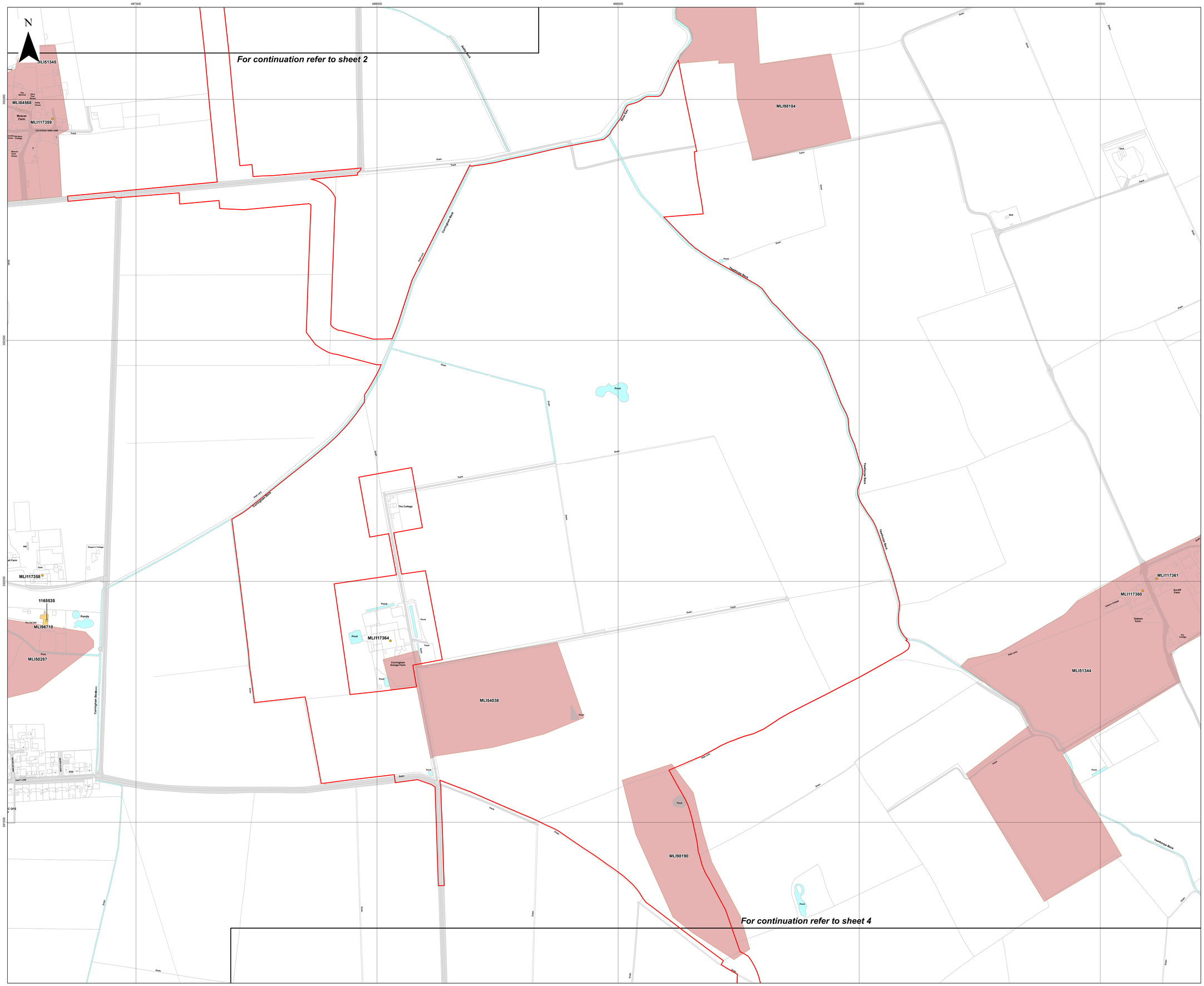
Plan of Statutory and Non-statutory Features of Historic Environment
Sheet 2 of 19

COTTAM SOLAR PROJECT



Island GREEN POWER

Lanpro

Key

- Order Limits
- Sheet Index

Listed Building

Grade

- II

Lincolnshire HER (point)

- Building

Lincolnshire HER (poly)

- Building
- Monument
- County Boundary

Note:
Full details of the Historic Environmental Record (HER) sites and monuments depicted can be found in the gazetteers within the Desk Based Assessment (DBA) which are included in Appendix 13.1 of the Environmental Statement (ES), and the designated assets on Historic England's National Heritage List for England are discussed in detail in the Heritage Statement included in Appendix 13.5 of the ES

0 100 200 Metres

Scale: 1:2,500@ A0

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Plan of Statutory and Non-statutory Features of Historic Environment

Sheet 3 of 19

COTTAM SOLAR PROJECT

Key

- Order Limits
- Sheet Index

Listed Building

Grade

- II

Lincolnshire HER (point)

- Building
- Find Spot
- Monument

Lincolnshire HER (Line)

- Monument

Lincolnshire HER (poly)

- Building
- Monument
- County Boundary

Note:
Full details of the Historic Environmental Record (HER) sites and monuments depicted can be found in the gazetteers within the Desk Based Assessment (DBA) which are included in Appendix 13.1 of the Environmental Statement (ES), and the designated assets on Historic England's National Heritage List for England are discussed in detail in the Heritage Statement included in Appendix 13.5 of the ES

Layers: Historic England, 2022; Nottinghamshire County Council, 2022; Lincolnshire County Council, 2022; Lanpro, 2022; IGP, 2022

0 100 200 Metres

Scale: 1:2,500@ A0

APFP Regulation: 5(2)(m)	Application Doc No. C2.8
Ref: P2981_LPR_ZZ_ON_DR_Z_0121	Date: 15/12/2022
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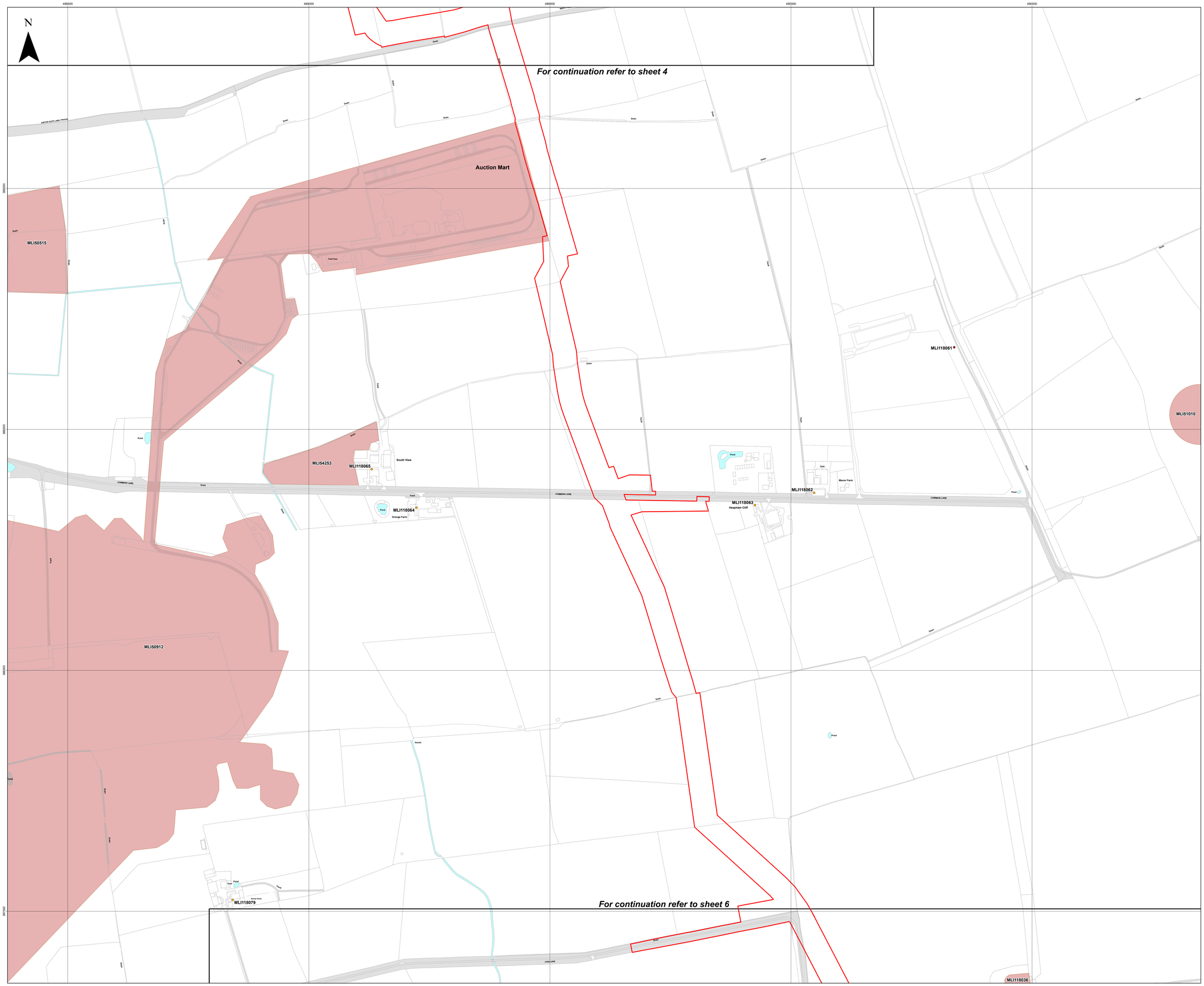
Plan of Statutory and Non-statutory Features of Historic Environment

Sheet 4 of 19

COTTAM SOLAR PROJECT



Island GREEN POWER

Lanpro

Key

- Order Limits
- Sheet Index

Lincolnshire HER (point)

- Building
- Monument

Lincolnshire HER (poly)

- Monument
- County Boundary

Note:
Full details of the Historic Environmental Record (HER) sites and monuments depicted can be found in the gazetteers within the Desk Based Assessment (DBA) which are included in Appendix 13.1 of the Environmental Statement (ES), and the designated assets on Historic England's National Heritage List for England are discussed in detail in the Heritage Statement included in Appendix 13.5 of the ES

0 100 200 Metres

Scale: 1:2,500@ A0

APFP Regulation: 5(2)(m)	Application Doc No. C2.8
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Drawn by: AZ	Checked by: ID

Plan of Statutory and Non-statutory Features of Historic Environment
Sheet 5 of 19

COTTAM SOLAR PROJECT

For continuation refer to sheet 5

For continuation refer to sheet 7

For continuation refer to sheet 8

Island GREEN POWER

Lanpro

Key

- 🟥 Order Limits
- ☐ Sheet Index

Lincolnshire HER (point)

- ● Building
- ● Monument

Lincolnshire HER (Line)

- — Building

Lincolnshire HER (poly)

- 🟧 Building
- 🟥 Monument
- ⬚ County Boundary

Note:
Full details of the Historic Environmental Record (HER) sites and monuments depicted can be found in the gazetteers within the Desk Based Assessment (DBA) which are included in Appendix 13.1 of the Environmental Statement (ES), and the designated assets on Historic England's National Heritage List for England are discussed in detail in the Heritage Statement included in Appendix 13.5 of the ES

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0 100 200 Metres

Scale: 1:2,500@ A0

APFP Regulation: 5(2)(m)	Application Doc No. C2.8
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Plan of Statutory and Non-statutory Features of Historic Environment

Sheet 6 of 19

COTTAM SOLAR PROJECT

Island GREEN POWER

Lanpro

Key

- Order Limits
- Sheet Index

Lincolnshire HER (point)

- Building

Lincolnshire HER (poly)

- Monument
- County Boundary

Note:
Full details of the Historic Environmental Record (HER) sites and monuments depicted can be found in the gazetteers within the Desk Based Assessment (DBA) which are included in Appendix 13.1 of the Environmental Statement (ES), and the designated assets on Historic England's National Heritage List for England are discussed in detail in the Heritage Statement included in Appendix 13.5 of the ES

0 100 200 Metres

Scale: 1:2,500@ A0

APFP Regulation: 5(2)(m)	Application Doc No. C2.8
Ref: P2981_LPR_ZZ_ON_DR_Z_0121	Date: 15/12/2022
Drawn by: AZ	Checked by: ID

Plan of Statutory and Non-statutory Features of Historic Environment

Sheet 7 of 19

COTTAM SOLAR PROJECT

Key

- Order Limits
- Sheet Index

Lincolnshire HER (point)

- Building
- Monument

Lincolnshire HER (poly)

- Monument
- County Boundary

Note:
Full details of the Historic Environmental Record (HER) sites and monuments depicted can be found in the gazetteers within the Desk Based Assessment (DBA) which are included in Appendix 13.1 of the Environmental Statement (ES), and the designated assets on Historic England's National Heritage List for England are discussed in detail in the Heritage Statement included in Appendix 13.5 of the ES

0 100 200 Metres

Scale: 1:2,500@ A0

APFP Regulation: 5(2)(m)	Application Doc No. C2.8
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Plan of Statutory and Non-statutory Features of Historic Environment

Sheet 8 of 19

COTTAM SOLAR PROJECT

491500
492000
492500
493000
493500
385500
385000
384500
384000

N

For continuation refer to sheet 7

For continuation refer to sheet 8

For continuation refer to sheet 11

MLI51120

MLI118051

MLI118050

MLI118048

MLI52432

North Farm

Globe Farm

Globe Farm Cottage

Greystones Cottage

Slate Farm

WILLINGHAM ROAD

Track

Drain

Pond

Ruin

Island GREEN POWER

Lanpro

Key

- Order Limits
- Sheet Index

Lincolnshire HER (point)

- Building
- Monument

Lincolnshire HER (poly)

- Monument
- County Boundary

Note:
Full details of the Historic Environmental Record (HER) sites and monuments depicted can be found in the gazetteers within the Desk Based Assessment (DBA) which are included in Appendix 13.1 of the Environmental Statement (ES), and the designated assets on Historic England's National Heritage List for England are discussed in detail in the Heritage Statement included in Appendix 13.5 of the ES

Layers: Historic England, 2022; Nottinghamshire County Council, 2022; Lincolnshire County Council, 2022; Lanpro, 2022; IGP, 2022

0 100 200 Metres

Scale: 1:2,500@ A0

APFP Regulation: 5(2)(m)	Application Doc No. C2.8
Ref: P2981_LPR_ZZ_ON_DR_Z_0121	Date: 15/12/2022
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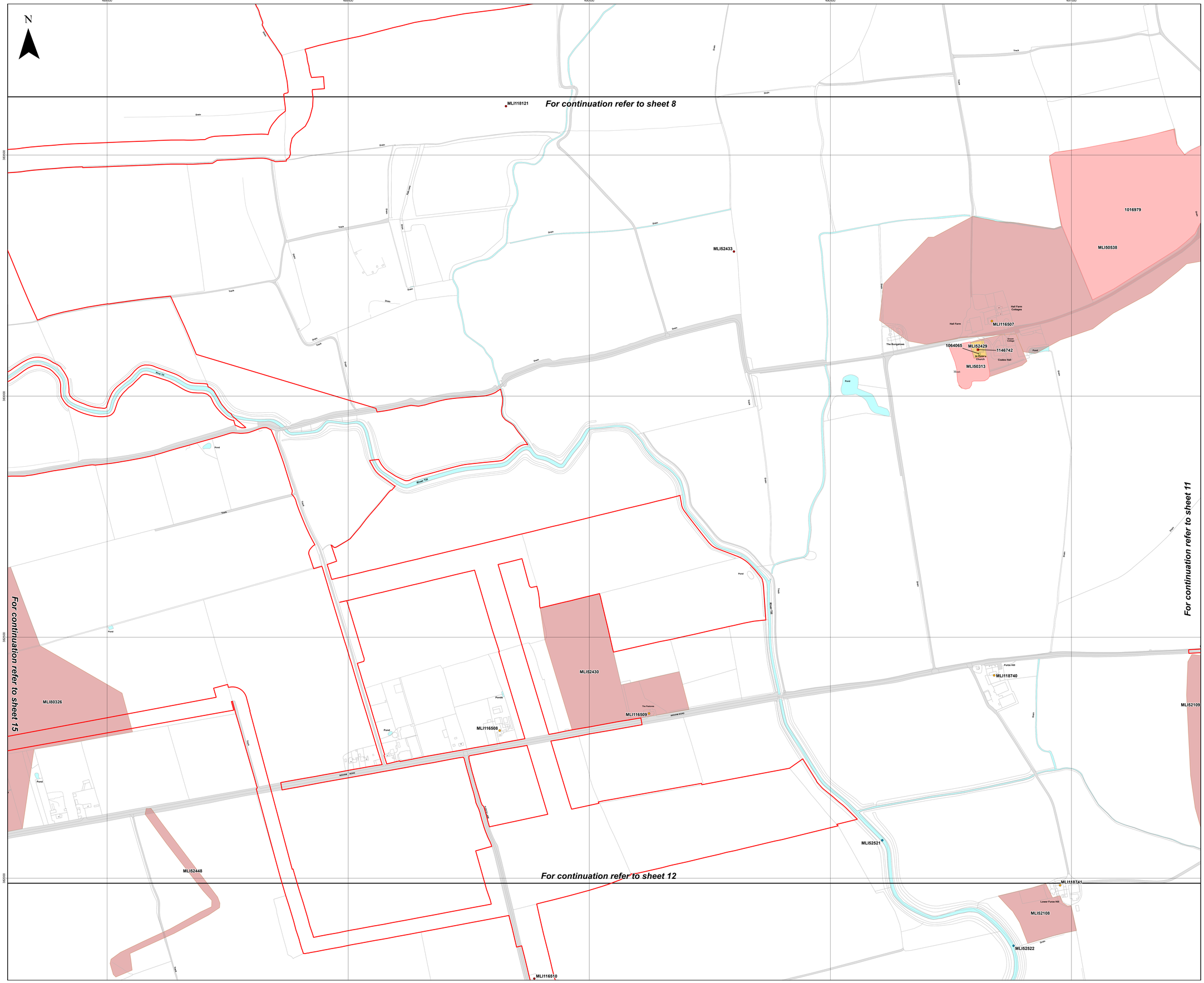
Plan of Statutory and Non-statutory Features of Historic Environment
Sheet 9 of 19

COTTAM SOLAR PROJECT



Key

- Order Limits
- Sheet Index

Listed Building

Grade

- I
- II

- Scheduled Monument

Lincolnshire HER (point)

- Building
- Find Spot
- Monument

Lincolnshire HER (poly)

- Building
- Monument
- County Boundary

Note:
Full details of the Historic Environmental Record (HER) sites and monuments depicted can be found in the gazetteers within the Desk Based Assessment (DBA) which are included in Appendix 13.1 of the Environmental Statement (ES), and the designated assets on Historic England's National Heritage List for England are discussed in detail in the Heritage Statement included in Appendix 13.5 of the ES

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0 100 200 Metres

Scale: 1:2,500@ A0

APFP Regulation: 5(2)(m)	Application Doc No. C2.8
Ref: P2981_LPR_ZZ_ON_DR_Z_0121	Date: 15/12/2022
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Plan of Statutory and Non-statutory Features of Historic Environment
Sheet 10 of 19

COTTAM SOLAR PROJECT

For continuation refer to sheet 9

For continuation refer to sheet 10

For continuation refer to sheet 13

Key

- 🟥 Order Limits
- ☐ Sheet Index
- 🟥 Scheduled Monument

Lincolnshire HER (point)

- ● Building
- ● Monument

Lincolnshire HER (poly)

- 🟥 Monument
- ⬚ County Boundary

Note:
Full details of the Historic Environmental Record (HER) sites and monuments depicted can be found in the gazetteers within the Desk Based Assessment (DBA) which are included in Appendix 13.1 of the Environmental Statement (ES), and the designated assets on Historic England's National Heritage List for England are discussed in detail in the Heritage Statement included in Appendix 13.5 of the ES

Layers: Historic England, 2022; Nottinghamshire County Council, 2022; Lincolnshire County Council, 2022; Lanpro, 2022; IGP, 2022

0 100 200 Metres

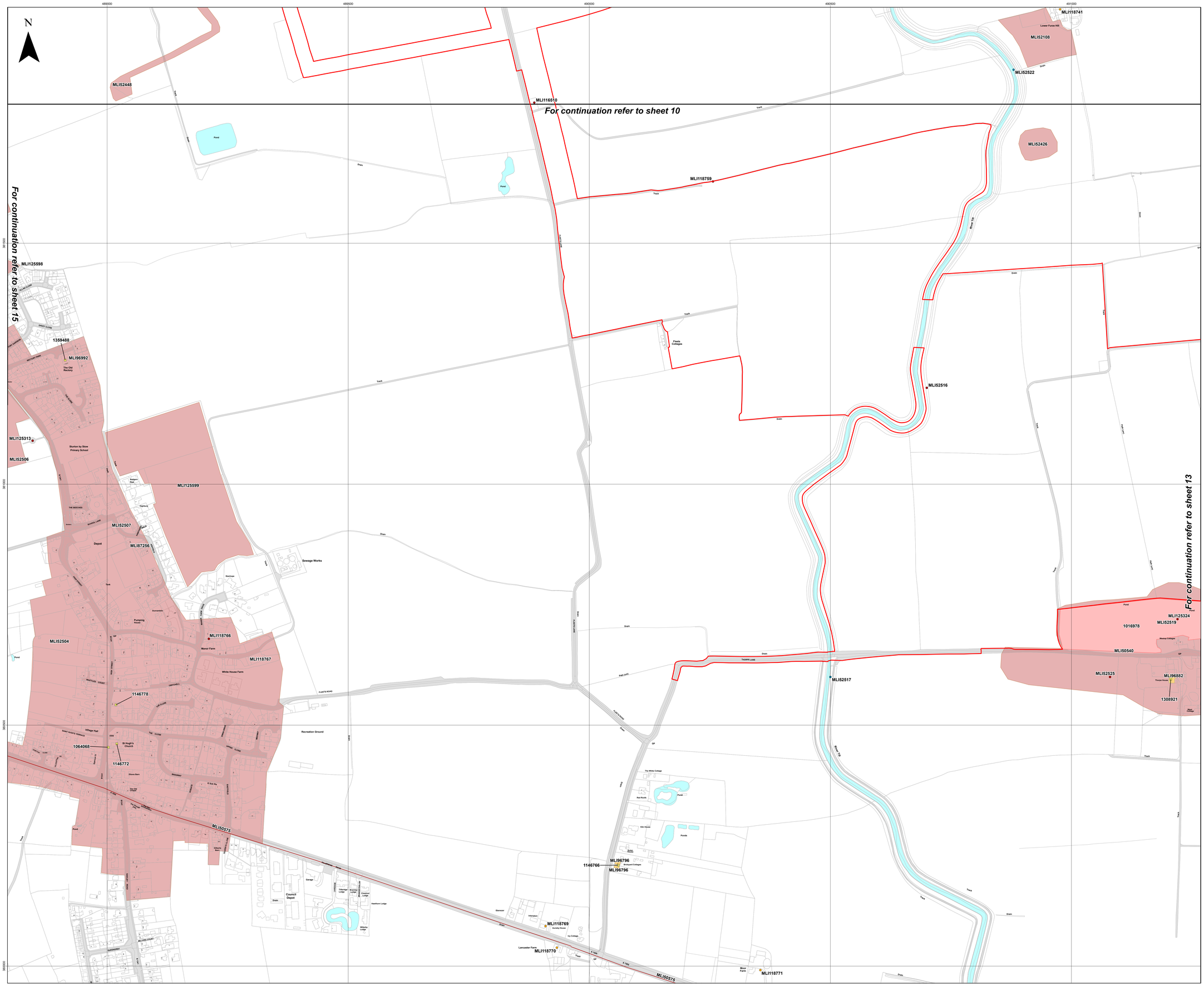
Scale: 1:2,500@ A0

APFP Regulation: 5(2)(m)	Application Doc No. C2.8
Ref: P2981_LPR_ZZ_ON_DR_Z_0121	Date: 15/12/2022
Drawn by: AZ	Checked by: ID

Plan of Statutory and Non-statutory Features of Historic Environment

Sheet 11 of 19

COTTAM SOLAR PROJECT



Key

- Order Limits
- Sheet Index

Listed Building

Grade

- II
- Scheduled Monument

Lincolnshire HER (point)

- Building
- Find Spot
- Monument

Lincolnshire HER (Line)

- Monument

Lincolnshire HER (poly)

- Building
- Monument
- County Boundary

Note:
Full details of the Historic Environmental Record (HER) sites and monuments depicted can be found in the gazetteers within the Desk Based Assessment (DBA) which are included in Appendix 13.1 of the Environmental Statement (ES), and the designated assets on Historic England's National Heritage List for England are discussed in detail in the Heritage Statement included in Appendix 13.5 of the ES

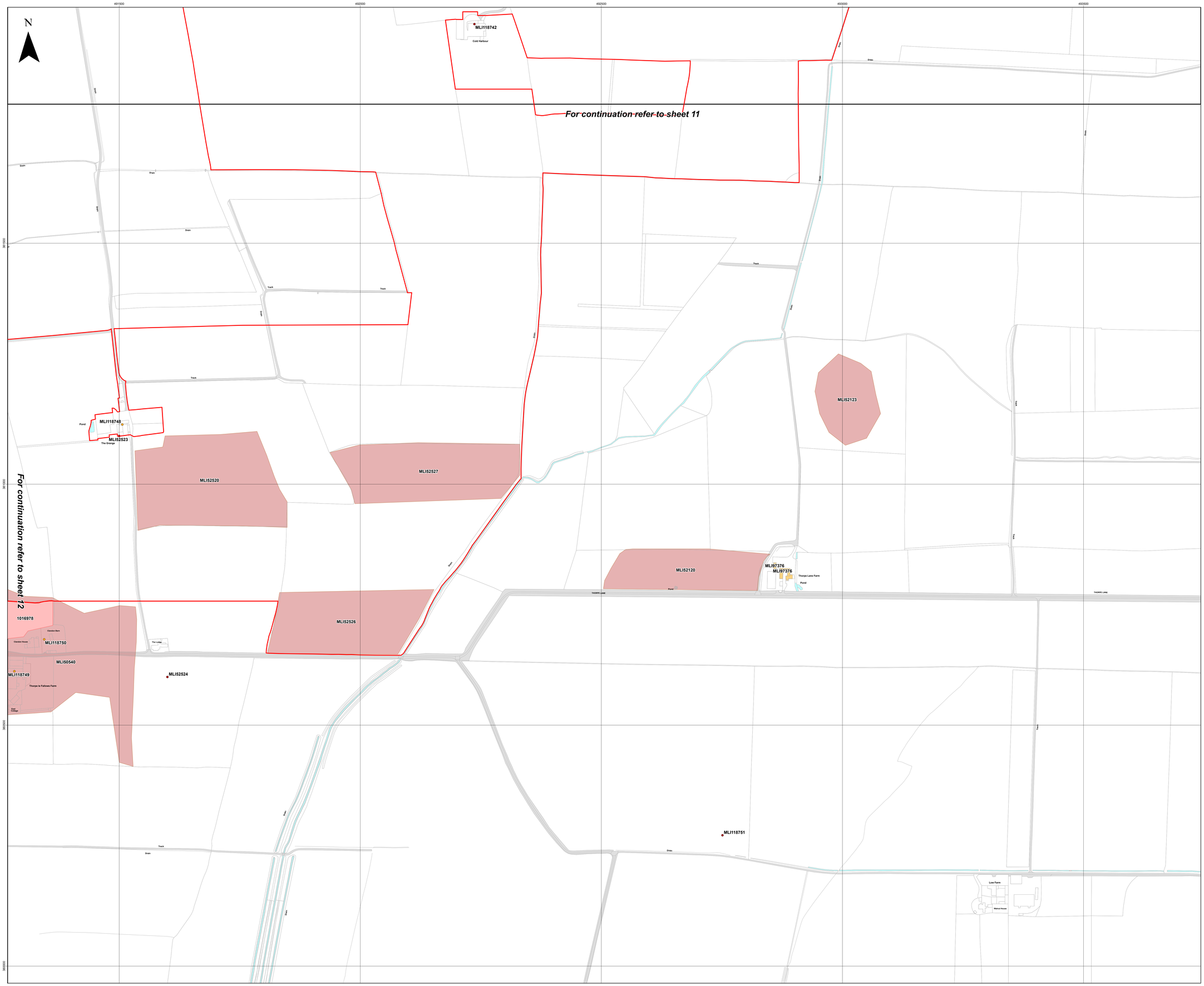
0 100 200 Metres

Scale: 1:2,500@ A0

APFP Regulation: 5(2)(m)	Application Doc No. C2.8
Ref: P2981_LPR_ZZ_ON_DR_Z_0121	Date: 15/12/2022
Drawn by: AZ	Checked by: ID

Plan of Statutory and Non-statutory Features of Historic Environment
Sheet 12 of 19

COTTAM SOLAR PROJECT



Key

- Order Limits
- Sheet Index
- Scheduled Monument

Lincolnshire HER (point)

- Building
- Monument

Lincolnshire HER (poly)

- Building
- Monument
- County Boundary

Note:
Full details of the Historic Environmental Record (HER) sites and monuments depicted can be found in the gazetteers within the Desk Based Assessment (DBA) which are included in Appendix 13.1 of the Environmental Statement (ES), and the designated assets on Historic England's National Heritage List for England are discussed in detail in the Heritage Statement included in Appendix 13.5 of the ES

0 100 200 Metres

Scale: 1:2,500@ A0

APFP Regulation: 5(2)(m)	Application Doc No. C2.8
Ref: P2981_LPR_ZZ_ON_DR_Z_0121	Date: 15/12/2022
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Plan of Statutory and Non-statutory Features of Historic Environment
Sheet 13 of 19

COTTAM SOLAR PROJECT

Island GREEN POWER

Lanpro

Key

- Order Limits
- Sheet Index

Listed Building

Grade

- II

Lincolnshire HER (point)

- Building
- Find Spot
- Monument

Lincolnshire HER (poly)

- Building
- Monument
- County Boundary

Note:
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0 100 200 Metres

Scale: 1:2,500@ A0

APFP Regulation: 5(2)(m)	Application Doc No. C2.8
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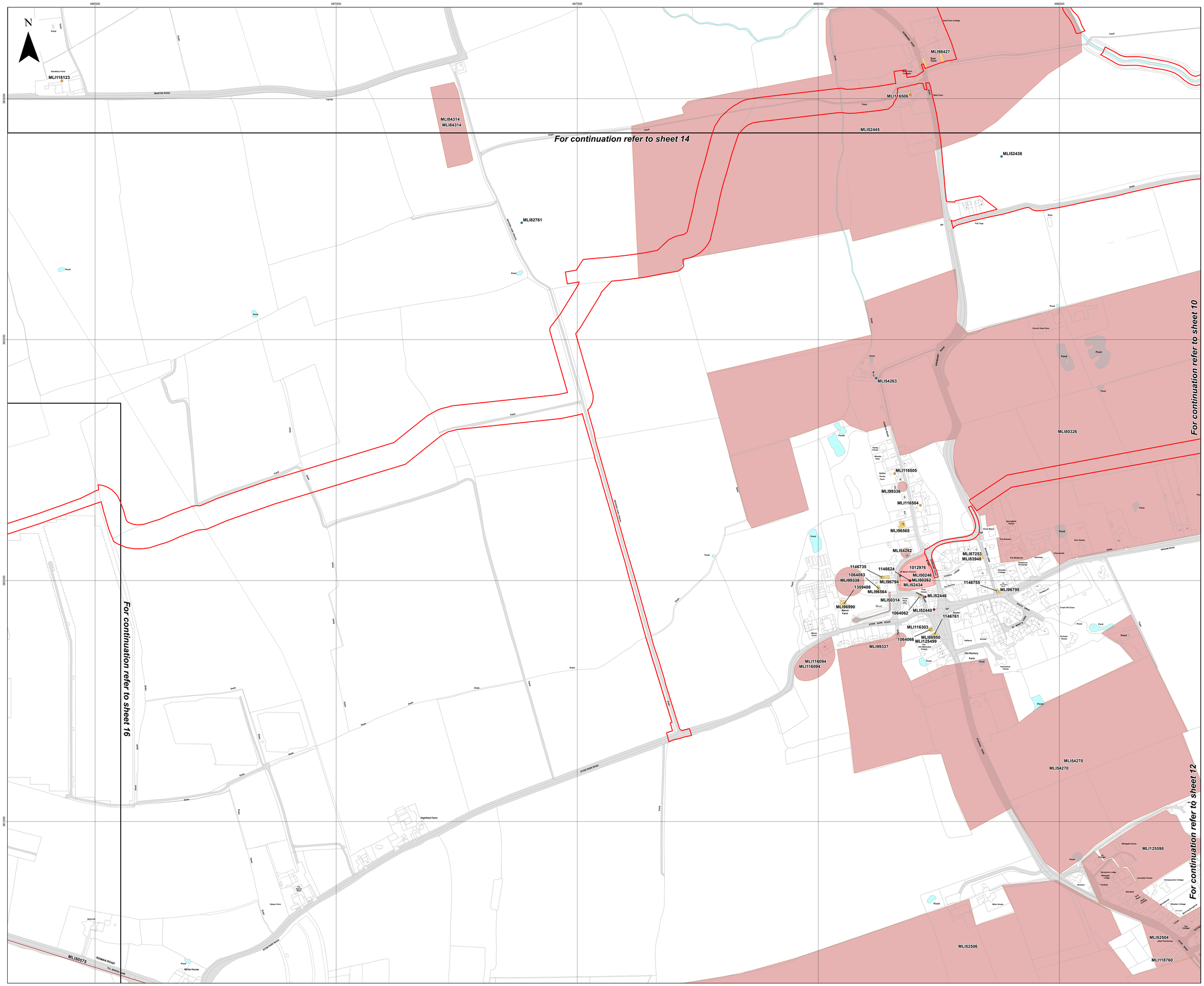
Plan of Statutory and Non-statutory Features of Historic Environment

Sheet 14 of 19

COTTAM SOLAR PROJECT



Island GREEN POWER

Lanpro

Key

- Order Limits
- Sheet Index

Listed Building

Grade

- I
- II

- Scheduled Monument

Lincolnshire HER (point)

- Building
- Find Spot
- Monument

Lincolnshire HER (Line)

- Monument

Lincolnshire HER (poly)

- Building
- Monument
- County Boundary

Note:
Full details of the Historic Environmental Record (HER) sites and monuments depicted can be found in the gazetteers within the Desk Based Assessment (DBA) which are included in Appendix 13.1 of the Environmental Statement (ES), and the designated assets on Historic England's National Heritage List for England are discussed in detail in the Heritage Statement included in Appendix 13.5 of the ES

0 100 200 Metres

Scale: 1:2,500@ A0

APFP Regulation: 5(2)(m)	Application Doc No. C2.8
Ref: P2981_LPR_ZZ_ON_DR_Z_0121	Date: 15/12/2022
Drawn by: AZ	Checked by: ID

Plan of Statutory and Non-statutory Features of Historic Environment
Sheet 15 of 19

COTTAM SOLAR PROJECT

Island GREEN POWER

Lanpro

Key

- Order Limits
- Sheet Index

Listed Building

Grade

- II

- Scheduled Monument

Lincolnshire HER (Line)

- Monument

Lincolnshire HER (poly)

- Monument
- County Boundary

Note:
Full details of the Historic Environmental Record (HER) sites and monuments depicted can be found in the gazetteers within the Desk Based Assessment (DBA) which are included in Appendix 13.1 of the Environmental Statement (ES), and the designated assets on Historic England's National Heritage List for England are discussed in detail in the Heritage Statement included in Appendix 13.5 of the ES

0 100 200 Metres

Scale: 1:2,500@ A0

APFP Regulation: 5(2)(m)	Application Doc No. C2.8
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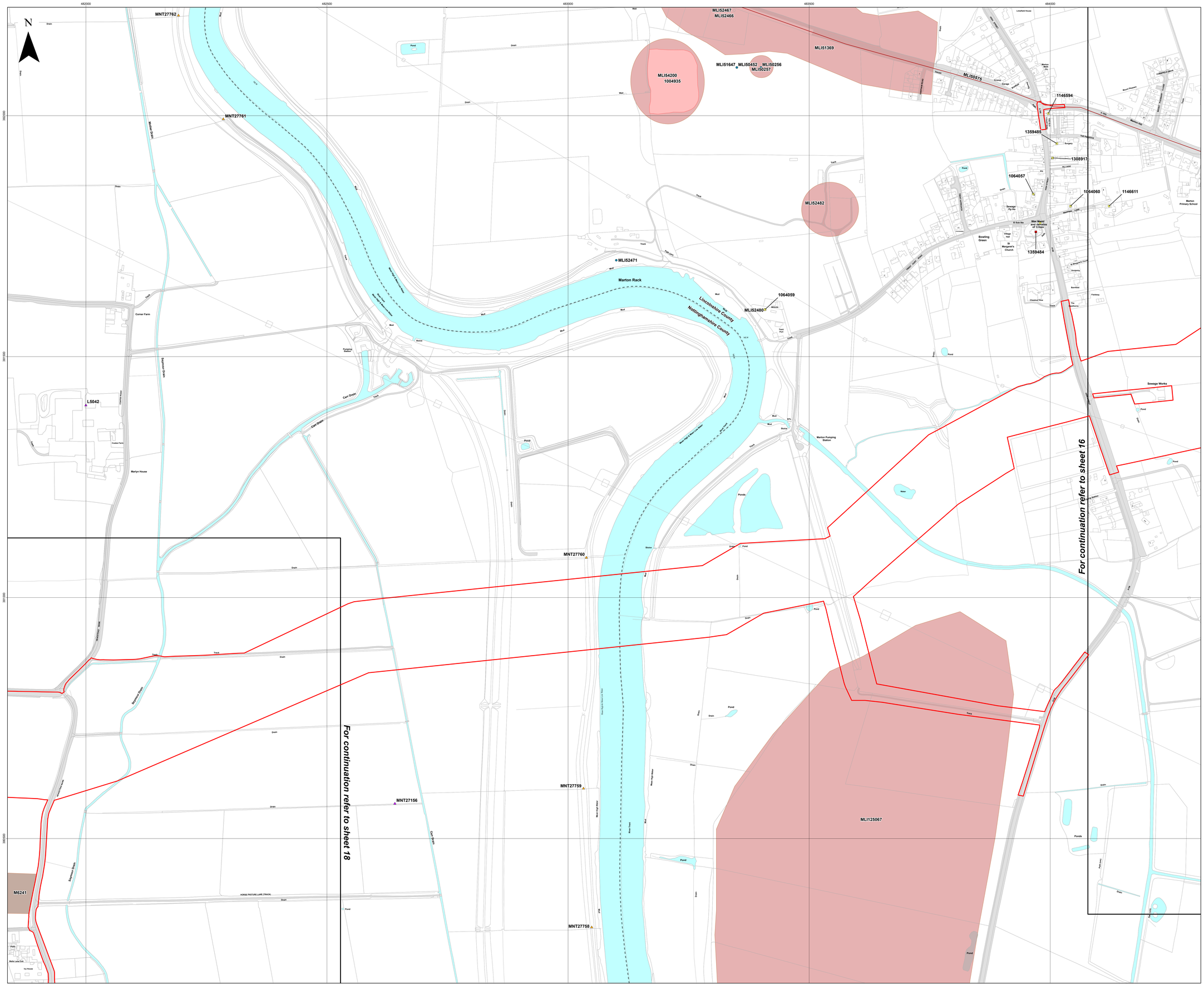
Drawn by: AZ	Checked by: ID

Plan of Statutory and Non-statutory Features of Historic Environment

Sheet 16 of 19

COTTAM SOLAR PROJECT



Island GREEN POWER

Lanpro

Key

- ▭ Order Limits
- ▭ Sheet Index

Listed Building

Grade

- ■ I
- □ II
- ▨ Scheduled Monument

Lincolnshire HER (point)

- ● Find Spot

Lincolnshire HER (Line)

- — Monument

Lincolnshire HER (poly)

- ▨ Building
- ▨ Monument

Nottinghamshire HER (point)

- ▲ Building
- ▲ Element

Nottinghamshire (poly)

- ▨ Monument
- ⬚ County Boundary

Note:
Full details of the Historic Environmental Record (HER) sites and monuments depicted can be found in the gazetteers within the Desk Based Assessment (DBA) which are included in Appendix 13.1 of the Environmental Statement (ES), and the designated assets on Historic England's National Heritage List for England are discussed in detail in the Heritage Statement included in Appendix 13.5 of the ES

Layers: Historic England, 2022; Nottinghamshire County Council, 2022; Lincolnshire County Council, 2022; Lanpro, 2022; IGP, 2022

0 100 200 Metres

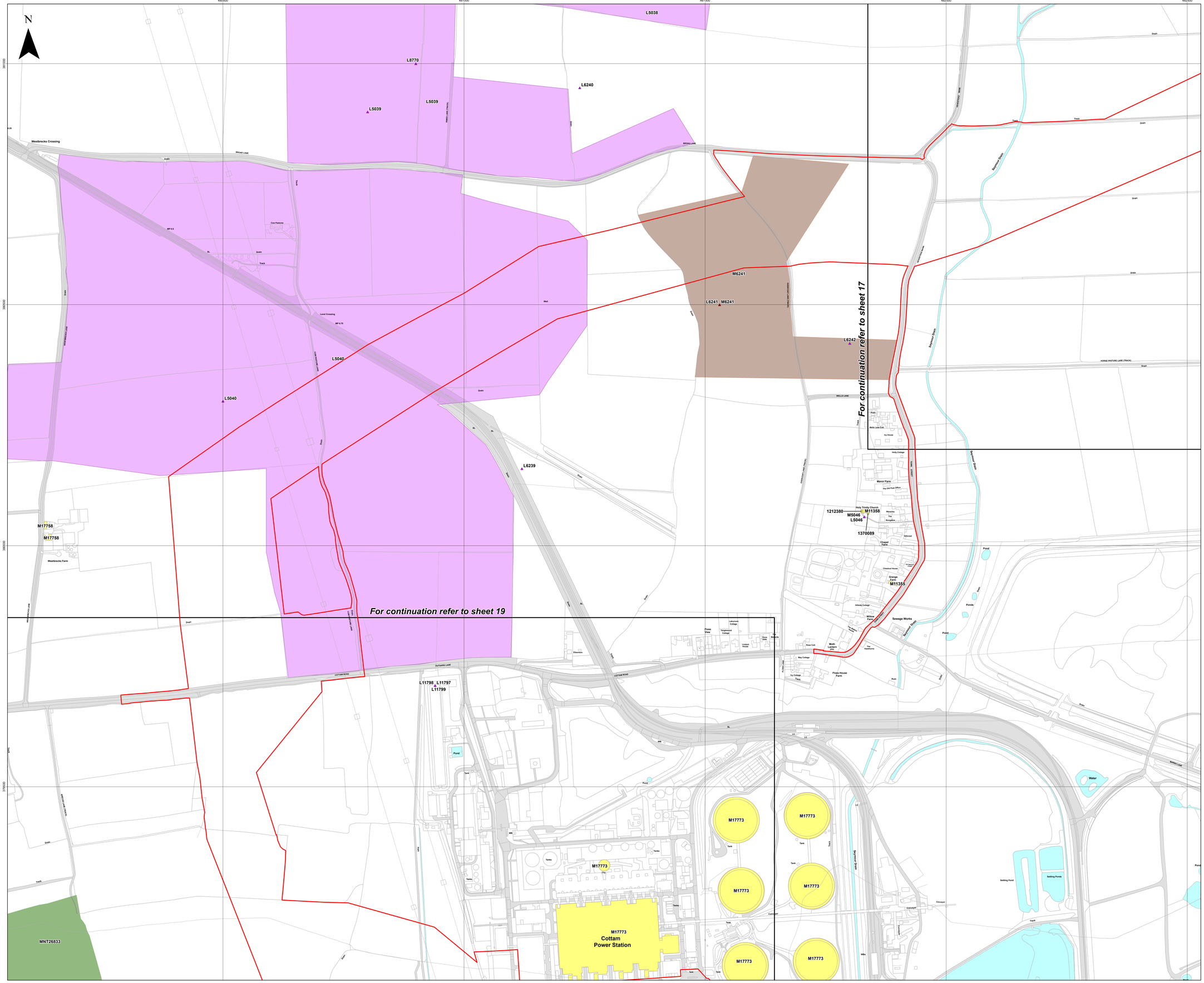
Scale: 1:2,500@ A0

APFP Regulation: 5(2)(m)	Application Doc No. C2.8
Ref: P2981_LPR_ZZ_ON_DR_Z_0121	Date: 15/12/2022
Drawn by: AZ	Checked by: ID

Plan of Statutory and Non-statutory Features of Historic Environment

Sheet 17 of 19

COTTAM SOLAR PROJECT



Key

- Order Limits
- Sheet Index

Listed Building

Grade

- II

Nottinghamshire HER (point)

- Element
- Monument

Nottinghamshire (poly)

- Building
- Element
- Monument
- Park and Garden
- County Boundary

Note:
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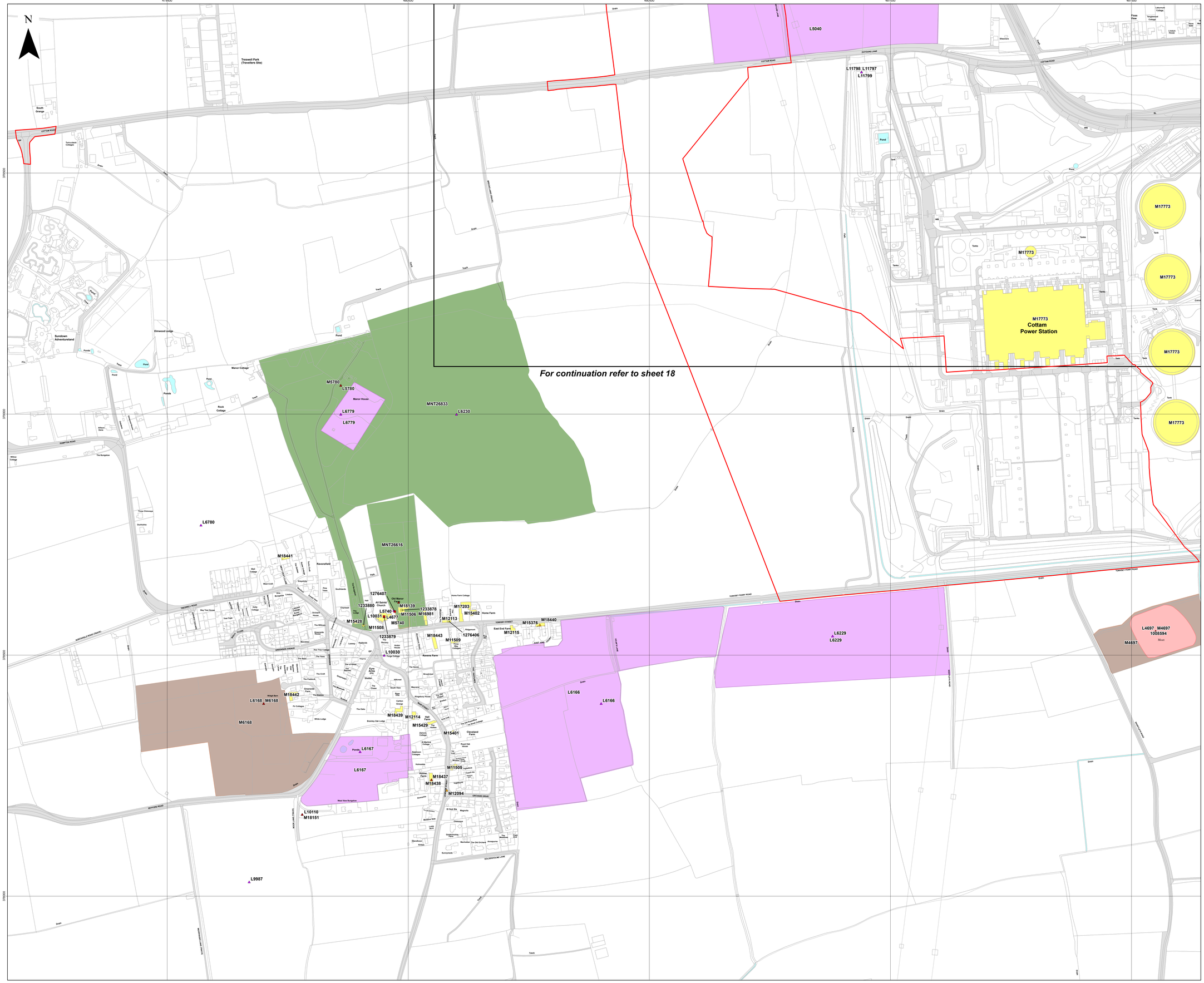
0 100 200 Metres

Scale: 1:2,500@ A0

APFP Regulation: 5(2)(m)	Application Doc No. C2.8
Ref: P2981_LPR_ZZ_ON_DR_Z_0121	Date: 15/12/2022
Drawn by: AZ	Checked by: ID

Plan of Statutory and Non-statutory Features of Historic Environment
Sheet 18 of 19

COTTAM SOLAR PROJECT



Key

- Order Limits
- Sheet Index

Listed Building

Grade

- I
- II

- Scheduled Monument

Nottinghamshire HER (point)

- Building
- Element
- Monument

Nottinghamshire (poly)

- Building
- Element
- Monument
- Park and Garden
- County Boundary

Note:
Full details of the Historic Environmental Record (HER) sites and monuments depicted can be found in the gazetteers within the Desk Based Assessment (DBA) which are included in Appendix 13.1 of the Environmental Statement (ES), and the designated assets on Historic England's National Heritage List for England are discussed in detail in the Heritage Statement included in Appendix 13.5 of the ES

Layers: Historic England, 2022; Nottinghamshire County Council, 2022; Lincolnshire County Council, 2022; Lanpro, 2022; IGP, 2022
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0 100 200 Metres

Scale: 1:2,500@ A0

APFP Regulation: 5(2)(m)	Application Doc No. C2.8
Ref: P2981_LPR_ZZ_ON_DR_Z_0121	Date: 15/12/2022
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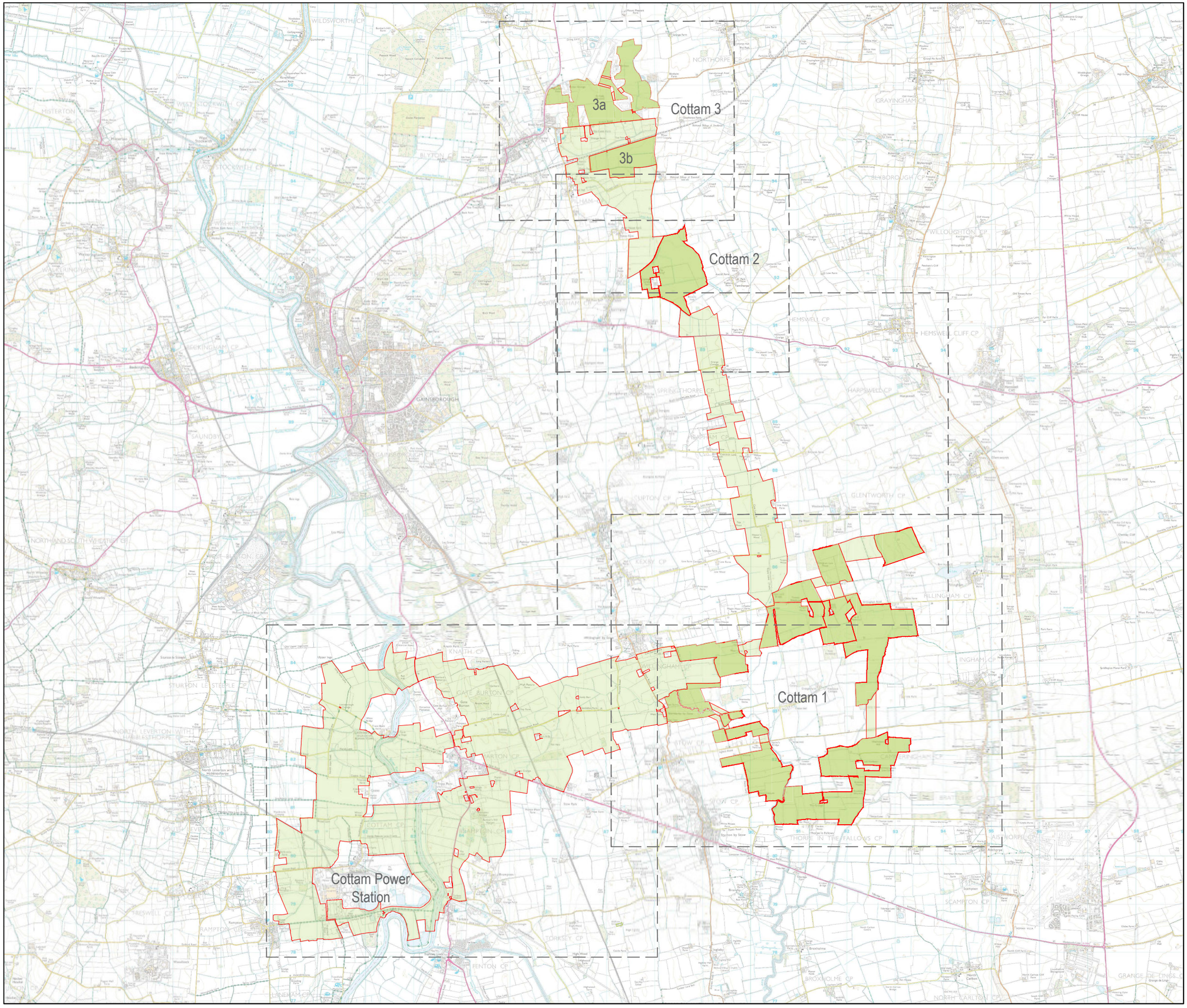
Plan of Statutory and Non-statutory Features of Historic Environment

Sheet 19 of 19

COTTAM SOLAR PROJECT

Figure 3.1 **Scoping Red Line**



Island GREEN POWER

Lanpro

Key

Area for solar panels and associated development

Cable Route Search Corridor

Note: Energy Storage to be located within Cottam 1 only

N

1:75,000 @ A3

Drawn by: LH	REF:2981-REP-PL-CO-3.1
Checked by: ID	Date: 05/01/2022

Figure 3.1
Site Plan

COTTAM SOLAR PROJECT

Figure 3.2 PEIR Red Line

Island GREEN POWER

Lanpro

Key

Area for solar panels and associated development

Cable Route Search Corridor

Note: Energy Storage to be located within Cottam 1 only

N

1:75,000 @ A3

Drawn by: LH	REF:2981-REP-PL-CO-3.1
Checked by: ID	Date: 09/05/2022

Figure 3.1
Site Plan

COTTAM SOLAR PROJECT
PEIR