

Cottam Solar Project

Preliminary Environmental Information Report: Chapter 12: Minerals

Prepared by: Clover Planning
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Issue Sheet

Report Prepared for: Cottam Solar Project Ltd.

Preliminary Environmental Information Report: Chapter 12: Minerals

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12 Minerals

12.1 Background

12.1.1 This PEIR chapter has been prepared in support of the Cottam Solar Project, as described in **Chapter 4** of the PEIR. The Minerals Chapter considers the Sites, including the cable corridors (which connect the Sites together and which connects the generating stations to Cottam Power Station).

12.1.2 In terms of surface mineral resources these are addressed individually. All three Sites also lie within a much wider area of interest for oil and gas reserves. The potential implications for those reserves are dealt together. This assessment is based on current known information about the geology of the site and the surrounding area.

12.1.3 This chapter is supported by the following appendices:

- **Appendix 12.1** Figures 1-6 Mineral Resource Assessment Plans

12.2 Assessment Methodology

12.2.1 The assessment of impact identifies how the Scheme is predicted to affect identified mineral resources and the significance of those effects. The assessment process has taken account of published good practice guides such as the Mineral Safeguarding in England Good Practice Advice British Geological Survey 2011(ref 5).

12.2.2 The mineral resource that has been assessed has been identified by the British Geological Survey (BGS) in their Mineral Resource Reports for Lincolnshire (ref 6) and Nottinghamshire (ref 7) and through allocations, areas of search and mineral safeguarding areas contained in the Adopted Lincolnshire Minerals and Waste Local Plan Core Strategy (ref 1), Lincolnshire Minerals and Waste Local Plan Site Locations (ref 2) and the Nottinghamshire Minerals Local Plan (ref 3). Assessment of the impacts of the Scheme on the mineral interests needs to consider a number of parameters including extent, magnitude, duration and reversibility of the development as well as the extent, likely quality and situation of the mineral reserve. The significance is assessed on the impacts on identified mineral resources and implications in terms of national and local planning policy.

12.2.3 The impact of the Scheme has been considered as a whole with no distinction in terms of impact on mineral resources between construction, operation and decommissioning phases.

12.2.4 For the purposes of this assessment the impact on mineral resources has been limited to the Sites to be occupied by the solar arrays and associated infrastructure together with a margin extending 250 metres from the Site boundaries of each. The

250 metre boundary is based on the buffer zones adopted by Lincolnshire County Council and applied around their mineral safeguarding areas. Incompatible development close to mineral safeguarding areas may lead to sterilisation of part of the resource. The BGS good practice advice suggests that it may therefore often be appropriate to extend the mineral safeguarding areas beyond the resource boundary to take account of such risks. Although the solar arrays are not considered to be particularly sensitive developments, adopting a 250 margin does ensure that all potential impacts on mineral resources including existing mineral extraction sites are considered. In addition to the Sites this assessment has also considered the potential impact of the cable corridors connecting the Sites.

12.2.5 The baseline is the current geological strata, changes to which occur in timescales relevant to the proposed Scheme.

12.2.6 The following table identifies the impacts of the activities detailed and their effects and ranks the significance of the effect taking into account status and amount of receptor, sensitivity, timescale and vulnerability.

Table 12.1: Assessment of significance of impact

Sensitivity	Definition
High	Permanent Sterilisation of identified mineral resource.
Medium	Constraint to future exploitation of identified mineral resource
Low	Minimal impacts on mineral resources/prior extraction is possible

12.2.7 Table 12.2 identifies the magnitude criteria which will be used in the assessment:

Table 12.2: Magnitude Criteria

Magnitude	Definition
Major	The total loss or major change/substantial alteration to key elements/features of the baseline (pre-development) conditions, such that the post development character/composition/attributes will be fundamentally changed
Moderate	Loss or alteration to one or more key elements/features of the baseline conditions, such that post development character/composition/attributes of the baseline will be materially changed
Minor	A minor shift away from baseline condition. As change arising from the loss/alteration will be discernible/detectable but not material. The underlying character/composition/attributes of the baseline condition will be similar to the pre-development circumstances/situation
Negligible	Very little change from baseline conditions. The change will be barely distinguishable and approximating to a non-change situation
Neutral	No change from baseline conditions

12.2.8 Table 12.3 identifies the degree of significance which will be used in the assessment:

Table 12.3: Degrees of Significance

Sensitivity	High	Medium	Low
Magnitude			
High	Major	Major/Moderate	Moderate
Medium	Major/Moderate	Moderate	Moderate/Minor
Low	Moderate	Moderate/Minor	Minor
Negligible	Moderate/Minor	Minor	Negligible
Neutral	Neutral	Neutral	Neutral

12.2.9 Following the assessment of the impact of the development on identified mineral resources, an assessment of the mitigation options, to the extent that they are necessary, is considered.

12.3 Consultation

12.3.1 The Planning Inspectorate published its Scoping Opinion Ref EN010133 on 9th March 2022 (ref 9). Table 12.4 provides a summary of the minerals related comments and the responses to these in the PEIR:

Table 12.4: Summary of Consultation

Consultee	Summary of Response	How Response has been Addressed	Reference to Further Information
The Planning Inspectorate	The Scoping Report states that approximately 50 hectares of Cottam 1 is identified in the Lincolnshire Minerals and Waste Local Plan as being within two sand and gravel mineral safeguarding areas and that 25 hectares of Cottam 2 lies within a sand and gravel mineral safeguarding area. The Scoping Report also identifies a small area of Cottam 3 which also lies within a sand and gravel mineral safeguarding area. The Scoping Report identifies that this area	Meetings took place with both Nottinghamshire and Lincolnshire County Councils as Mineral Planning Authorities on the 14 th April 2022. Both Authorities confirmed that they did not consider the proposal would have any impact on foreseeable plans for mineral extraction within their respective areas. Neither considered the proposal would	

	<p>forms part of the 46 hectares of the site that lies within an identified area of search (sand and gravel) in the Lincolnshire Minerals and Waste Local Plan. Paragraph 5.9 of Appendix 11.1 confirms that “the proposed development does not require deep excavations or foundations and thus disturbance is limited to the surface layers rather than underlying deposits”.</p> <p>The ES should demonstrate that the Minerals Planning Authority has been consulted in respect of the proposals and that the Proposed Development does not impact on future ambitions for minerals extraction within the region.</p>	<p>have any impacts for to meet anticipated mineral supply needs.</p>	
	<p>Scoping Report Appendix 11 does not provide any figures identifying the location and extent of mineral safeguarding areas or the identified area of search. The Scoping Report confirms that the whole site is covered by a Petroleum Exploration and Development License (PEDL) as shale gas is located beneath the sites; this is currently prohibited to be extracted in the UK (Scoping Report Appendix 11).</p> <p>Two oil extraction sites are located 1km and 6km from Cottam one and three respectively although none of the Cottam array sites fall within the mineral</p>	<p>A set of drawings have been prepared and are included in the PEIR to show the extent of mineral safeguarding affected by the proposed development. The potential implications of the proposed cable routing options on identified mineral reserves have been considered and included in this assessment.</p>	<p>Appendix 12.1 Section 12.6</p>

	<p>consultation zones for these sites. It is unclear whether the cable routes do or not.</p> <p>The ES should include a figure identifying the location and extent of the PEDL and any mineral safeguarding within the zone of influence of the Proposed Development. An assessment of impacts from the Proposed Development on extraction activities should be provided where significant effects are likely to occur.</p>		
Nottinghamshire County Council	<p>In terms of the specifics relating to 'Cottam Solar Farm' and the cabling options for connection to the national grid, the entire of western side of River Trent lies within a Sand and Gravel Mineral Safeguarding Area, but that given relatively small land take we do not foresee any issues.</p>	Noted	Section 12.6
Lincolnshire County Council	<p>The proposed development is partially located within a Mineral Safeguarding Area (MSA) for Sand and Gravel. Within an MSA applications for non-minerals development should be accompanied by a Minerals Assessment. This should provide an appropriate assessment of the mineral resource, its potential for use in the forthcoming development and an assessment of whether it is feasible and viable to extract the mineral resource ahead of development to prevent</p>	<p>A Minerals Assessment has been prepared taking account of the policies and proposals contained in the Lincolnshire Minerals and Waste Local Plan</p>	Chapter 12

	<p>unnecessary sterilisation. The assessment should also assess the potential for proximal sterilisation of mineral resources in adjacent land.</p> <p>The potential sterilisation of mineral resources should therefore be 'scoped in' to the EIA and addressed through a minerals assessment as part of the ES. We acknowledge for example that the vast majority of the PV site itself does not lie within the MSA, and the potential sterilisation of mineral resources may therefore be very limited.</p>		
	<p>The proposed grid connection corridors, however, require more detailed consideration. All of the connection options pass through the sand and gravel MSA situated between the A156 and River Trent. Whilst the final footprint of the grid connection may be limited, by dissecting the MSA it could introduce a constraint to the potential for any future extraction of the sand and gravel resources in the surrounding land. The minerals assessment as part of the ES should therefore include consideration of this matter and it should be given due consideration when determining the final route/method of the grid connection.</p>	<p>Consideration has been given to the cable corridors and the potential impact on safeguarded mineral resources</p>	<p>Section 12.6</p>

12.4 Planning Policy Context

National Planning Policy

- 12.4.1 Minerals are important national resources and adequate and steady supplies are vital for development and sustaining the economy and society. Minerals are a finite natural resource that can only be worked where they are found. A key aspect of sustainable development is the conservation and safeguarding of non-renewable resources for future generations. As such it is important that other development does not needlessly prevent the future extraction of mineral resources.

National Policy Statement for Energy

- 12.4.2 The overarching National Policy Statement (NPS) for Energy (EN-1) (ref 10) came into force in July 2011. It sets out general principles and impacts to be taken into account for all types of energy NSIP development covered by the Energy NPSs. It is an important and relevant matter when determining if development consent should be granted and is underpinned by the principle that the development of large -scale renewable energy generation projects are needed (amongst other types of generation capacity) in order to meet the demand for energy generation in the United Kingdom, and to reduce greenhouse gas emissions from energy generation in order to meet the Government's decarbonisation targets.
- 12.4.3 Paragraph 5.10.9 of the 2011 EN-1 states that applicants should safeguard any mineral resources on the proposed site as far as possible, taking into account the long-term potential of the land use after any future decommissioning has taken place.
- 12.4.4 Paragraph 5.10.22 states that where a proposed development has an impact upon a Mineral Safeguarding Area, the Secretary of State should ensure that appropriate mitigation measures have been put in place to safeguard mineral resources.

Draft National Policy Statement for Energy

- 12.4.5 The Government is currently reviewing and updating the Energy NPSs and as part of the review process, the Government published a suite of Draft Energy NPSs for consultation in September 2021.
- 12.4.6 Paragraph 5.11.9 of the draft EN-1 repeats paragraph 5.10.9 of the 2011 EN-1. It makes clear that applicants should safeguard any mineral resources on the proposed site as far as possible, taking into account the long-term potential of the land use after any future decommissioning has taken place. Likewise, paragraph 5.11.21 repeats paragraph 5.10.22 of the 2011 EN-1. It states that where a proposed development has an impact upon a Mineral Safeguarding Area, the Secretary of

State should ensure that appropriate mitigation measures have been put in place to safeguard mineral resources.

[Draft Policy Statement for Renewable Energy Infrastructure \(EN-3\)](#)

- 12.4.7 Draft NPS EN-3 sets out additional policies for renewable energy infrastructure, including policies specific to the development of solar NSIPs.
- 12.4.8 These include matters that applicants should consider in selecting a site, how assessments should be undertaken and how mitigation should be provided. There are no specific references to mineral safeguarding in draft EN-3. However, paragraph 2.49.13 is of relevance as it states that the time-limited nature of solar farms is likely to be an important consideration for the Secretary of State when assessing impacts. Although not explicitly referenced, this could include the impacts arising from a delay to the extraction of any minerals below the surface of the site. The draft policy adds that the extent to which the site will return to its original state may also be a relevant consideration.

[National Planning Policy Framework](#)

- 12.4.9 The National Planning Policy Framework (NPPF) 2021 (ref 4), together with the accompanying Planning Practice Guidance (PPG) set out the Government's planning policies for England for the particular purpose of making development plans and deciding applications under the Town and Country Planning Act 1990.
- 12.4.10 The need to safeguard mineral resources is reflected in NPPF, in paragraph 209 it states:
- 'It is essential that there is a sufficient supply of minerals to provide the infrastructure, buildings, energy and goods that the country needs. Since minerals are a finite natural resource, and can only be worked where they are found, best use needs to be made of them to secure their long-term conservation.'*
- 12.4.11 It goes on in paragraph 210 to state that planning policies should:
- '(c) safeguard mineral resources by defining Mineral Safeguarding Areas and Mineral Consultation Areas; and adopt appropriate policies so that known locations of specific minerals resources of local and national importance are not sterilised by non-mineral development where this should be avoided (whilst not creating a presumption that the resources defined will be worked);'*
- 12.4.12 Mineral safeguarding areas (MSA) is the process used in the planning system to ensure that potential mineral resources are not needlessly sterilised. The presence of a MSA does not necessarily preclude other forms of development being permitted nor confer any presumption that the mineral will be worked. It is a policy tool to

raise awareness that minerals may be sterilised by proposed development and that this should be taken into account in the decision-making process.

[National Planning Practice Guidance \(PPG\) Minerals \(2014\)](#)

12.4.13 The Minerals PPG (2014) (ref 13) confirms that minerals ‘make an essential contribution to the Country’s prosperity and quality of life’. Section 3 of the Minerals PPG states that: “Mineral planning authorities are encouraged to plan for minerals extraction using Ordnance Survey-based proposals maps and relevant evidence provided by the minerals industry and other appropriate bodies. This approach will allow mineral planning authorities to highlight areas where mineral extraction is expected to take place, as well as managing potentially conflicting objective for use of land.”

12.4.14 Section 3 advises MPAs that they should plan for the steady and adequate supply of minerals, including in the following way:

“1. Designating Specific Sites – where viable resources are known to exist, landowners are supportive of minerals development and the proposal is likely to be acceptable in planning terms. Such sites may also include essential operations associated with mineral extraction...”

[Local Policy](#)

Lincolnshire Minerals Policy

12.4.15 The Cottam Project Sites all lie within Lincolnshire and therefore the relevant development plan documents include the Lincolnshire Minerals and Waste Local Plan Core Strategy and Development Management Policies (June 2016) (ref 1) which sets out the key principles to guide the future winning and working of minerals in the County up to 2031. It also sets out the development management policies against which planning applications for minerals and waste development will be considered. It also seeks to ensure the protection of mineral resources from the risk of sterilisation by development which potentially prevents future extraction. Known locations of mineral resources of national and local importance need to be protected and safeguarded to ensure the long-term security of minerals supply and to ensure their presence is factored into decisions about future land-use when proposals for other development arise. Safeguarding mineral resources does not create a presumption that the resources defined will ever be worked.

12.4.16 Lincolnshire Minerals and Waste Local Plan Core Strategy Policy M2: Providing for an Adequate Supply of Sand and Gravel states:

‘The County Council will ensure a steady and adequate supply of sand and gravel for aggregate purposes by making provision over the period 2014 -2031 (inclusive) for

the extraction of 42.66 million tonnes of sand and gravel (2.37 million tonnes per annum). This will be divided between the three Production Areas (as shown on the Key Diagram) as follows:

- *18.00 million tonnes (1.00 million tonnes per annum) from the Lincoln/ Trent Valley Production Area;*
- *9.00 million tonnes (0.50 million tonnes per annum) from the Central Lincolnshire Production Area; and*
- *15.66 million tonnes (0.87 million tonnes per annum) from the South Lincolnshire Production Area.*

The County Council will make provision for the release of sand and gravel reserves in the Site Locations Document. This will give priority to extensions to existing Active Mining Sites. New quarries will be allocated where they are required to replace existing Active Mining Sites that will become exhausted during the Plan period and where they are located in the relevant Areas of Search as shown on the Policies Map (Figure 5), namely:

- *west of Lincoln and north/ south of Gainsborough for the Lincoln/ Trent Valley Production Area;*
 - *Tattershall Thorpe for the Central Lincolnshire Production Area; and*
 - *West Deeping/ Langtoft for the South Lincolnshire Production Area.'*

12.4.17 Policy M4: Proposals for Sand and Gravel Extraction states that:

'Sites allocated in the Site locations Document will be granted planning permission for sand and gravel extraction for aggregate purposes provided that:

- *in the case of an extension to an existing Active Mining Site, extraction would follow on after the cessation of sand and gravel extraction from the existing areas supplying the plant site; and*
- *in the case of a new quarry, it is required to replace an existing Active Mining Site that is nearing exhaustion.*

For sites not allocated in the Site locations Document, planning permission will be granted for sand and gravel extraction for aggregate purposes where the site is required to meet:

- *a proven need that cannot be met from the existing permitted reserves; or*
- *a specific shortfall in the landbank of the relevant Production Area and either:*

(i) forms an extension to an existing Active Mining Site; or

(ii) is located in the relevant Area of Search as shown on the Policies Map (Figure 5) and will replace an existing Active Mining Site that is nearing exhaustion.

In all cases the proposal must accord with all relevant Development Management Policies and Restoration Policies set out in the Plan.'

12.4.18 Policy M11 addresses Safeguarding of Mineral resources, it states:

'Sand and gravel, blown sand and limestone resources that are considered to be of current or future economic importance within the Minerals Safeguarding Areas shown on Figure 1, together with potential sources of dimension stone for use in building and restoration projects connected to Lincoln Cathedral/Lincoln Castle within the areas shown on Figure 2, and chalk resources included on Figure 3, will be protected from permanent sterilisation by other development.

Applications for non-minerals development in a minerals safeguarding area must be accompanied by a Minerals Assessment. Planning permission will be granted for development within a Minerals Safeguarding Area provided that it would not sterilise mineral resources within the Mineral Safeguarding Areas or prevent future minerals extraction on neighbouring land. Where this is not the case, planning permission will be granted when:

- the applicant can demonstrate to the Mineral Planning Authority that prior extraction of the mineral would be impracticable, and that the development could not reasonably be sited elsewhere; or*
- the incompatible development is of a temporary nature and can be completed and the site restored to a condition that does not inhibit extraction within the timescale that the mineral is likely to be needed; or*
- there is an overriding need for the development to meet local economic needs, and the development could not reasonably be sited elsewhere; or*
- the development is of a minor nature which would have a negligible impact with respect to sterilising the mineral resource; or*
- the development is, or forms part of, an allocation in the Development Plan.'*

12.4.19 It should be noted that it has been demonstrated in Review of the Lincolnshire Minerals and Waste Local Plan (Feb 2021) (Ref 2) that Policy M11, in its current form, does not provide a practical or an efficient approach for safeguarding mineral resources. It states that the policy would therefore benefit from being updated. The

policy is generating too many consultations that fall within the exemptions to the policy and could be considered too extensive in terms of the areas covered.

- 12.4.20 Policy M12 addresses Safeguarding of Existing Mineral Sites and Associated Minerals Infrastructure it states:

'Mineral sites (excluding dormant sites) and associated infrastructure that supports the supply of minerals in the County will be safeguarded against development that would unnecessarily sterilise the sites and infrastructure or prejudice or jeopardise their use by creating incompatible land uses nearby.'

- 12.4.21 The Local Plan also states in paragraph 5.90:

'Incompatible development close to a MSA may lead to sterilisation of part of the resource. The BGS good practice advice suggests that it may therefore often be appropriate to extend the MSA beyond the resource boundary to take account of such risks, the extent of which will vary between minerals and the likely method of extraction. The County Council proposes to extend the boundary of MSAs beyond the area of the resource to prevent residential development encroaching on a mineral extraction to the extent that the amenity of residents could be affected by noise, visual intrusion or blast vibration. The resource areas shown on Figure 1 include a buffer zone of 250m around sand and gravel and blown sand resources and 500m around limestone resources to ensure an adequate safeguarding margin.'

- 12.4.22 Paragraph 5.89 states:

'It is not proposed to define MSAs for hydrocarbons as prospects can only be identified after extensive exploration activity. In any event, oil and gas deposits are found at much greater depths than other minerals exploited within the County and are therefore less threatened by surface development.'

- 12.4.23 The Lincolnshire Minerals and Waste Local Plan Site Locations (December 2017) Policy SL2 safeguards specific mineral allocations made in the plan it states:

'Allocated sites, as set out in Policy SL1, including an area of 250 metres surrounding each site, will be safeguarded against development that would unnecessarily sterilise the sites or prejudice or jeopardise their use by creating incompatible land uses nearby.'

Nottinghamshire Minerals Policy

- 12.4.24 Although all of the Sites associated with the Scheme are confined to Lincolnshire there are a number of cable corridors proposed which connect the individual Sites to the grid connection at the former Cottam Power Station site which lies within Nottinghamshire. Therefore, consideration has also given to the relevant development plan document namely the Nottinghamshire Minerals Local Plan

(March 2021) (ref 3). This Plan also seeks to ensure the protection of mineral resources from the risk of sterilisation by development which potentially prevents future extraction.

- 12.4.25 Minerals Plan Policy SP7 addresses Minerals Safeguarding, Consultation Areas and Associated Minerals Infrastructure. It states:

'Minerals Safeguarding Areas

1. Locally and nationally important mineral resources, permitted reserves, allocated sites and associated minerals infrastructure will be safeguarded from needless sterilisation by non-minerals development through the designation of minerals safeguarding areas as identified on the Policies Map.

2. Non-minerals development within minerals safeguarding areas will have to demonstrate that mineral resources will not be needlessly sterilised as a result of the development and that the development would not pose a serious hindrance to future extraction in the vicinity.

3. Where this cannot be demonstrated, and where there is a clear and demonstrable need for the non-minerals development, prior extraction will be sought where practicable.

Minerals Consultation Areas

4. District and Borough Councils within Nottinghamshire will consult the County Council as Minerals Planning Authority on proposals for nonminerals development within the designated Mineral Consultation Area, as shown on the Policies Map.

5. The Minerals Planning Authority will resist inappropriate non-minerals development within the Minerals Consultation Areas.

6. Where non-minerals development would cause an unacceptable impact on the development, operation or restoration of a permitted minerals site, mineral allocation, or associated minerals infrastructure, suitable mitigation should be provided by the applicant prior to the completion of the development.'

Resource information

- 12.4.26 The Scheme has been considered in the context of the applicable policies to each Site.

- 12.4.27 The likely mineral resource within the area has been assessed using published geological information of British Geological Society (BGS) published geological and information relevant available borehole information.

- 12.4.28 The British Geological Survey (BGS) Mineral Resource Maps (ref 6 & 7) provides the best available geological and resource information on the broad extent of minerals resources in Lincolnshire and has been used assist the identification mineral resources in the Lincolnshire Minerals and Waste Local Plan.

12.5 Baseline Conditions

Cottam 1

- 12.5.1 The Cottam 1 Site lies between Lincoln 8 km to the southeast and Gainsborough 7 kilometres to the north west and extends to approximately 894 hectares. The Site is divided into 7 main blocks located between the B1241 to the west, the B1398 to the east and the A1500 to the south and centred around Coates.
- 12.5.2 The Site is relatively flat and is predominantly in agricultural use. The fields are generally large and typically have dividing hedgerows. The parcels making up this Site are interspersed with a number of farmsteads, roads and blocks of woodland which either adjoin or are surrounded by the Sites.
- 12.5.3 A review of BGS published geological information indicates that the eastern two thirds of the Site is underlain by the Charmouth Mudstone Formation. This sedimentary bedrock formed approximately 183 to 199 million years ago in the Jurassic Period. These deposits are shallow-marine in origin and described as detrital, ranging from coarse- to fine-grained (locally with some carbonate content) forming interbedded sequences.
- 12.5.4 The remainder of the Site, the western most area, are underlain by the Scunthorpe Mudstone Formation. This sedimentary bedrock formed approximately 191 to 210 million years ago in the Jurassic and Triassic Periods. These sedimentary rocks are shallow-marine in origin. They are detrital and biogenic, generally comprising fine-grained sediments, with carbonate material (coral, shell fragments) forming interbedded sequences.
- 12.5.5 The Charmouth Mudstone Formation is overlain by superficial deposits comprising Mid Pleistocene Till and Alluvium. The Till deposits formed up to 2 million years ago in the Quaternary Period. They are sedimentary glacial deposits and are described as detrital, created by the action of ice and meltwater, they can form a wide range of deposits and geomorphologies associated with glacial and inter-glacial periods.
- 12.5.6 The Till is separated up by bands of Alluvium (clay, silt, sand and gravel). The bands of Alluvium occur within most of the blocks of land which form the Cottam 1 Site. These deposits formed up to 2 million years ago in the Quaternary Period. These sedimentary deposits are fluvial in origin. They are detrital, ranging from coarse- to fine-grained and form beds and lenses of deposits reflecting the channels,

floodplains and levees of a river. The Alluvium deposits run east west and north south across the site reflecting path of old river channels.

- 12.5.7 Within the southern part of block of land nearest Willingham by Stow the presence of River Terrace deposits of sand and gravel has been identified. These superficial sedimentary deposits are fluvial in origin and formed up to 3 million years ago in the Quaternary Period. They are detrital, ranging from coarse- to fine-grained and form beds and lenses of deposits reflecting the channels, floodplains and levees of a river.
- 12.5.8 The most western part of the block of land nearest Stow extends into area of superficial deposit of Mid Pleistocene Sand and Gravel. This deposit extends between Stow and Sturton by Stow, west of the B1211. It was formed up to 2 million years ago in the Quaternary Period. This sedimentary deposit is glaciofluvial in origin and described as detrital, generally coarse-grained, they form beds, channels, plains and fans associated with meltwater.
- 12.5.9 The BGS Mineral Resource Information identifies the fluvial Alluvium and the River Terrace deposits as being a potential sand and gravel mineral resource.
- 12.5.10 The BGS Mineral Resource Information does not identify any current or historic mineral workings associated with these sand and gravel deposits. The nearest identified mineral workings are an historic limestone quarry to east of Ingham and the B1298 and the Glentworth Oil wells located 1 km north and 1 km north east of the site.

Policy

- 12.5.11 Approximately 50 hectares of the Cottam 1 Site is identified in the Lincolnshire Minerals and Waste Local Plan as being within two sand and gravel mineral safeguarding areas. The first and affecting a larger part of the Site is an isolated safeguarded area lying south east of Willingham by Stow, between Normanby Gorse and Bowfield Farm. The second is also an isolated safeguarded area which lies to the east of Sturton by Stow and just clips the south western part of the Cottam 1 Site. The safeguarded areas are centred on the River Terrace Deposits identified by the BGS. Five parcels of land forming the Cottam 1 Site are partially affected.

Cottam 2

- 12.5.12 Cottam 2 lies 4.5 km east of Gainsborough and 350 metres east of Corringham and north east of the A631. It is a single block of generally level land surrounding Corringham Grange extending to 135 ha. The block is divided up into a number of fields that are predominantly in arable use.
- 12.5.13 A review of BGS published geological information indicates that the site is underlain by the Scunthorpe Mudstone Formation. This sedimentary bedrock formed

approximately 191 to 210 million years ago in the Jurassic and Triassic Periods. These sedimentary rocks are shallow-marine in origin. They are detrital and biogenic, generally comprising fine-grained sediments, with carbonate material (coral, shell fragments) forming interbedded sequences.

- 12.5.14 The bedrock is overlain by superficial deposits comprising Mid Pleistocene Till. These deposits formed up to 2 million years ago in the Quaternary Period. These sedimentary deposits are glacial in origin. They are described as detrital, created by the action of ice and meltwater, they can form a wide range of deposits and geomorphologies associated with glacial and inter-glacial periods.
- 12.5.15 Along the north eastern edge the BGS identify a narrow strip of superficial deposit comprised of Alluvium - Clay, Silt, Sand and Gravel. These deposits formed up to 2 million years ago in the Quaternary Period. These sedimentary deposits are fluvial in origin. They are detrital, ranging from coarse- to fine-grained and form beds and lenses of deposits reflecting the channels, floodplains and levees of a river.
- 12.5.16 To the west, beyond the Site boundary and covering the area occupied by the village of Corringham and extending northwards 1.4 km towards Aisby, the BGS identify superficial Glaciofluvial Deposit of Mid Pleistocene Sand and Gravel formed up to 2 million years ago in the Quaternary Period. These sedimentary deposits are glaciofluvial in origin. They are detrital, generally coarse-grained, they form beds, channels, plains and fans associated with meltwater.
- 12.5.17 The BGS Mineral Resource Information identifies this glaciofluvial deposit, together with concealed glaciofluvial deposits immediately surrounding it as being a potential sand gravel resource.
- 12.5.18 The only mineral activity in the area that the BGS mapping identifies is the Corringham Oil and Gas Field which lies approximately 500 metres to the east of the Site.

Policy

- 12.5.19 Approximately 25 hectares of the Cottam 2 Site is identified in the Lincolnshire Minerals and Waste Local Plan as being within a sand and gravel mineral safeguarding area. The safeguarded area is an isolated deposit of sand and gravel extending from just south of Corringham to Pilham in the north. It extends eastwards across the western part of the Cottam 2 Site and included the area excluded from the Cottam 2 Site which is occupied by Corringham Grange. The safeguarded area is centred on the glaciofluvial deposits identified by the BGS.
- 12.5.20 To the east the Site is within 150 metres of the Minerals Consultation Area associated with Corringham oil field.

The Lincolnshire Minerals and Waste Local Plan does not make any allocations for future mineral extraction in the vicinity of the Site.

Cottam 3

- 12.5.21 Cottam 3 lies 5.3 km north east of Gainsborough and 200 metres north east of Blyton. The Site extends to approximately 244 hectares. Cottam 3a is centred around the former RAF Blyton airfield and adjoining land to the east. Much of the land is generally level and in agricultural use. Cottam 3b lies approximately 500 metres to the south, immediately south of the Gainsborough Immingham Railway again relatively level area in agricultural use.
- 12.5.22 A review of BGS published geological information indicates that the Site is underlain by the Scunthorpe Mudstone Formation This sedimentary bedrock formed approximately 191 to 210 million years ago in the Jurassic and Triassic Periods. These sedimentary rocks are shallow-marine in origin. They are detrital and biogenic, generally comprising fine-grained sediments, with carbonate material (coral, shell fragments) forming interbedded sequences.
- 12.5.23 In the furthest western tip of the Site the underlying bedrock is Mudstone belonging to the Penarth Group which formed approximately 201 to 210 million years ago in the Triassic Period. These sedimentary rocks are shallow-marine in origin. They are detrital, ranging from coarse- to fine-grained (locally with some carbonate content) forming interbedded sequences.
- 12.5.24 Most of the bedrock is overlain by superficial deposits comprising Mid Pleistocene Till. These deposits formed up to 2 million years ago in the Quaternary Period. These sedimentary deposits are glacial in origin. They are described as detrital, created by the action of ice and meltwater, they can form a wide range of deposits and geomorphologies associated with glacial and inter-glacial periods during the Quaternary.
- 12.5.25 The furthest western tip the bedrock is covered superficial Glaciofluvial Deposit of Mid Pleistocene Sand and Gravel. formed up to 2 million years ago in the Quaternary Period. These sedimentary deposits are glaciofluvial in origin. They are detrital, generally coarse-grained, they form beds, channels, plains and fans associated with meltwater.
- 12.5.26 The BGS Mineral Resource Information identifies this glaciofluvial deposit together the river terrace and alluvial deposits which extend westwards beyond the site as a potential sand gravel resource.
- 12.5.27 The only mineral activity in the area that the BGS mapping identifies is the Corringham Oil and Gas Field which lies approximately 1.25 km to the south east of Cottam 3b.

Policy

- 12.5.28 Approximately 46 hectares of the Cottam 3a Site is within an identified area of search in the Lincolnshire Minerals and Waste Local Plan (LMWLP). Therefore, there is a requirement to consider the impact of the proposed development on the proposed mineral extraction.
- 12.5.29 The Site is identified as lying partly within an Area of Search for sand and gravel referred to as 'West of Lincoln and north/south of Gainsborough for the Lincoln/Trent Valley Production Area' as shown on the Policies Map within the LMWLP. The Area of Search runs through the western third of the Site.
- 12.5.30 The Local Plan defines 'Area of Search' as *'An extensive area of land believed to contain significant, but generally unproven mineral resources within which the Mineral Planning Authority would have no objection in principle to mineral working, on at least part of the site subject to satisfactory proposals to protect the range of interests of acknowledged importance within and adjoining the area'*. The plan states that the three areas of search identified include the most viable sand and gravel resource based on a recent assessment of resources within the County carried out by the British Geological Survey (BGS) in 2010.
- 12.5.31 The County Council states in Policy M2: 'Providing for an Adequate Supply of Sand and Gravel', that it makes provision for the release of sand and gravel reserves in the Site Locations Document. This gives priority to extensions to existing Active Mining Sites. It adds that new sites will be allocated where they are required to replace existing Active Mining Sites that will become exhausted during the Plan period and where they are located in the relevant Areas of Search.
- 12.5.32 Policy M4 relates to 'Proposals for Sand and Gravel Extraction Sites allocated in the Site Locations Document' and adds that where sites are not allocated, planning permission will be granted for sand and gravel extraction for aggregate purposes where the site is required to meet a proven need that cannot be met from the existing permitted reserves; or a specific shortfall in the landbank of the relevant Production Area. Furthermore, it must be an extension to an existing Active Mining Site; or is located in the relevant Area of Search and will replace an existing Active Mining Site that is nearing exhaustion.
- 12.5.33 The Site does not include any existing workings and therefore a new proposal in the area would be considered as a new site rather than any extension to an existing working. New quarries will only be permitted where there is a proven need or to replace an almost completed site. According to the most recent monitoring report which assesses the performance of the Local Plan, the Lincolnshire Local Aggregate Assessment (reporting 2020 data). September 2021, with current permissions together with the remainder of sites allocated in the Site Locations document, there should be sufficient sand and gravel resources to last beyond the LMWLP period

which extends to the end of 2031. At the end of 2020 the landbank for sand and gravel for Lincolnshire was 9.50 years. At a sub-country level the landbank was 9.97 years in the Lincoln/Trent Valley.

- 12.5.34 Less than 1.5 hectares of the Site at the most westerly end of Cottam 3a, lies within the sand and gravel mineral safeguarding area which surrounds Blyton and beyond. The safeguarded deposit extends southwards and is within part of the allocated area of search for sand and gravel for West of Lincoln and north/south of Gainsborough. A further 4 hectares in the south west corner of Cottam 3b Site lies within the sand and gravel mineral safeguarding area which extends southwards to Ailsby and Corringham. This safeguarded area is also partially affected by the proposal on the Cottam 2 Site.

Cable Corridors

- 12.5.35 As part of the Scheme a number of proposed cable corridors are proposed within which cables would be installed to connect the Sites to the grid connection at the former Cottam Power Station site can be achieved. Some of the cable corridors affect areas of search and safeguarded sand and gravel reserves. These routes include the corridor linking Cottam 3 to 2 which runs through the sand and gravel area of search around Blyton and the sand and gravel safeguarded area around Aisby/Corringham, and corridors linking the various parcels on the western side of the Cottam 3 Site south east of Willingham by Stow. All options running west from Cottam 1 across the Trent Valley affect the Trent Valley sand and gravel area of search and sand and gravel safeguarded area within Lincolnshire and the corresponding sand and gravel safeguarded areas within Nottinghamshire.

Petroleum Exploration and Development License

- 12.5.36 Cottam 1, 2 and 3 are all within a Petroleum Exploration and Development License (PEDL) area where oil and gas extraction is licensed under the Petroleum Act 1998 by the Oil and Gas Authority. A PEDL allows the pursuit a range of oil and gas exploration activities, subject to necessary drilling/development consents and planning permission. Lincolnshire has a long history associated with the production of conventional oil and gas and there are a number well extracting oil extending north from Lincoln and around Gainsborough. The Scampton oil field which lies approximately 6 km to the east is nearest to the Cottam 3 Site. The Glentworth Oil wells are 1 km from the north eastern part of the Cottam 1 Site. The proposed development would have no implications in terms of the continued exploitation of this resource.
- 12.5.37 The British Geological survey identified a shale gas resource associated with the 'Bowland Shale' In Central Britain. The BGS study area includes the northern half of Lincolnshire, and identifies an area referred to as the 'Gainsborough Trough' as being prospective for shale gas. Whilst interest has been shown in the above area,

Shale Gas development does not currently take place in Lincolnshire, and until any exploratory wells are sought and drilled, the location and extent of any resource, and prospect for economic recovery in Lincolnshire is unknown.

- 12.5.38 There have been a number of exploratory wells sunk in the north west of Lincolnshire in the vicinity of Cottam 1, 2 and 3. Owing to commercial confidentiality there is limited information available about the results.
- 12.5.39 The method of extracting shale gas involves constructing a well to drill into the ground vertically and horizontally to reach the shale rock layer. A mixture of water, sand and chemicals is then pumped under high pressure into the bore hole to fracture the shale rock to enable the gas to flow out. This process is known as hydraulic fracturing or 'fracking'. The need for surface development is relatively limited and the ability to drill horizontally and well as vertically to extract the gas means that even if a commercially exploitable deposit of shale gas were to be found under the site it could still be exploited under the site by well located around the site.
- 12.5.40 In addition to planning permission, consent to hydraulic fracture is required from the Secretary of State under the Infrastructure Act 2015. On the 4 November 2019 the government announced an energy policy update which stated that *"On the basis of the current scientific evidence, Government is confirming today that it will take a presumption against issuing any further Hydraulic Fracturing Consents. This position, an effective moratorium, will be maintained until compelling new evidence is provided which addresses the concerns around the prediction and management of induced seismicity"*.

12.6 Assessment of Likely Impacts and Effects

Cottam 1

- 12.6.1 The safeguarded mineral reserves within this Site are two relatively small, isolated pockets of sand and gravel. Given their isolated location, limited geographic extent and existing constraints, including existing built development such as roads and residential development and in the case of the southerly safeguarded area the River Till which runs through it, working these areas is very unlikely in the foreseeable future.
- 12.6.2 The proposal is to seek authorisation for the construction and operation of solar arrays and associated infrastructure which will be decommissioned at the end of its operational life, all above ground structures will be removed and the Site restored. The Scheme does not require deep excavations or foundations and thus disturbance is limited to the surface layers rather than underlying deposits. On the basis the Scheme has an estimated lifespan of 40 years and due to it being decommissioned at the end of its operational life, any minerals would not be permanently sterilised

and would be available to exploit if required at a future date. Thus, there is not considered to be any conflict with the mineral safeguarding policy.

- 12.6.3 There are no specific allocations for sand and gravel within or abutting the Site. In view of the current policies of the Mineral Planning Authority, the current sand and gravel landbank and the extensive areas covered by areas of search it seems highly unlikely that the sand and gravel reserve will need to be worked within the lifetime of the Scheme.
- 12.6.4 The Site and immediate surroundings are not currently subject to mineral working. There is no apparent evidence to suggest there has been any mineral working in the recent past within the Site or immediate area.
- 12.6.5 The nearest current mineral workings are the Glentworth Oil wells approximately 1 km north and north east of the Site. The proposal will have no impact on these.

Table 12.5: Magnitude of Impact – Cottam 1

Sensitivity	High	Medium	Low
Magnitude			
High	Major	Major/Moderate	Moderate
Medium	Major/Moderate	Moderate	Moderate/Minor
Low	Moderate	Moderate/Minor	Minor
Negligible	Moderate/Minor	Minor	Negligible
Neutral	Neutral	Neutral	Neutral

- 12.6.6 In the case of Cottam 1, the Site does affect an identified mineral reserve which is safeguarded in the Lincolnshire Minerals and Waste Local Plan therefore the sensitivity of the Site is medium. However, given the relatively small and isolated nature of this reserve, the existing constraints to future mineral working, it is unlikely this mineral reserve will be exploited in the foreseeable future, the magnitude is negligible and therefore the overall effect is minor, which is not significant. In light of the outcome of the assessment above, no mitigation is considered necessary.

Cottam 2

- 12.6.7 The safeguarded mineral reserve within this Site is an isolated pocket of sand and gravel. Although likely to contain a sand and gravel deposit exploiting it would be difficult given the existing constraints in particular built development, both Corringham and Aisby are built directly on top of it, and it is criss-crossed by roads. Working this area is very unlikely in the foreseeable future.
- 12.6.8 As previously noted, on the basis the Scheme has an estimated lifespan of 40 years and due to it being decommissioned at the end of its operational life, any minerals

would not be permanently sterilised and would be available to exploit if required at a future date. Thus, there is not considered to be any conflict with the mineral safeguarding policy.

- 12.6.9 There are no specific allocations for sand and gravel within or abutting the site. In view of the current policies of the Mineral Planning Authority, the current sand and gravel landbank and the extensive areas covered by areas of search it seems highly unlikely that the sand and gravel reserve will need to be worked within the lifetime of the Scheme.
- 12.6.10 The application site and immediate surroundings are not currently subject to mineral working. There is no apparent evidence to suggest there has been any mineral working in the recent past within the site or immediate area.
- 12.6.11 Cottam 2 Site is within 150 metres of the Minerals Consultation Area associated with Corringham oil field The nearest oil well is approximately 500 metres from the eastern boundary. The Glentworth Oil wells are approximately 1 km north and north east of the Site. The proposal will have no impact on the operation of these oilfields

Table 12.6: Magnitude of Impact – Cottam 2

Sensitivity	High	Medium	Low
Magnitude			
High	Major	Major/Moderate	Moderate
Medium	Major/Moderate	Moderate	Moderate/Minor
Low	Moderate	Moderate/Minor	Minor
Negligible	Moderate/Minor	Minor	Negligible
Neutral	Neutral	Neutral	Neutral

- 12.6.12 In the case of Cottam 2, the Site does affect an identified mineral reserve which is safeguarded in the Lincolnshire Minerals and Waste Local Plan therefore the sensitivity of the Site is medium. However, given the relatively small and isolated nature of this reserve, the existing constraints to future mineral working, it is unlikely this mineral reserve will be exploited in the foreseeable future, the magnitude is negligible and therefore the overall effect is minor, which is not significant. In light of the outcome of the assessment above, no mitigation is considered necessary

Cottam 3

- 12.6.13 The identified mineral potential for this Site is sand and gravel. The Site is partially within an extensive area of search for sand and gravel where there are likely but not proven reserves. Current assessments report that there is no need for new sites to come forward during the plan period up to 2031. There is therefore no need for further reserves for at least 10 years. The Area of Search takes a very broad-brush

approach and covers an extensive area all long the Trent Valley including any settlements which clearly will not be worked. Cottam 3a encroaches a small area on the eastern edge of the area of search and therefore is not considered to have a significant impact on the potential sand and gravel resources in the County.

- 12.6.14 As previously noted, on the basis the Scheme has an estimated lifespan of 40 years and due to it being decommissioned at the end of its operational life, any minerals would not be permanently sterilised and would be available to exploit if required at a future date. Thus, there is not considered to be any conflict with the mineral safeguarding policy.
- 12.6.15 The Site and immediate surroundings are not currently subject to mineral working. There is no apparent evidence to suggest there has been any mineral working in the recent past within the Site or immediate area. There are no specific allocations for sand and gravel within or abutting the Site although the Site is within an area of search for future sand and gravel. In view of the current policies of the Mineral Planning Authority, the current sand and gravel landbank and the extensive areas covered by the area of search it seems highly unlikely that the sand and gravel reserve will need to be worked within the lifetime of the Scheme.
- 12.6.16 Cottam 3b includes a relatively small area of safeguarded mineral forming part of an isolated pocket of sand and gravel. Although likely to contain a sand and gravel deposit exploiting it would be difficult given the existing constraints in particular built development, both Corringham and Aisby are built directly on top of it, and it is criss-crossed by roads. Working this area is very unlikely in the foreseeable future.
- 12.6.17 Again due to the temporary nature of the Scheme any minerals that are beneath the Site, will not be sterilised on a long-term basis and would be available to exploit if required at a future date. Thus, there is not considered to be any conflict with the mineral safeguarding policy.

Table 12.7: Magnitude of Impact – Cottam 3

Sensitivity	High	Medium	Low
Magnitude			
High	Major	Major/Moderate	Moderate
Medium	Major/Moderate	Moderate	Moderate/Minor
Low	Moderate	Moderate/Minor	Minor
Negligible	Moderate/Minor	Minor	Negligible
Neutral	Neutral	Neutral	Neutral

- 12.6.18 In the case of Cottam 3, the Site does affect an identified mineral reserve and this mineral reserve has been identified as being an area of search for future minerals working to supply Lincolnshire therefore the sensitivity of the Site is medium.

However given there is not an immediate identified need for the mineral reserve and the area affected forms part of an extensive area of search extending well beyond the area of the Scheme the magnitude is low and therefore the overall effect is moderate/minor, which is not significant. In light of the outcome of the assessment above, no mitigation is considered necessary.

Cable Corridors

- 12.6.19 Although proposed cable corridors affect a significant swathe of safeguarded sand and gravel reserves, these are areas of search for a cable route. The cable route once selected will only affect a relatively small area and have no significant impact in terms of sterilising safeguarded sand and gravel deposits. Installation of the cable may disturb a small area of sand and gravel approximately 2 m wide. Even allowing a buffer of approximately 3 metres wide each side of the cable, there will be no significant impact in terms of safeguarding the sand and gravel deposits. However, the eventual cable route does have the potential to become another constraint to future mineral extraction as it will bisect known deposits. This could result in operational issues for future mineral operations which might restrict the efficient exploitation of the resource. To mitigate this potential impact, it is recommended that wherever possible cable routes follow existing infrastructure corridors such as roads, railways, drainage routes or existing pipelines or cables routes or alternatively follow the edge of significant landscape features such as woods rather than directly crossing open fields. Such an approach would avoid creating a further obstruction to the future exploitation of the mineral resource.
- 12.6.20 All of the proposed cable corridor routes are within PEDL area. There are not considered to be any significant issues associated with the cable corridors and the existence of the PEDL.

Table 12.8: Magnitude of Impact – Cable corridors

Sensitivity	High	Medium	Low
Magnitude			
High	Major	Major/Moderate	Moderate
Medium	Major/Moderate	Moderate	Moderate/Minor
Low	Moderate	Moderate/Minor	Minor
Negligible	Moderate/Minor	Minor	Negligible
Neutral	Neutral	Neutral	Neutral

- 12.6.21 In the case of the cable corridor, the Site does affect an identified mineral reserve and this mineral reserve has been identified as being an area of search for future minerals working to supply Lincolnshire therefore the sensitivity of the Site is medium. However given there is not an immediate identified need for the mineral reserve and the area affected forms part of an extensive area of search extending

well beyond the area of the Scheme the magnitude is low and therefore the overall effect is moderate/minor, which is not significant. In light of the outcome of the assessment above, no mitigation is considered necessary.

Petroleum Exploration and Development License

- 12.6.22 At the current time whilst all the Sites may contain an economic deposit of shale gas, there is an effective national moratorium on hydraulic fracturing for shale gas and until there is change in policy the deposits will not be exploited. However recent world events have had a significant impact on global energy markets and nationally a review of future energy supplies is being undertaken, this includes a review into hydraulic fracture which could pave the way to lifting the current moratorium. Although the Minister of State for Business, Energy and Industrial Strategy stated on the 15 March 2022 *'We've always been clear that the development of shale gas in the UK must be safe and cause minimal disruption and damage to those living and working nearby sites. This is not a new position. Shale gas and new approaches could be part of our future energy mix, but we need to be led by the science and have the support of local communities. The pause on fracking implemented in November 2019 on the basis of the difficulty in predicting and managing seismic activity caused by fracking, remains in place and we will continue to be led by the science on our approach.'*
- 12.6.23 Oil and gas deposits are found at much greater depths than other minerals and therefore surface development has less potential impact in terms of exploiting the resource. Neither Lincolnshire nor Nottinghamshire have identified mineral safeguarding areas for hydrocarbons as prospects can only be identified after extensive exploration activity. Existing oil fields are identified and safeguarded with mineral consultation zone around each. None of the Cottam Sites affects an existing oil field or comes within a mineral consultation zone.
- 12.6.24 It is not considered that the proposed Scheme would have any implications for existing or proposed exploration and eventual exploitation of oil and gas resources. The solar arrays are not considered to be sensitive adjoining land uses to an oil well. Whilst together the Sites occupy a large area, they are not a single block of land and are dispersed across a large area thus there is still scope for exploratory drilling across the PEDL. The method of petrochemical extraction involves limited surface development that could be located outside the Sites and still allow extraction of the mineral beneath those sites.

12.7 Mitigation

- 12.7.1 The only part of the Scheme where mitigation is considered necessary is in relation to the cable corridors. To mitigate the potential impact, it is recommended that wherever possible cable routes follow existing infrastructure corridors or alternatively follow the edge of significant landscape features rather than directly

crossing open fields. Such an approach would avoid creating a further obstruction to the future exploitation of the mineral resource.

12.8 Cumulative Impact

- 12.8.1 The process of environmental impact assessment also requires consideration of the cumulative impact of the proposed development in conjunction with other plans and proposals.
- 12.8.2 In terms of the direct impact on the mineral reserves affected by this proposal there are no other proposals that directly affect these deposits.
- 12.8.3 The associated proposed cable corridors connecting the Sites to the former Cottam Power Station site do overlap with proposed cable corridors for the West Burton Solar Project. Much of the overlap is within an area of safeguarded sand and gravel reserves associated within the Trent Valley. The Applicant is working not only with West Burton Solar Project but also with Gate Burton Energy Park, a development proposed by Low Carbon and with associated cable corridors, to minimise impacts. Without mitigation multiple cable routes across this deposit would further bisect this deposit adding further constraints to any future mineral working and whilst not actually physically sterilising any mineral deposit might make areas uneconomic to work. The Scheme will consider this impact and as far as possible ensure the number of cable routes is minimised and follows existing corridors.
- 12.8.4 Any other proposals for development that sterilise safeguarded mineral resources, particularly those also identified as Area of Search for sand and gravel referred to as 'West of Lincoln and north/ south of Gainsborough for the Lincoln/ Trent Valley Production Area' in the Lincolnshire Minerals and Waste Local Plan, could have an impact on the availability to win sand and gravel in future in particular within Lincolnshire as they look to this area as a potential for new sand and gravel supplies as well as Nottinghamshire. The potential cumulative impact is considered small as this proposal only affects a relatively small area of an extensive area of search for a temporary period.

12.9 References

Ref 1 Lincolnshire Minerals and Waste Local Plan Core Strategy and Development Management Policies (June 2016)

<https://www.lincolnshire.gov.uk/downloads/file/2361/core-strategy-and-development-management-policies>

Ref 2 Review of the Lincolnshire Minerals and Waste Local Plan (February 2021).

<https://www.lincolnshire.gov.uk/downloads/file/5053/review-of-the-lmwlp-19-2-21-accessible-version>

Ref 3 Nottinghamshire Minerals Local Plan (March 2021).

<https://www.nottinghamshire.gov.uk/media/3764136/adopted-minerals-local-plan.pdf>

Ref 4 National Planning Policy Framework. Department for Communities and Local Government (2019).

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf

Ref 5 British Geological Survey, Mineral Safeguarding in England good practice advice (2011). British Geological Survey.

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Ref 6 British Geological Survey: Mineral Resource Information in support of National, Regional and Local Planning Lincolnshire (2003). British Geological Survey.

<https://www2.bgs.ac.uk/mineralsuk/download/england/lincolnshire.pdf>

<https://www2.bgs.ac.uk/mineralsuk/download/england/lincolnshireMap.pdf>

Ref 7 British Geological Survey: Mineral Resource Information in support of National, Regional and Local Planning Nottinghamshire and City of Nottingham (2002). British Geological Survey.

<https://www2.bgs.ac.uk/mineralsuk/download/england/nottinghamshire.pdf>

<https://www2.bgs.ac.uk/mineralsuk/download/england/nottinghamshireMap.pdf>

Ref 8 British Geological Survey: A Guide to Mineral Safeguarding in England (2007). British Geological Survey.

<http://nora.nerc.ac.uk/7508/>

Ref 9 Scoping Opinion: Proposed Cottam Solar Project Case Reference: EN010133
09 March 2022 Adopted by the Planning Inspectorate (on behalf of the Secretary of State) pursuant to Regulation 10 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.

Ref 10 Overarching National Policy Statement for Energy (EN-1) Department of Energy and Climate Change July 2011

Ref 11 Draft Overarching National Policy Statement for Energy (EN-1) Department for Business, Energy and Industrial Strategy, September 2021

Ref 12 Draft National Policy Statement for Renewable Energy Infrastructure (EN-3) Department for Business, Energy and Industrial Strategy, September 2021

Ref 13 National Planning Practice Guidance Minerals Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government 17 October 2014