

Cottam Solar Project

Information to Support a Habitats Regulations Assessment: Revision A

Prepared by: Clarkson and Woods Ltd.
January 2023

Prepared by: Clarkson and Woods Ltd.

PIN Ref: EN01023

Document reference: APP/C7.20

APFP Resolution 5(2)(g)

Document reference: EX3/C7.20_A

APFP Regulation 5(2)(g)





**INFORMATION TO SUPPORT A
HABITATS REGULATIONS ASSESSMENT**

COTTAM SOLAR PROJECT

carried out by



commissioned by

COTTAM SOLAR PROJECT LTD.

~~JANUARY~~ DECEMBER 2023



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Project title:	Cottam Solar Project		
Document title:	Information to Support a Habitats Regulations Assessment	Project number:	7479
Client:	Cottam Solar Project Ltd.	Author(s):	Harry Fox
Version 1:	Final Draft	Issued on:	03/01/2022
Version 2: Inclusion of Humber Estuary Ramsar Site	Final Draft	Issued on:	13/12/23
Quality Assurance	Checked by:	Approved by:	
	Harry Fox	Tom Clarkson	

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1 INTRODUCTION

1.1.1 Clarkson and Woods Ltd. was commissioned by Cottam Solar Project Ltd to provide information to support an assessment under Regulation 63 of The Conservation of Habitats and Species Regulations 2017 (as amended) for the proposed solar energy generation and battery energy storage development known as Cottam Solar Project (hereafter referred to as 'the Scheme'). This process is known as a Habitats Regulations Assessment (HRA) and it examines any potential impacts from the Scheme upon sites statutorily designated for nature conservation under the above legislation.

[1.1.2 This document is the second version, published in December 2023 to include information relating to the Humber Estuary Ramsar site which was not included in the original version.](#)

2 SCHEME DESCRIPTION AND PLANNING CONTEXT

2.1.1 The Scheme has received the Planning Inspectorate (PINS) reference number EN010133 which is used for the basis of document references within this report, [along with references from the application's Examination Library](#). The Order limits comprise 1,451.23 ha and include all the land required for the key components of the Scheme including highway improvement and mitigation works. The Scheme comprises land parcels (the 'Site' or 'Sites') described as Cottam 1, 2, 3a and 3b (see Location Plan [~~EN010133/APP/C2.1-005~~] which accommodate ground mounted solar photovoltaic (PV) generating stations (incorporating the solar arrays); grid connection infrastructure and energy storage; and the Cable Route Corridors. The Scheme will comprise the construction, operation and maintenance, and decommissioning of a generating station (~~incorporating~~incorporating solar arrays) with a total capacity exceeding 50 megawatts (MW). As such, it is considered a Nationally Significant Infrastructure Project (NSIP) and will require a Development Consent Order to proceed. An Environmental Statement [~~EN010133/APP/C6.2-036 to APP-058~~] has been prepared and should be read in conjunction with this document, particularly Chapter 9: Ecology and Biodiversity. [~~APP-044~~].

2.1.2 The solar array Sites and associated substations and energy storage are to be connected to the National Grid at a substation at Cottam Power Station. The Scheme will connect to the National Grid substation via a new 400kV substation constructed as part of the Scheme to provide the connections to the various solar Sites. The substations, cable connections and energy storage will be required for the duration of the Scheme. The substations and energy storage will be decommissioned and removed at the end of the lifetime of the Scheme but the underground cables are anticipated to be decommissioned in situ to minimise environmental impacts. The operational life of the Scheme is anticipated to be 40 years. Once the Scheme ceases to operate, it will be decommissioned.

2.1.3 The Scheme also includes further associated development including fencing, gates, boundary treatment and other means of enclosure; bunds, embankment, trenching and swales; irrigation systems; drainage systems; services and utilities connections; works to alter the course of non-navigable rivers, streams or watercourses; ramps, bridges and means of access; security and monitoring measures; improvement, maintenance and use of existing private tracks; footpath diversions and enhancement; landscaping and related works; habitat creation and enhancement; site establishment and preparation works; earthworks and excavations; works for the protection of buildings and land; tunnelling, boring and drilling works; and other works to mitigate any adverse effects on the construction, maintenance, operation or decommissioning of the Scheme.

3 METHODOLOGY

3.1 Test of Likely Significant Effect (Screening)

[3.1.1 Under the Conservation of Habitats and Species Regulations 2017 \(as amended\) \(the 2017 Regulations\), and as stated in paragraph 181 of the National Planning Policy Framework \(latest version: September 2023\), the types of sites receiving protection under the 2017 Regulations are Special Areas of Conservation \(SACs\), Special Protection Areas \(SPAs\) and Ramsar \(international wetland\) sites, as well as possible, potential or](#)



[proposed iterations of these designations and sites identified, or required, as compensatory measures for adverse effects on habitats sites.](#)

~~3.1.1~~ **3.1.2** The first stage of an HRA is a Test of Likely Significant Effects which is undertaken to screen for any likelihood of effects arising from the proposed Scheme upon any of the above sites. This is undertaken both in isolation from and in combination with other [relevant](#) plans or projects. In accordance with recent case law, specific mitigation measures identified within the design of the Scheme and set out within the accompanying Environmental Statement to reduce any harmful effects on these sites are not ~~considered~~ [taken into account](#) at this stage.

3.2 Appropriate Assessment

3.2.1 Should any likely significant effects be identified, an 'Appropriate Assessment' (AA) should be carried out. An AA would comprise a detailed characterisation of the potential impacts upon the integrity of any identified site, again both alone or in combination with other projects or plans, and an assessment of all mitigation to reduce them. In addition, the AA would consider all possible alternative solutions which would achieve the aims of the proposals without causing adverse effects upon the identified sites. Finally, where no viable alternative solutions exist, the AA would assess the significance of all residual effects upon the sites, as well as the need for any compensatory measures or Imperative Reasons of Overriding Public Interest. While an HRA is carried out by a 'Competent Authority', it is typical for specialist consultants to supply information to be used to inform this process.

3.3 Potential Sources of Impact

3.3.1 The potential for impacts to adversely change the integrity of a designated site will be carefully examined. As set out in Section 9.6 of Chapter 9 of the Environmental Statement, potential sources of impact which will be screened for include the following:

- Direct habitat loss or change.
- Killing, injury or removal of a designated species, or their prey.
- Habitat fragmentation, [so as](#) to reduce the physical integrity or connectivity of the designated habitats or those on which designated species depend.
- Disturbance to designated species.
- Pollution and habitat degradation, including the release of chemical, sediment or dust pollution which may interfere with normal function of habitats and directly harm species. Furthermore, processes such as erosion, compaction and alteration of soil/water chemical composition can alter habitat quality.

3.4 Scope of Assessment

3.4.1 The assessment will consider the potential for the above impacts to occur ~~because~~ [on identified relevant SPAs, SACs and Ramsar sites as a result](#) of activities anticipated to be carried out during the construction, operation and decommissioning phases of the Scheme. A description of the construction and operational phase activities most likely to give rise to potential sources of impact are set out in Section 9.6 of Chapter 9 of the Environmental Statement.

3.4.2 Potential for effects on each [SPA, SAC or SPA and Ramsar site](#) will be considered in turn, firstly for the Scheme in isolation and secondly in combination with the following other proposed projects as identified and examined within the Environmental Statement:

- West Burton Solar Project – A similar sized scheme as Cottam Solar Project located in Bassetlaw District and West Lindsey District. Application and construction timetable to run in parallel with Cottam Solar Project.
- Gate Burton Energy Park – c.500MW scheme located close to Gate Burton, northwest of Cottam 1. EIA scoping opinion issued December 2021. A Preliminary Environmental Information Report was published in June 2022.



- "Shared Cable Corridor" – Part of the Gate Burton Solar Park and West Burton Solar Project's cables routes overlap with the Scheme's Cable Route Corridor. The cumulative effects from the possible sequential or simultaneous installation processes which may transpire ~~if~~ [in the event that](#) two or three of these projects gain consent will be examined.
- Tillbridge Solar – EIA Scoping Request submitted to PINS October 2022 and a Scoping Opinion was adopted on 4 November 2022. Proposals are understood to be in an early phase and no designs were available to examine at the time of writing, therefore the assessment of this project will be more high-level.

3.5 Consultation

3.5.1 Consultation with Natural England ~~about~~ [on the subject of](#) likely significant effects on the Humber Estuary SPA and SAC was carried out via the Discretionary Advice Service in May 2022, to inform the EIA process. The response can be found in Item 5 of Appendix 9.1 to Chapter 9 of the Environmental Statement [~~EN010133/APP/C6.3.9.1-044~~], an excerpt of which is below.

3.5.2 *"I can confirm that a conclusion of no likely impacts to the Humber Estuary SAC/SPA is likely to be acceptable. The estuary supports nationally important numbers of 22 wintering waterfowl and nine passage waders, and a nationally important assemblage of breeding birds of lowland open waters and their margins. There is a small likelihood that the site may be considered as functionally linked land for these species. Although there is no specific definition of functionally linked land NE consider it to be 'areas of land or sea occurring outside of a designated site which nonetheless are considered to be critical to or necessary for the ecological or behavioural functioning in a relevant season of a qualifying feature for which that site has been designated'. We consider that the development is a sufficient distance from the European site for it not to be considered critical to the function of any qualifying features. This conclusion is backed up by the fact that the proposed development does not trigger any Impact Risk Zones for the Humber Estuary. We also understand that wintering and breeding bird surveys have been carried out on the site, and indicate that only small numbers of golden plover, marsh harrier, teal, mallard and lapwing have been identified. We welcome the use of these surveys to inform the decision to rule out impacts on the Humber Estuary."*

[3.5.3 The omission of the Humber Estuary Ramsar site was noted in the Examining Authority's First Written Questions and Requests for Information \(EXQ1\) dated 31st October 2023 \[PD-011\], question reference 1.6.2. The Applicant responded by committing to produce an update to this document with the Ramsar designation included. Please see the response to question 1.6.2 in the Applicant's Responses to ExA First Written Questions \[REP2-034\].](#)

[3.5.4 In Natural England's response to EXQ1 dated 21st November 2023 \[REP2-088\], it is expressed that, despite the earlier omission, significant effects upon the Humber Estuary Ramsar Site are considered unlikely:](#)

[3.5.5 "The overlap between the SAC/SPA designations and Ramsar designation is noted, both geographically and with regard to the designated features. However this should not warrant the omission of consideration of the Ramsar designation in its own right. All but one of the Ramsar features are also features of the SAC/SPA. Natterjack Toad are a feature of the Ramsar site only. Due to the physical separation of the site from the proposed development, and the limited range of the Natterjack Toad, Natural England do consider that impacts on this feature are unlikely, however, this should be noted within the ES/iHRA for completeness. In discussions regarding the Statement of Common Ground between Natural England and the Applicant, the applicant has noted the need for specific consideration of the Ramsar designation; this is forthcoming."](#)

4 IDENTIFICATION OF DESIGNATED SITES FOR CONSIDERATION

~~4.1.1 According to the Conservation of Habitats and Species Regulations 2017 (as amended), the network of national sites receiving protection under this legislation is limited to SACs and SPAs. Notably, Ramsar wetland sites are no longer considered part of this network although in effect receive protection through their overlap with SACs and SPAs.~~



~~4.1.2~~4.1.1 Special Areas of Conservation seek to protect particular sites of high conservation importance due to the type of rare or otherwise threatened habitats and species they support. In particular, habitats listed on Annexe I and species listed on Annexe II of the Habitats Directive (European Council Directive 92/43/EEC) are capable of being reasons for designation.

~~4.1.3~~4.1.2 Special Protection Areas seek to protect sites of particular importance to birds, according to the presence of significant assemblages of species or large populations of high conservation priority species, or a combination thereof.

4.1.3 Ramsar Sites are designated under the criteria of the Ramsar Convention on Wetlands in order to protect the important wetland habitats and species within them. Typically, these sites are recognised for their unique or rare habitats or plant communities and their role in the maintenance of populations of migratory birds or mammals of conservation concern. Additionally, some Ramsar Sites are designated for notable general bird assemblages or a population of particularly threatened non-avian species.

4.1.4 Candidate statutorily designated sites were initially searched for within a standard radius of 10Km from the Order Limits. No such sites were present within the radius. However, considering the mobility of certain protected species groups, in particular bats and birds, and following advice received during the EIA scoping process from PINS, this radius was extended to 30km for the purposes of this document. This search radius revealed ~~six~~seven such sites, which were (in order of increasing distance from the Order Limits) the Humber Estuary SAC, [Humber Estuary Ramsar site](#), Hatfield Moor SAC, Thorne and Hatfield Moors SPA, Birklands and Bilhaugh SAC, Thorne Moor SAC and the Humber Estuary SPA. Each of these is shown on Figure 1 and their reasons for designation described in detail below.

4.2 Humber Estuary SAC

4.2.1 The Humber Estuary SAC is the second largest coastal plain estuary in the UK (approx. 37,000ha) and supports Atlantic salt meadows, subtidal sandbanks, extensive intertidal mudflats and glasswort beds. It is located 14.1km north-west from the Order Limits at the closest point (Cottam 3a). As can be seen from Figure 1, the bulk of the site (and therefore, estuarine habitats) is located a further c.10km north of this point as the site's boundary extends south from the Humber to include the tidal length of the River Trent.

4.2.2 The specific habitat types listed as primary reasons for its designation are:

- Estuaries
- Mudflats and sandflats not covered by seawater at low tide

4.2.3 Habitats present as qualifying features but not a primary reason for selection are:

- Sandbanks which are slightly covered by sea water all the time
- Coastal lagoons
- Salicornia and other annuals colonizing mud and sand
- Atlantic salt meadows
- Embryonic shifting dunes
- Shifting dunes along the shoreline with *Ammophila arenaria*
- Fixed coastal dunes with herbaceous vegetation
- Dunes with *Hippophae rhamnoides*

4.2.4 Species of conservation concern which are a qualifying feature for the SAC element are:

- Grey seal
- River lamprey
- Sea lamprey

4.2.5 The SPA designation overlaps the SAC designation for the most part, with the notable exception of the tidal reach of the River Trent [which does not form part of the SPA](#).



4.1 Humber Estuary Ramsar Site

4.1.1 The Ramsar and SAC designations physically overlap for the vast majority of their extents, save for small sections where the Ramsar designation extends marginally beyond that of the SAC, for example encompassing wetlands north of Barton on Humber, all of which occur beyond the 30km desk study search zone from the Scheme. Consequently, the Ramsar designation is also located 14.1km north west from the Order Limits at the closest point (Cottam 3a).

4.1.2 Similarly to the reasons for designation of the SAC, the Ramsar Site is notified for the complex estuary habitats, comprising dune systems and slacks, estuarine waters, intertidal mud and sand flats, saltmarshes and coastal brackish/saline lagoons. In terms of birdlife, the site is also notified due to its internationally important assemblage of overwintering waterfowl, in particular shelduck, golden plover, knot, dunlin, black-tailed godwit, bar-tailed godwit and redshank, species for which there is considerable overlap with the SPA designation. Additionally, the Ramsar Site is notified for the breeding colony of grey seals at Donna Nook and the breeding site of the natterjack toad at Saltfleetby-Theddlethorpe dune slacks, both of which occur on the east coast. The natterjack toad is the only reason for notification which is not also covered either under the SAC or SPA designation. Finally, the presence of river and sea lamprey which migrate through the estuary to/from spawning areas is the other reason for the site's notification.

4.3.4.2 Hatfield Moor SAC

4.3.14.2.1 Hatfield Moor SAC is located approximately 15km north west of Cottam 3a, which is the closest point within the Scheme to the site. Hatfield Moor SAC measures 1,362ha and is designated for the habitat 'Degraded raised bogs still capable of natural regeneration'. It consists of raised bog and lies within the former floodplain of the rivers feeding the Humber estuary (Humberhead Levels).

4.4.3 Thorne and Hatfield Moors SPA

4.4.14.3.1 Thorne and Hatfield Moors SPA is located approximately 16km north west of the Scheme and covers 2,454ha. The site is designated as it supports approximately 2% of the British nightjar population, which tend to reside within the drier, wooded habitats within the site where there is a mosaic of scrub and dry heath. The majority of the site overlaps with the Hatfield Moor SAC and Thorne Moor SAC.

4.5.4.4 Birklands and Bilhaugh SAC

4.5.14.4.1 This site measures 270ha and is designated for 'Old Acidophilous Oak Woods with Quercus robur on Sandy Plains'. The site is located approximately 17.9km south west of the Order Limits. These oak woodlands are the most northerly example of their type and support a diverse invertebrate fauna and fungal assemblage.

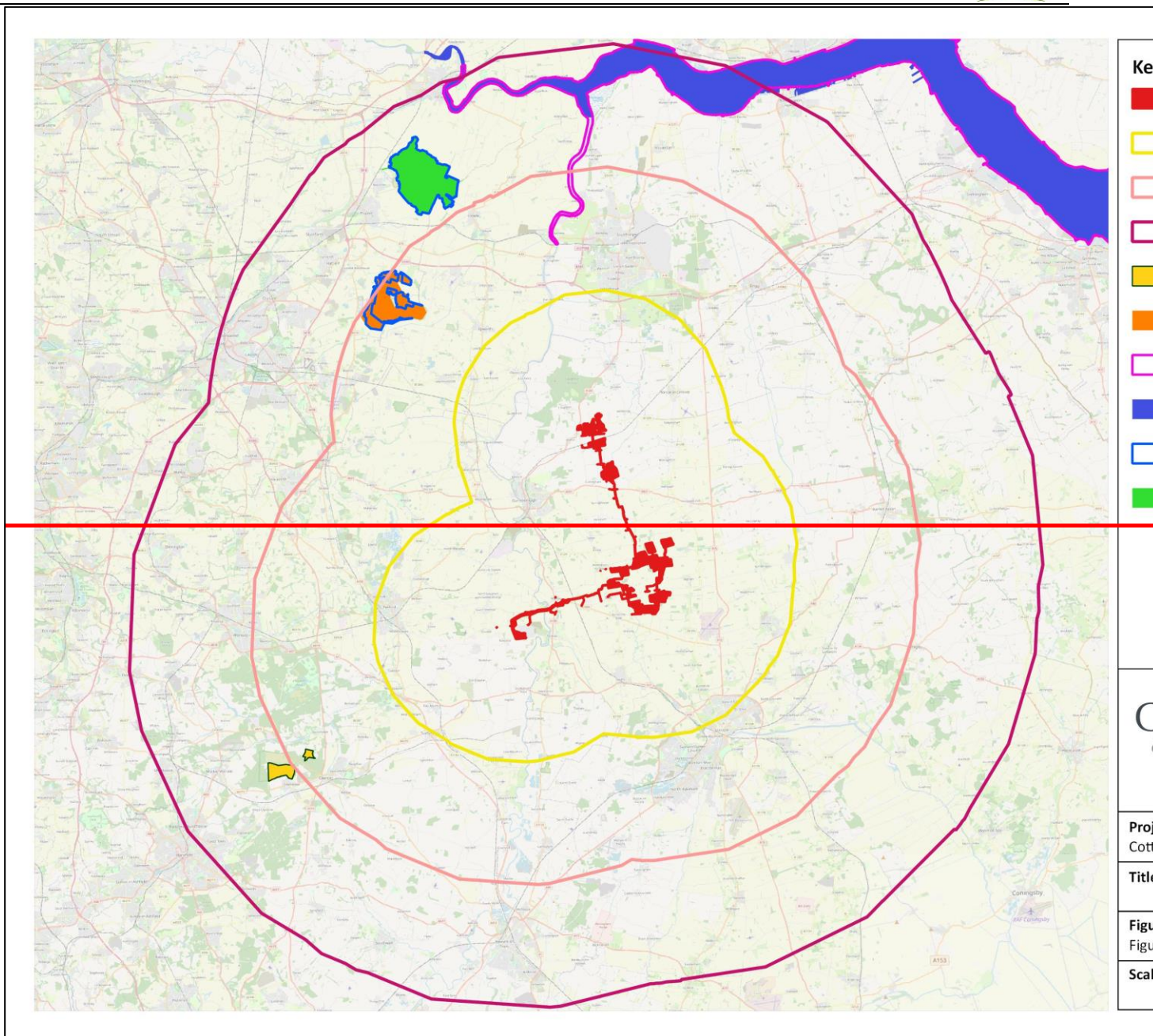
4.6.4.5 Thorne Moor SAC

4.6.14.5.1 Thorne Moor SAC is located approximately 20.6km north west of Cottam 3a which is the closest point within the Scheme to the site. Thorne Moor covers 1,917ha and is designated for the habitat 'Degraded raised bogs still capable of natural regeneration' and is England's largest area of raised bog. It lies within the former floodplain of the rivers feeding the Humber estuary (Humberhead Levels). The majority of the site overlaps with the Hatfield Moor SAC and Thorne Moor SAC.

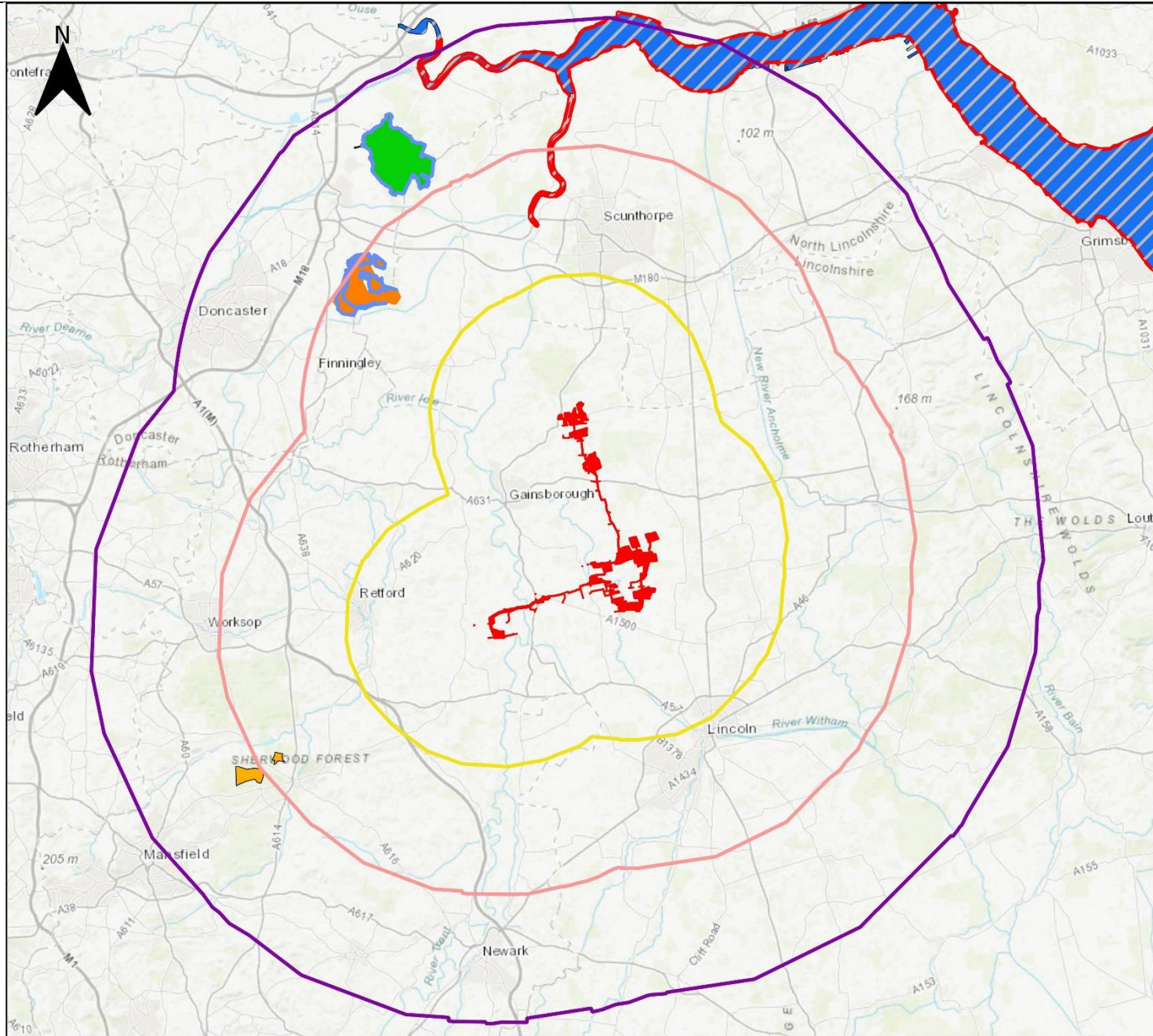
4.7.4.6 Humber Estuary SPA

4.7.14.6.1 The Humber Estuary SPA is designated due to the important breeding populations of bittern, marsh harrier, avocet and little tern during summer as well as important number of over 25 species of overwintering and passage migrant geese, ducks and waders.

4.7.2 The SPA is situated approximately 24km from Cottam 3a, 26km from Cottam 3b, 28km from Cottam 2 and 35km from Cottam 1 and covers over 37,000ha.



4.6.2 , overlapping with the SAC and Ramsar designations in the vast majority of its extent, save in particular for the tidal reaches of the River Trent.



- Key:**
- Cotnam Cable 2023
 - 10km Buffer
 - 15km Buffer
 - 20km Buffer
 - Birklands & Bilhaugh SAC
 - Hatfield Moor SAC
 - Humber Estuary Ramsar Wetland
 - Humber Estuary SAC
 - Humber Estuary SPA
 - Thorne & Hatfield Moors SPA
 - Thorne Moors SAC



Project	Cotnam Solar Project
Title	European Designated Sites within 30km of the Cotnam Solar Project
Figure Number	Figure 1
Scale	0 5 10 km



5 TEST OF LIKELY SIGNIFICANT EFFECT OF THE SCHEME ON THE IDENTIFIED SITES

5.1 Humber Estuary SAC

Assessment in Isolation

Assessment of Potential for Impacts on Designated Habitats

- 5.1.1 The Scheme does not involve any requirement of physical resources from the SAC and will not result in any direct harm or alteration of habitats as the Order Limits are wholly separate to the SAC. The distances between the Order Limits and the SAC are considerable, being separated by approximately 14km at its closest point, which is the southernmost part of the tidal reach of the River Trent, and 32km at its furthest point (Cottam Power Station). Consequently, habitat loss, change or fragmentation are not considered likely.
- 5.1.2 As corroborated by Natural England (see Section 3.5), no Impact Risk Zones on the SAC are triggered by the Scheme owing to the distances from the site.
- 5.1.3 Habitat degradation through pollution events are also considered unlikely due to these large separating distances. Possible sources of pollution would principally be chemical contaminants such as fuel oils, or sediments such as dust, silt and mud. A broad hydrological link between the Scheme and the SAC exists, in the form of the River Trent and Humber water catchment areas.
- 5.1.4 Chemical contaminant release is an unlikely possibility during the construction and decommissioning phases through the movement, maintenance and operation of plant and vehicles. The operational phase would only see the occasional use of conventional road vehicles which would be refuelled away from the Scheme. The scale of any possible chemical contaminant release would be limited by the capacities of the typical plant and vehicles used within the construction phase, as well as oils used in electrical transformers. Solar PV and Battery Energy Storage developments are inherently low-risk in terms of the potential for chemical spills or release owing to the materials used and the conventional methods of their installation. The Scheme will also inherently be limited to the developable area of open fields, well away from watercourses due to the need to avoid shading at boundaries, limiting the possibility of entry into the hydrological system. In any event, the 14-32km straight-line distances incorporate extensive tracts of farmland other habitats, as well as the infrastructure of main A-roads, extensive minor roads, railways and a large number of small to large settlements which would be expected to naturally limit and attenuate the effects of any such contaminant release. The Scheme's cable corridor crosses the River Trent utilising horizontal directional drilling techniques approximately 30km south of the SAC (straight line distance), and approximately 40km along the path of the river corridor. The potential for chemical contaminant release is very low when using this technique due to the absence of heavy plant and minimisation of vehicles. Furthermore, work in proximity to the River Trent is limited only to the installation of the high voltage cables, with the nearest solar PV development occurring some 6.5km away. Consequently, the separation both physically and hydrologically from the SAC is considered substantial enough to mean that potential accidental chemical release would be highly unlikely to cause detectable habitat degradation impacts on the SAC itself, owing to the scale of intervening distance within which contaminant attenuation, dilution or absorption would take place.
- 5.1.5 Sediment release is also considered to be of a limited likelihood and scale owing to the avoidance of disturbance to watercourses during construction and decommissioning, and use of horizontal directional drilling techniques. Any dust or sediment release events are [considered to be](#) minor and, due to the distances from the SAC, impacts not likely as sediment would be expected to be deposited in advance of it.

Assessment of Potential for Impacts on Designated Species

- 5.1.6 The Scheme does not involve any requirement of resources from the SAC, nor will it result in direct impacts on the species which are listed as a qualifying feature owing to the significant physical separation of the SAC from the Scheme. Similarly, the physical separation between the SAC is considered to drastically limit any indirect effects of potential pollution effects on species such as river lamprey which may be found within the River Trent, although the majority of the Humber population are thought to breed in the upper Ouse, Don and Aire which drain into the Humber and less so in the Trent. Consequently, the likelihood of significant effects is [considered to be](#) very low.



In-Combination Assessment

5.1.7 The presence of other proposed similar solar energy generation and storage schemes is not considered to raise the likelihood or severity of any potential adverse impacts as outlined above. The cable corridor for the West Burton and Gate Burton schemes are likely to share a single common corridor to cross the River Trent which means no increase in the likelihood of pollution events. All considered projects are at least as separated from the SAC as the Scheme, with large areas of intervening land and infrastructure. Their construction also inherently preserves the boundary features and watercourses due to the need to avoid overshadowing, and can be expected to utilise broadly the same low-risk construction methodology which minimises the use of potential contaminants and retains and protects watercourses.

Conclusion

5.1.8 The large distances and presence of intervening land, infrastructure and settlements, together with the inherently low capacity for, and likelihood of, pollution events within the solar energy generation and storage schemes means that significant effects upon the SAC, even in the absence of specific mitigation measures, are considered unlikely. This conclusion is in line with Natural England consultation advice.

5.2 ~~Thorne Moor SAC and Hatfield Moor SAC~~

5.1 Humber Estuary Ramsar

Assessment in Isolation

5.1.1 Due to the overlap in physical extent and in reasons for designation between the SAC, SPA and Ramsar site, the assessments for the Humber Estuary SAC and SPA are considered to apply also to the Ramsar site. As such, habitat loss, change or fragmentation of the Ramsar site or habitat degradation through water or airborne pollution events, are not considered likely owing to the physical separation of the Order Limits from the designated site as well as the restricted nature and careful design of the construction activities involved.

5.1.2 The additional presence of natterjack toad on the Ramsar Site citation is not considered to affect this assessment. The colony of this species is located within the Saltfleetby-Theddlethorpe dune slacks (covered also by their own separate SAC designation) some 58km to the east of the Order Limits. Consequently, no possible impact pathway on this species is considered present.

In-Combination Assessment

5.1.3 The presence of the other identified projects is not considered to bring about novel or increased risks of impact or impact pathways in combination with the Scheme. As with the assessment for the Humber Estuary SAC and SPA, this is due primarily to the physical separation, and the low risk construction methods anticipated to be employed during the construction of each of the projects.

Conclusion

5.1.4 The large distances and presence of intervening land, infrastructure and settlements, together with the inherently low capacity for, and likelihood of, pollution events resulting from the solar energy generation and storage schemes means that significant effects upon the Ramsar Site, even in the absence of specific mitigation measures, are considered unlikely. This conclusion is in line with Natural England consultation advice.

Assessment in Isolation

Assessment of Potential for Impacts on Designated Habitats

~~5.2.1~~ 5.1.5 The Scheme does not involve any requirement of resources from the SACs and their separation beyond the Order Limits avoids any direction habitat loss or change. The sites and the Scheme do not contain similar or functionally linked or connected habitats.

~~5.2.2~~ 5.1.6 The hydrological separation of the sites from the Scheme, through the presence of the River Trent in the intervening distance, would avoid the possibility of any contaminant release affecting the SACs. Similarly,



the physical separation can be expected to be sufficient to avoid the possibility of sediment release of any form affecting the SACs.

In-Combination Assessment

~~5.2.3~~5.1.7 The identified projects are similarly as separated from the sites as the Scheme and also share no similar, functionally linked or connected habitats. Consequently, no in-combination effects are considered likely.

Conclusion

~~5.2.4~~5.1.8 The physical and hydrological separation between the site and the Scheme are considered to be sufficient that adverse impacts are unlikely, even in the absence of specific mitigation measures.

5.3.5.2 Thorne and Hatfield Moors SPA

Assessment in Isolation

Assessment of Potential for Impacts on Designated Species

~~5.3.1~~5.2.1 The Scheme does not involve any requirement of resources from the SAC and the Order Limits do not contain any woodland or heathland habitats of interest to nightjar. Furthermore, bird surveys carried to inform the Scheme (which included a visit to look for nocturnal birds) did not record any nightjar or potential for their presence. As nightjar are nocturnal and tend to migrate at night or in low light, the presence of a solar farm is not considered to impede their migration. Consequently, the potential for significant effects on this site is very low.

In-Combination Assessment

~~5.3.2~~5.2.2 The other assessed schemes are similarly unlikely to support nightjar or contain any substantial habitats conducive to nightjar breeding. The other assessed schemes also are unlikely to result in any impediment to the movement of migrating nightjars. Consequently, no in-combination effects are considered likely.

Conclusion

~~5.3.3~~5.2.3 The lack of records of or habitats of potential value to nightjar within the Scheme is considered to render adverse impacts are unlikely, even in the absence of specific mitigation measures.

5.4.5.3 Birklands and Bilhaugh SAC

Assessment in Isolation

Assessment of Potential for Impacts on Designated Habitats

~~5.4.1~~5.3.1 The Scheme does not involve any requirement of resources from the SAC and the Scheme does not contain any substantially similar, functionally linked or connected oak woodland habitats, therefore impacts from habitat loss, change or fragmentation are unlikely.

~~5.4.2~~5.3.2 The hydrological separation of the site from the Scheme, through the presence of the River Trent in the intervening distance, would avoid the possibility of any contaminant release affecting the SACs. Similarly, the physical separation and intervening large settlement extensive infrastructure can be expected to be sufficient to avoid the possibility of sediment release of any form affecting the SAC.

In-Combination Assessment

~~5.4.3~~5.3.3 The identified projects are similarly as separated from the site as the Scheme and also share no similar, functionally linked or connected habitats. Consequently, no in-combination effects are considered likely.



Conclusion

~~5.4.4~~5.3.4 The physical and hydrological separation between the site and the Scheme are [considered to be](#) sufficient that adverse impacts are unlikely, even in the absence of specific mitigation measures.

~~5.5~~5.4 Humber Estuary SPA

Assessment in Isolation

Assessment of Potential for Impacts on Designated Species

~~5.5.1~~5.4.1 The distances between the Scheme (including Cable Route Corridor) and the Humber Estuary (between approximately 24km at its closest and 35km furthest) are substantial and minimise the likelihood that they can be [considered to be](#) functionally linked. While several of the 31 species for which the SPA has been designated (golden plover, marsh harrier, teal, mallard, pink-footed geese and lapwing) have been recorded flying over or, far less frequently, foraging or sheltering within the Scheme during bird surveys, they are highly unlikely to be dependent to any significant extent upon the Scheme themselves for this reason. The numbers recorded are highly sporadic and opportunistic, and don't indicate habitual usage or reliance. It is reasonable to presume that ~~most~~[the majority](#) of the foraging and roosting activity carried out by SPA birds takes place on, or within closer proximity to the SPA. The distance of the Scheme from the site also makes it difficult to confidently determine whether the bird species recorded within the Scheme which are shared with the site are likely to be part of the populations using the SPA (as opposed to another SPA such as The Wash, or a population using no such sites). Furthermore, the Scheme does not trigger any of Natural England's protected site Impact risk Zones for the Humber Estuary. This assessment has been informed and corroborated through consultation with Natural England (see consultation response in section 3.5). Consequently, the SPA should be considered beyond the Zone of Influence of the proposals and therefore no impacts upon the SPA from the construction/decommissioning or operational phases are likely to occur.

In-Combination Assessment

~~5.5.2~~5.4.2 The assessed projects also occupy arable farmland and are liable to support a similar assemblage of birds as those recorded at the Scheme. A displacement effect is accepted, whereby many groups of flocking wildfowl and waders would no longer choose to forage within the land occupied by these projects. However, the proximity of the assessed projects to one another, and to the Scheme, makes it highly likely that population of birds recorded at the Scheme would form a large proportion of the population sporadically and opportunistically utilising the habitats at the assessed projects. Therefore, the number of birds displaced by all schemes together is unlikely to simply be a linear relationship between the size of the area of land in question. The numbers of birds of qualifying species in question are still not likely to represent a significant proportion of the SPA populations. Additionally, the assessed projects are at least as physically separated from the SPA as the Scheme, making it unlikely that the SPA birds would rely on any of the land within the projects to a significant degree, and making their attribution to the Humber Estuary SPA population difficult.

Conclusion

~~5.5.3~~5.4.3 Survey evidence from the Scheme indicates that the Scheme is not likely to be of particular importance for a significant population of birds for which the SPA is designated. This is due to the numbers and pattern of usage of the Scheme by bird species listed on the SPA citation, but also the distance of the Scheme from more important foraging and roosting habitats. The presence of similar large scale solar proposals in the vicinity is not considered to affect this conclusion. This conclusion is in line with Natural England consultation advice.

~~5.6~~5.5 Conclusion of Test of Likely Significant Effects on Identified ~~SACs and SPAs~~[Sites](#)

~~5.6.1~~5.5.1 Due primarily to the large separation of the Scheme and assessed projects from the identified SACs, [SPAs](#) and ~~SPAs~~[Ramsar sites](#), and design factors inherent to solar energy generation and storage schemes which avoid the risk of direct and indirect impacts, it is considered that no significant effects are likely to occur. As such, an Appropriate Assessment is not required.



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