



Longfield Solar Farm

Other Documents [PINS Ref: EN010118]

Mineral Infrastructure Impact Assessment

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Executive Summary

This Mineral Infrastructure Impact Assessment (MIIA) has been prepared in support of an application for a Development Consent Order (DCO) for the construction, operation (including maintenance) and decommissioning of Longfield Solar Farm (the Scheme). The Scheme consists of solar photovoltaic (PV) array electricity generating facility, Battery Energy Storage System (BESS) and export connection to the national electricity transmission network (NETS), including extension of the existing Bulls Lodge Substation (the Scheme).

The Scheme is defined under the Planning Act 2008 as a Nationally Significant Infrastructure Project (NSIP) as it comprises a generating station in England with a capacity exceeding 50 megawatts (MW). It therefore requires a DCO from the Secretary of State for Business, Energy and Industrial Strategy (the SoS). This document has been prepared on behalf of Longfield Solar Energy Farm Ltd (the Applicant) to support the DCO application and should be read in conjunction with the other documents submitted with the Application. Longfield Solar Energy Farm Ltd is a joint venture between EDF-Renewables and Padero Solar.

The MIIA has been prepared as part of the Order limits is located within a Minerals Consultation Area (MCA) for Bulls Lodge Quarry, including a small area of permanent land take from the consented extraction area of Bulls Lodge Quarry which would result in the sterilisation of approximately 18,000 m³ of consented mineral reserve.

The MIIA identifies that this is a very small proportion of the consented reserve within the Bulls Lodge Quarry and is not expected to impact the viability of the remainder of the reserve in Brick Farm or significantly reduce the mineral supply in Essex. Prior extraction of this mineral may be possible but is unlikely to be economic as a standalone activity, or warranted by the extremely small area and volume that would be affected.

The MIIA also considers the indirect impacts of the construction and operation of the Scheme on Bulls Lodge Quarry and concludes that the Scheme would not experience significant adverse effects as a result of the on-going operations at Bulls Lodge Quarry and the quarry would not experience significant adverse effects as a result of the construction and operation of the Scheme.

1. Introduction and Background

1.1 Introduction

- 1.1.1 Longfield Solar Energy Farm Limited (the 'Applicant') is applying for a Development Consent Order (DCO) under the Planning Act 2008 for the Longfield Solar Farm (hereafter referred to as the 'Scheme'). The Scheme comprises the installation of solar photovoltaic (PV) generating panels and on-site energy storage facilities on land in Essex (hereafter referred to as the 'Order limits') together with grid connection infrastructure, and would allow for the generation, storage and export of electricity to the national electricity transmission system (NETS).
- 1.1.2 The Application is required because the Scheme is classified as a Nationally Significant Infrastructure Project (NSIP). The Application is to be made to the Secretary of State (SoS) for the Department for Business, Energy & Industrial Strategy (BEIS), under Section 37 of the Planning Act 2008.
- 1.1.3 The Scheme is located on approximately 454 hectares (ha) of land, approximately 6 kilometres (km) north east of Chelmsford. The Proposed Development is located in a predominantly rural area consisting mainly of mixed agricultural land and associated farms and scattered woodland. The Proposed Development consists of the following as shown on the Works Plans [EN010118/APP/2.2]:
- a. A ground mounted solar photovoltaic generating station (Work No. 1);
 - b. Battery energy storage system (BESS) compounds (Work Nos. 2A and 2B);
 - c. An onsite substation compound (the Longfield Substation) (Work No. 3);
 - d. Works to lay high voltage electrical cables (Work No.4), including works to lay one 400 kV cable circuit and associated infrastructure (Work No. 4A) and temporary construction laydown areas (Work No. 4B);
 - e. An extension to the existing Bulls Lodge substation, comprising an electricity switching station, including access (Work No. 5A), and temporary overhead line alterations (Work No. 5B);
 - f. Other works required for the Scheme (e.g. cables, boundary treatment, CCTV, lighting, landscaping, biodiversity enhancement, tracks, earthworks, surface water management, temporary construction compounds, temporary footpath diversions, diversion of cables) (Work No. 6 and listed at the end of Schedule 1 of the draft DCO);
 - g. Temporary construction and decommissioning laydown areas for the Solar Farm Site (Work No. 7A) and the Bulls Lodge Substation Extension (Work No. 7B);
 - h. Office, warehouse and plant storage building (Work No. 8);

- i. Works to facilitate access, including road widening of highways to facilitate access to the Order limits (Work No. 9); and
- j. Areas for habitat management (Work No. 10).

1.1.4 The Scheme is expected to operate for approximately 40 years. After the Scheme ceases to operate, the Solar Farm Site will undergo decommissioning. All PV modules, mounting poles, cabling, inverters and transformers associated with Works Nos. 1, 2 and 3 will be removed. The extension to Bulls Lodge Substation Extension and Grid Connection cable would remain in-situ, although the Grid Connection cable would be redundant.

1.1.5 The Scheme is located within the administrative boundary of Essex County Council (ECC), Chelmsford City Council (CCC) and Braintree District Council (BDC).

1.2 Minerals and Waste Planning Authority's Comments

1.2.1 ECC is the Mineral Planning Authority (MPA) and as such, in addition to being responsible for determining planning applications for minerals development, is responsible for mineral safeguarding, minerals consultation areas and minerals site allocations.

1.2.2 ECC submitted a formal consultation response to the submitted Environmental Impact Assessment (EIA) Scoping Report for the Scheme on 4th December 2020, which highlights that part of the Order Limits falls within a Mineral Consultation Area associated with Bulls Lodge Quarry.

1.2.3 A meeting was held between the Applicant and ECC planners on 18th March 2021. ECC planners advised that a Mineral Infrastructure Impact Assessment (MIIA) is required to accompany the DCO application, to assess the impact of the Scheme on Mineral Infrastructure (specifically Bulls Lodge Quarry).

1.2.4 ECC also advised that a Mineral Safeguarding Assessment (MSA) and Waste Infrastructure Impact Assessment (WIIA) are required, to assess the impact of the Scheme on minerals resources/ safeguarding and waste infrastructure (specifically Boreham Recycling Centre and Bulls Lodge Inert Recycling) respectively. These documents are submitted separately.

1.3 Report Structure

1.3.1 The remainder of this MIIA report is structured as follows:

- Minerals safeguarding policy;
- Considerations;
- Potential sensitivity and impact of the Scheme upon safeguarded mineral infrastructure; and
- Summary and conclusions.

2. Minerals Safeguarding Policy

2.1 Introduction

- 2.1.1 When determining a DCO application, the Secretary of State is required to have regard to any relevant National Policy Statements (NPS), as well as: any Local Impact Report, any prescribed matters, and any other matters that the Secretary of State thinks are both important and relevant to their decision. Other national and local planning policies and guidance, including adopted and emerging Development Plan policies, have the potential to be considered by the Secretary of State to be other matters which are important and relevant to the decision.
- 2.1.2 The following sections refer to relevant planning policies in relation to minerals.

2.2 National Policy Statements

National Policy Statement for Energy (EN-1)

- 2.2.1 The overarching NPS for Energy (EN-1) (NPS EN-1) 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 forms the primary basis for 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 (UK), and to reduce greenhouse gas emissions from energy generation in order to meet the Government's decarbonisation targets.
- 2.2.2 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.
- 2.2.3 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

- 2.2.4 The Government is currently reviewing and updating the Energy NPSs for two primary reasons:
- a. To reflect its policies and strategic approach for the energy system that is set out in the Energy White Paper (December 2020), and
 - b. To ensure that the planning policy framework delivers the infrastructure required for the country's transition to net zero carbon emissions.
- 2.2.5 As part of the Energy NPS review process, the Government published a suite of Draft Energy NPSs for consultation on 6 September 2021. Draft National Policy Statement for Renewable Energy (EN-3) (Draft NPS EN-3) includes specific policies for solar photovoltaic generation NSIPs. The designation of

Draft NPS EN-3 will therefore bring solar NSIP developments into the Energy NPSs.

Draft National Policy Statement for Energy (EN-1)

- 2.2.6 Draft NPS EN-1 sets out general principles and impacts to be taken into account for all types of energy NSIP development covered by the Energy NPSs. Once designated it will form the primary basis for determining if development consent should be granted and is underpinned by the principle that the development of large scale renewable energy generation infrastructure is urgently needed in order for the Government's targets and commitments for the energy system to be met. It sets out at paragraph 3.3.21 that, along with wind, solar electricity generation will help to reduce costs and provide a clean and secure source of electricity supply, and that a secure, reliable, affordable, net zero consistent system in 2050 is likely to be composed predominantly of wind and solar.
- 2.2.7 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.
- 2.2.8 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)

- 2.2.9 Draft NPS EN-3 sets out additional policies for renewable energy infrastructure, including policies specific to the development of solar NSIPs. 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.
- 2.2.10 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.

2.3 National Planning Policy Framework (NPPF) (2021)

- 2.3.1 The revised NPPF was published in July 2021. The NPPF, 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.
- 2.3.2 Under Section 17 (Facilitating the Sustainable Use of Minerals), NPPF paragraph 209 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 resource, and can only be worked where they are found, best use needs to be made of them to secure their long-term conservation.”

2.3.3 NPPF paragraph 210 goes on to state:

“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); d) set out policies to encourage the prior extraction of minerals, where practical and environmentally feasible, if it is necessary for non-mineral development to take place...”

2.4 National Planning Practice Guidance (PPG)

Minerals PPG (2014)

2.4.1 The Minerals PPG (2014) 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.”

2.4.2 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...”

2.5 Essex Minerals Local Plan (2014)

2.5.1 The legal requirement under s38 (6) of the Planning and Compulsory Purchase Act 2004 to determine planning applications in accordance with development plan documents does not apply to applications for development consent under the PA2008. Nevertheless, the development plan may be important and relevant to the Secretary of State’s decision. Accordingly, it has been considered as part of the Mineral Resources Assessment.

2.5.2 The local Development Plan for the land within Order Limits comprises:

- Essex Minerals Local Plan (2014) (EMLP);
- Braintree Local Plan Review 2005 (saved policies);
- Braintree Local Plan Core Strategy and Proposals Map (adopted 2011);
- Braintree Local Plan (2013 – 2033) Section 1 – Strategic Plan for North Essex (adopted February 2021);

- Chelmsford Local Plan 2013-2036 (2020);
- Hatfield Peverel Neighbourhood Development Plan 2015–2033 (2019); and
- Essex and Southend-on-Sea Waste Local Plan, July 2017 (EWLP).

2.5.3 The EWLP does not contain any policies applicable to minerals.

2.5.4 ECC adopted the EMLP in July of 2014. The plan provides planning policies for minerals development in Essex until 2029 and identifies future sites for mineral development. It also includes ways to reduce reliance on primary mineral resources in Essex.

2.5.5 The EMLP comprises:

- The Minerals Core Strategy, which sets out the long-term direction for minerals development and a plan to deliver this;
- Development management policies for minerals planning;
- Strategic site allocations and safeguarding for mineral extraction; and
- A Policies Map, showing site locations.

2.6 Mineral Consultation Areas

2.6.1 Paragraph 3.129 of the EMLP (2014) states that:

“Minerals development may create impacts on their immediate surroundings and local communities through, for example, dust or noise emissions and vehicle movements. Development that is sensitive to such impacts and therefore potentially incompatible in close proximity to minerals development can include facilities such as hospitals and clinics, retirement homes, residential areas, schools, offices, horticultural production, food retailing and certain types of industry such as high-tech, painting and furnishing, and food processing”.

2.6.2 Paragraph 3.130 goes on to state:

“It is necessary to safeguard existing mineral workings, Preferred and Reserve Sites to prevent the possibility of new incompatible neighbours being established and ultimately restricting their activities. Incompatible/sensitive development should not be located in such close proximity that it puts constraints or limits upon current or future uses for mineral production. Proposed development (even a single dwelling) on the edge of, or in proximity to, a mineral site or haul road can prevent part of that site from being worked. Compromising the planned working of a mineral can sterilise the resource and prejudice the steady supply of aggregate production within the Plan Area.”

2.6.3 Policy S2 lists strategic priorities for minerals development, and states (inter alia):

“The strategic priorities for minerals development are focused primarily on meeting the mineral supply needs of Essex whilst achieving sustainable development. The strategy will promote this by:

... 5. Safeguarding mineral resources of national and local importance, mineral transshipment sites, Strategic Aggregate Recycling facilities and coated roadstone plants, so that non-minerals development does not sterilise or compromise mineral resources and mineral supply facilities,

6. Making planned provision through Preferred and Reserve Site allocations for a steady and adequate supply of aggregates and industrial minerals to meet identified national and local mineral needs in Essex during the plan-period whilst maintaining landbanks at appropriate levels,

7. Providing for the best possible geographic dispersal of sand and gravel across the County to support key areas of growth and development, infrastructure projects and to minimise mineral miles...

...9. Maintaining and safeguarding transshipment sites within the County to provide appropriate facilities for the importation and exportation of minerals."

- 2.6.4 Policy S8 relates to Mineral Safeguarding Areas and Mineral Consultation Areas and the safeguarding of mineral resources/ sites and infrastructure. It states regarding Mineral Consultation Areas:

"MCAs are designated within and up to an area of 250 metres from each safeguarded permitted minerals development and Preferred and Reserve Site allocation as shown on the Policies Map. The Mineral Planning Authority shall be consulted on:

- a) Any planning application for development on a site located within an MCA except for the excluded development identified in Appendix 5,*
- b) Any land-use policy, proposal or allocation relating to land within an MCA that is being considered as part of preparing a Local Plan.*

Proposals which would unnecessarily sterilise mineral resources or conflict with the effective workings of permitted minerals development, Preferred or Reserve Mineral Site allocation shall be opposed".

- 2.6.5 Policy S9 identifies safeguarded mineral transshipment sites and secondary processing facilities, and states (inter alia):

"The following mineral facilities identified on the Policies Map are of strategic importance and shall be safeguarded from development which would compromise their continued operation.

...Safeguarded Coated Stone Plant:...

...i. Bulls Lodge, Chelmsford"

- 2.6.6 Part of the Order Limits fall within a MCA associated with Bulls Lodge Quarry, as defined in the EMLP (2014). The Order Limits, Bulls Lodge Quarry and the MCA associated with it are shown on Figure 2-1, below. It is noted that the Order limits do not cross the boundary of the Bulls Lodge asphalt plant, concrete batching plant or the wider Plant Site.

- 2.6.7 As shown by Figure 2-1, the Order Limits also fall within a Mineral Safeguarding Area and Waste Consultation Area. A separate Mineral Safeguarding Assessment (MSA) and Waste Infrastructure Impact Assessment (WIIA) have been prepared and assess the impact of the

Proposed Development on minerals resources/ safeguarding and waste infrastructure respectively.

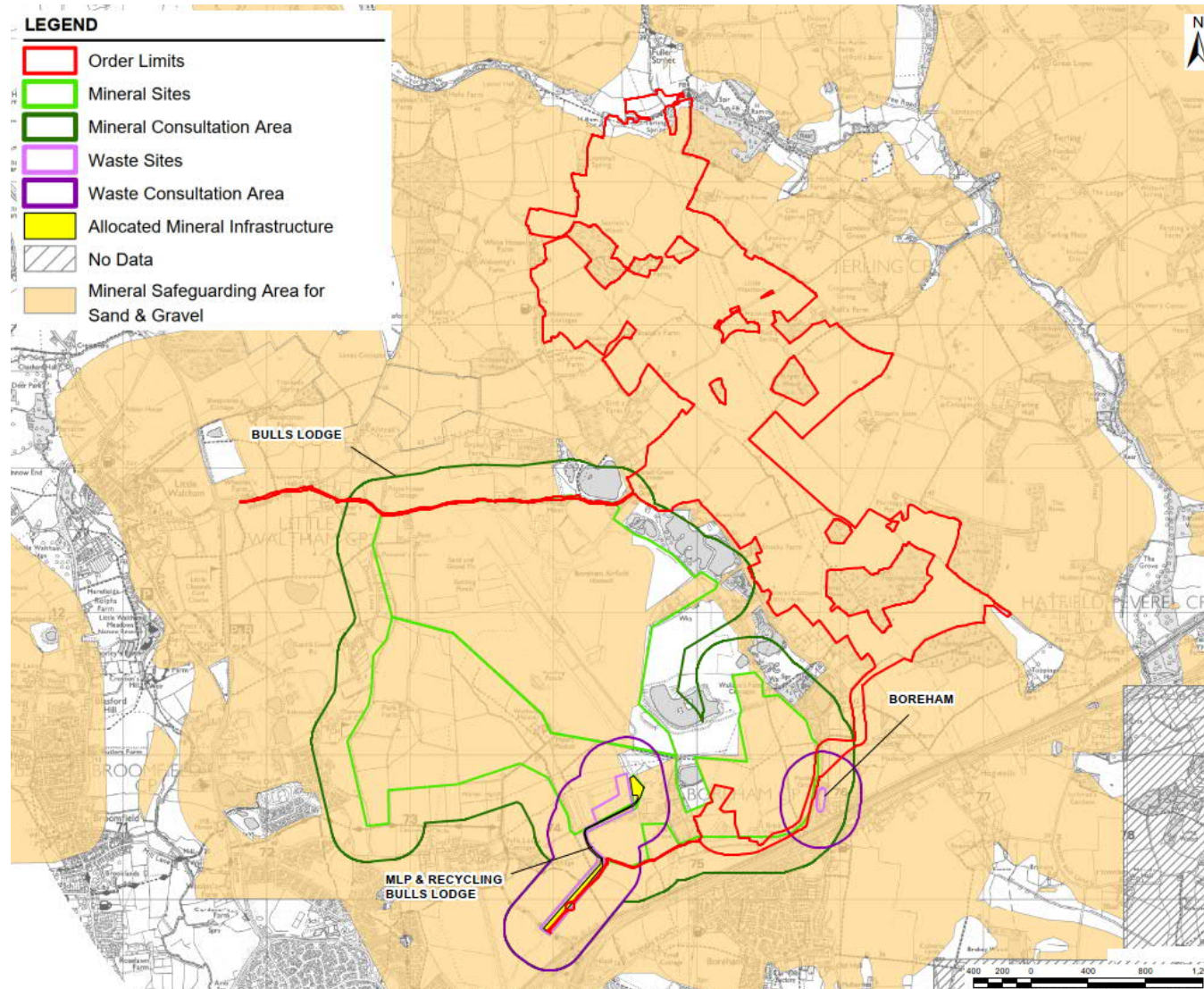


Figure 2-1: Spatial Representation of Minerals and Waste Designations in relation to the Proposed Development, according to the Essex Minerals Local Plan (2014), Braintree District Development Plan and Essex and Southend-on-Sea Waste Local Plan (2017)

Safeguarded Sites

- 2.6.8 Appendix 4 of the Local Plan identifies Safeguarded Coated Stone Plants (Asphalt) within Essex, including one at Bulls Lodge Quarry.

2.7 Braintree District

- 2.7.1 The saved policies of the Local Plan Review (2005), the 2011 Core Strategy, the Local Plan (2013-2033) Section 1 (adopted February 2021) and Hatfield Peverel Neighbourhood Development Plan 2015–2033 (adopted December 2019) do not contain any policies which relate specifically to minerals development, although it is noted that the policies map does show the location of Mineral Safeguarding Areas and Mineral Safeguarding Sites. From a review of the policies map, the Order Limits cross part of a Mineral Safeguarding Site (Bulls Lodge Quarry).

2.8 Chelmsford City

- 2.8.1 The Chelmsford Local Plan 2013-2036 was adopted by Chelmsford City Council in May 2020. The Local Plan outlines the strategic priorities and long-term vision for Chelmsford and identifies locations for delivering housing and other strategic development needs such as employment, retail, leisure, community and transport development. It contains a Spatial Strategy to deliver this vision.

- 2.8.2 There are no policies within the Chelmsford Local Plan which specifically relate to minerals development. However, it does acknowledge at para XX that:

“There are active quarry sites in Chelmsford as well as currently unworked sand and gravel deposits which are subject to a Minerals Safeguarding policy within the Essex Minerals Local Plan. The safeguarding policy requires that the Minerals Planning Authority - Essex County Council – be consulted on development proposals covering 5 hectares or more within the sand and gravel Minerals Safeguarding Area... The Policies Map in Section 11 identifies existing and allocated Minerals sites within the Council’s area.”

2.9 Emerging Local Plans

- 2.9.1 BDC is in the process of preparing the Local Plan (2013 – 2033) Section 2 – policies, maps and sites for development, housing, employment, regeneration (the ‘draft Local Plan Section 2’) It was subject to an examination by inspectors appointed by the Secretary of State for Communities and Local Government, with Hearings in 2021. The consultation on the Inspectors’ Main Modifications finished at the end of January 2022. Once adopted this will replace both the Local Plan Review 2005 and the Core Strategy 2011. The draft Local Plan Section 2 is at an advanced stage of preparation and it is therefore a material consideration.

- 2.9.2 The Publication Draft Local Plan Section 2 text does not contain any policies which relate specifically to minerals development.

ECC published proposed amendments to the Essex MLP in March 2021. These including changes to Policy S8 for reasons compliance with national policy and also arising from the operation of this policy since the adoption of the Plan which has given rise to a number of areas where a modification or

clarification of the Policy would improve the application of the Policy and/or result in a better outcome.

3. Considerations

3.1 Bulls Lodge Quarry

- 3.1.1 The EMLP (2014) Policies Map and Table 7 (Existing, Preferred and Reserve Sites) of the MLP identify Hanson Aggregates' Bulls Lodge Quarry, Boreham, as an existing mineral site. As stated in Policy S8, "MCAs are designated within and up to an area of 250 metres from each safeguarded permitted minerals development and Preferred and Reserve Site allocation as shown on the Policies Map".
- 3.1.2 The Scheme therefore falls within the Minerals Consultation Area associated with Bulls Lodge Quarry (as shown by **Figure 2-1**, above).
- 3.1.3 Appendix 4 of the EMLP (2014) also identifies Safeguarded Coated Stone Plants (Asphalt) within Essex, including one at Bulls Lodge Quarry – Bulls Lodge Quarry Coated Stone Plant, as shown on **Figure 2-1**, above, and Figure 3-1, below.

Bulls Lodge Quarry Coated Stone Plant

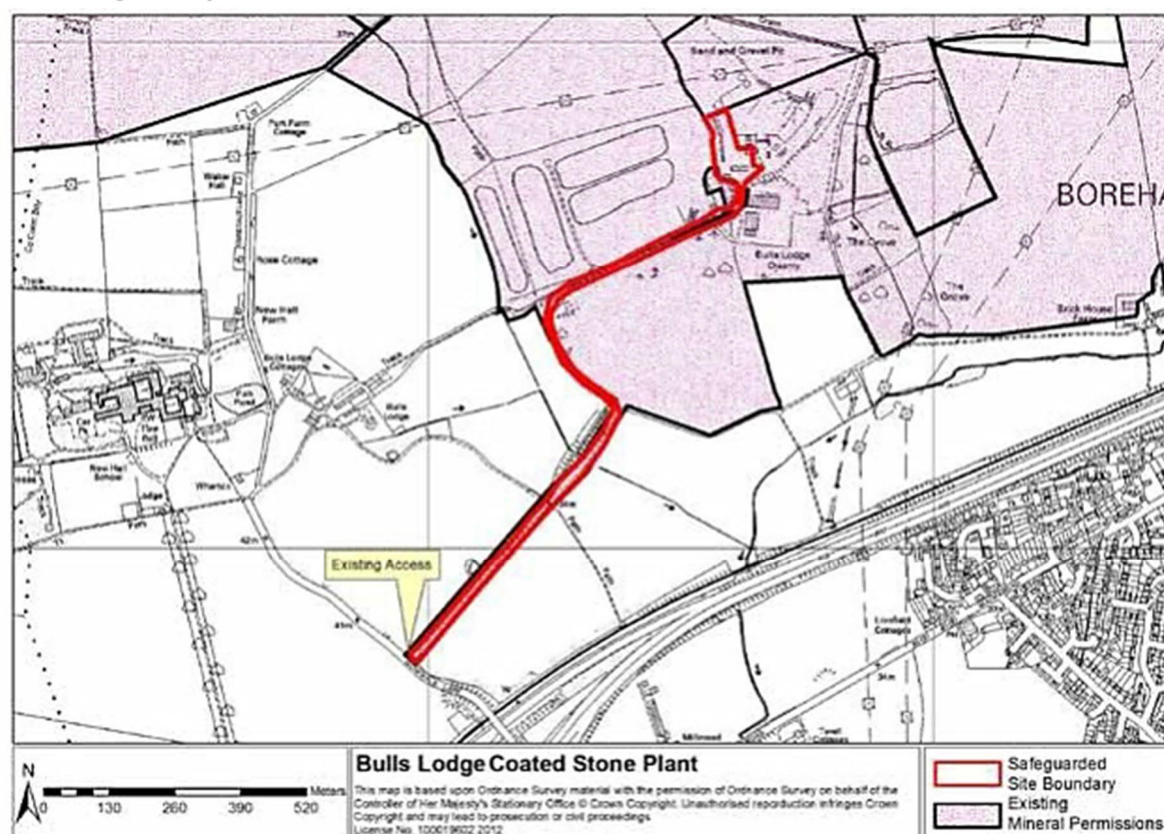


Figure 3-1: Bulls Lodge Quarry Coated Stone Plant, defined in the Essex Minerals Local Plan (2014) as a safeguarded site (Appendix 4 – Safeguarded Coated Stone Plants (Asphalt))

3.2 Bulls Lodge Quarry Operations

3.2.1 Hanson's Bulls Lodge Quarry is a sand and gravel quarry, located approximately 1.3 km to the north east of Chelmsford, at Ordnance Survey Grid Reference (OSGR) TL 74250 11466. The primary vehicular access lies via a private road off Generals Lane and the A12 / A130 / A138 Boreham Interchange via the new Radial Distributor Road. The private road services the quarry, and also provides access via a side turning to Brick House Farm and Bulls Lodge substation. The extent of Bulls Lodge quarry is shown by **Figure 3-2**, below.

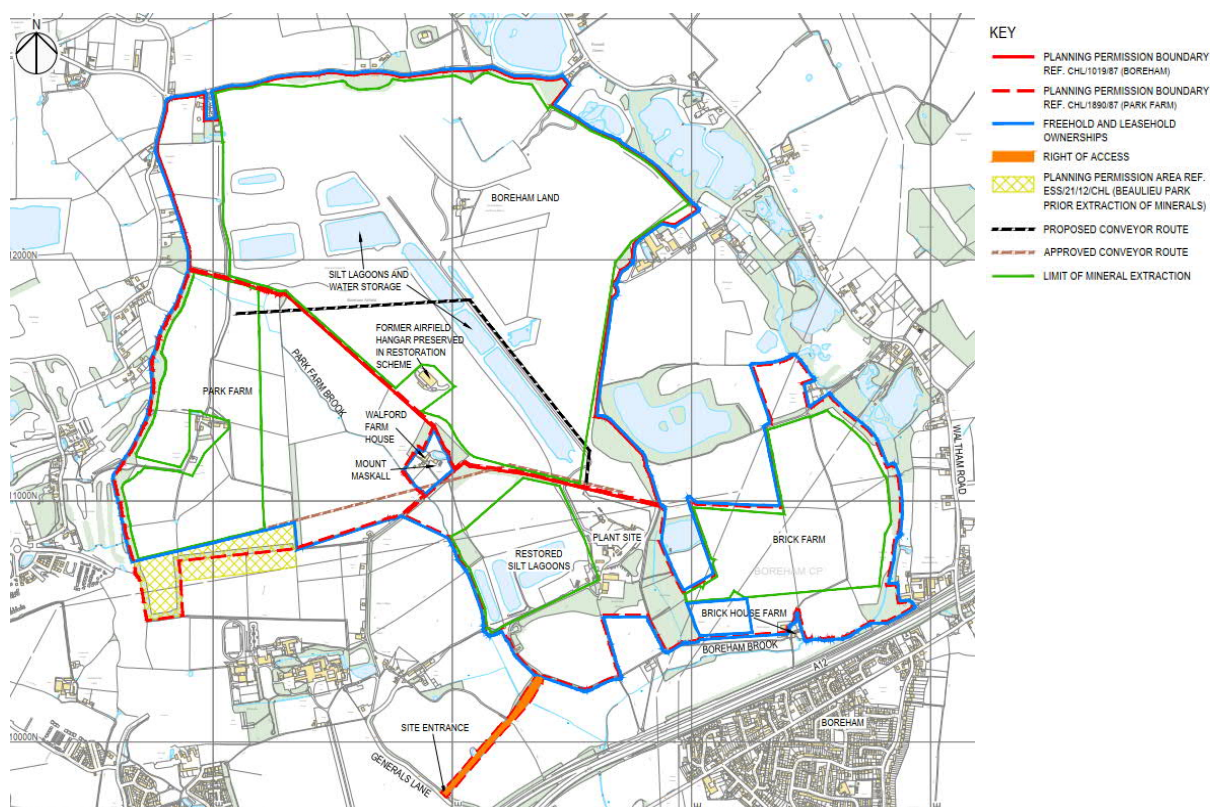


Figure 3-2: Plan ref. '60548237.BL.002 Planning Permission Boundaries' submitted with planning application ref. ESS/147/20/CHL and planning application ref. ESS/148/20/CHL, which shows the location of Hanson's Bulls Lodge Quarry, Boreham, Essex

3.2.2 The quarry has operated since 1990 and is a strategic mineral facility for the provision of construction aggregates. In addition to the mineral processing plant, a concrete batching plant, asphalt plant, aggregate bagging plant and aggregate recycling operation all operate from the site.

3.2.3 The local geology comprises London Clay overlain by superficial drift of Glacial Till (Lowestoft Formation) and Fluvioglacial Sands and Gravels (Chelmsford Gravels). The quarry works the Chelmsford Gravels, which are classed as "*fine to medium-grained sand, generally un-bedded, with seams of poorly sorted limestone gravel*".

3.2.4 The Bulls Lodge Quarry operations are permitted by two mineral planning permissions, the areas of which are indicated on **Figure 3-2**, above: permission ref. CHL/1019/87 (the Boreham (Proving Ground) Permission), and permission ref. CHL/1890/87 (the Park Farm Permission). The key

planning history associated with Bulls Lodge Quarry is summarised in **Table 3-1**, below.

Table 3-1: Key planning history associated with Bulls Lodge Quarry (application reference, description and decision date)

App. Ref.	Location	Description	Status
ESS/147/ 20/CHL	Bulls Lodge Quarry (Park Farm & Brick Farm), Generals Lane, Boreham, Chelmsford, CM3 3HR	Continuation of development permitted by CHL/1890/87 without compliance with condition 1 (Applications details), condition 3 (completion of extraction and restoration), condition 12 (Phasing), condition 13 (Completion of Boreham Airfield extraction before the Park Farm, Bulls Lodge and Brick Farm land extraction is commenced) and condition 16 (Approved conveyor route) to allow a rephasing of operations such that Park Farm is worked earlier within the overall working scheme for Bulls Lodge Quarry, Park Farm land is worked from north to south as opposed to the approved south to north, an amended route for the field conveyor and an extension of time to complete extraction and restoration. Planning permission CHL/1890/87 was for "Winning and working of sand and gravel, the erection of a processing plant and ready mix concrete and mortar plants, workshop and weighbridge and office."	Pending. Validated 23/12/20 20
ESS/148/ 20/CHL	Bulls Lodge Quarry (Boreham Airfield), Generals Lane, Boreham, Chelmsford, CM3 3HR	Continuation of development permitted by CHL/1019/87 without compliance with condition 1 (Application details), condition 3 (Completion of extraction and restoration) and condition 12 (Phasing) to allow for a temporary suspension of extraction within Boreham Airfield, relocation of field conveyor to Park Farm extraction area, amended phasing scheme and an extension of time to complete extraction and restoration. Planning permission CHL/1019/87 was for "Winning and working of sand and gravel."	Pending. Validated 23/12/20 20
ESS/36/1 3/CHL	Hanson Aggregates, Bulls Lodge Quarry, Generals Lane, Boreham, Chelmsford, CM3 3HR	Continuation of winning and working of sand and gravel, the erection of a processing plant and ready mixed concrete and mortar plants, workshop and weighbridge office (permitted by planning permission ref. CHL/1890/87) without compliance with condition 17 (hours of operation) to allow additional hours of operation for the processing plant from 0600 to 0700 and 1800 to 2200 hours Mondays to Fridays for a period of 5 years. Part retrospective.	Pending. Validated 09/07/20 13
ESS/37/1 5/CHL	Bulls Lodge Quarry (Boreham Airfield), Generals Lane, Boreham, Chelmsford, CM3 3HR	Continuation of winning and working of sand and gravel as permitted by CHL/1019/87 without compliance with condition 1 (application details), Condition 4 (working and reclamation schemes) and condition 6 (restoration Master Plan) to allow amended restoration levels and amended restoration Masterplan (part retrospective)	Pending. Validated 11/08/20 15
CHL/101 9/87	Boreham Proving Ground, Bulls Lodge Quarry, Generals Lane, Boreham,	Winning and working of sand and gravel	Granted 15/06/19 90

App. Ref.	Location	Description	Status
	Chelmsford, CM3 3HR		
CHL/189 0/87	Bulls Lodge & Park Farm, Bulls Lodge Quarry, Generals Lane, Boreham, Chelmsford, CM3 3HR	Winning and working of sand and gravel, the erection of a processing plant and ready mix concrete and mortar plants, workshop and weighbridge and office.	Granted 15/06/19 90

3.2.5 The Order Limits overlap with the boundary of Bulls Lodge Quarry, in the area known as 'Brick Farm', near Brick House Farm (refer to **Figure 2-1** and **Figure 3-2**, above). The Order Limits border the quarry in this area and clip an area in the south-east of Brick Farm which is proposed for mineral extraction, and overburden and topsoil stockpiling. There is also an area within the Order limits proposed to be used temporarily during construction of the Scheme to the north of the existing substation owned by National Grid (NG), as shown by **Figure 3-2**, Error! Reference source not found. and **Figure 3-4**, which also has planning permission for mineral extraction.

3.2.6 Currently, the Boreham permission (which includes Brick Farm) requires the extraction of mineral to cease by end of December 2020. Two planning applications (ESS/147/20/CHL and ESS/148/20/CHL, included in **Table 3-1**, above) have been submitted to ECC by Hanson for the continuation of the winning and working of sand and gravel (and ancillary activities) at Bulls Lodge Quarry at variance to certain conditions attached to the Boreham and Park Farm permissions. These applications seek change aspects of the phased development and timing of operations. According to the Planning Statement submitted with planning application ref. ESS/147/20/CHL, Brick Farm is proposed be the last area of the quarry to be worked (anticipated to be approx. 2035 - 2039). A plan showing the proposed phasing of mineral extraction operations is shown at Error! Reference source not found., below. This is shown with the proposed Order Limits superimposed in **Figure 3-4**. These applications are still under consideration by ECC.

3.2.7 ECC issued a request for further information from the applicant under Regulation 25 of the Town and Country Planning Act 1990 (as amended) on 4th May 2021. ECC requested further information in relation to the following *inter alia*:

- access to public highway and compounds;
- restoration drawings;
- heritage;
- noise; and
- air quality.

3.2.8 Responses to the above were submitted by Hanson in June and November 2021. ECC has re-consulted on these submissions and a decision is expected to be made in the first half of 2022.

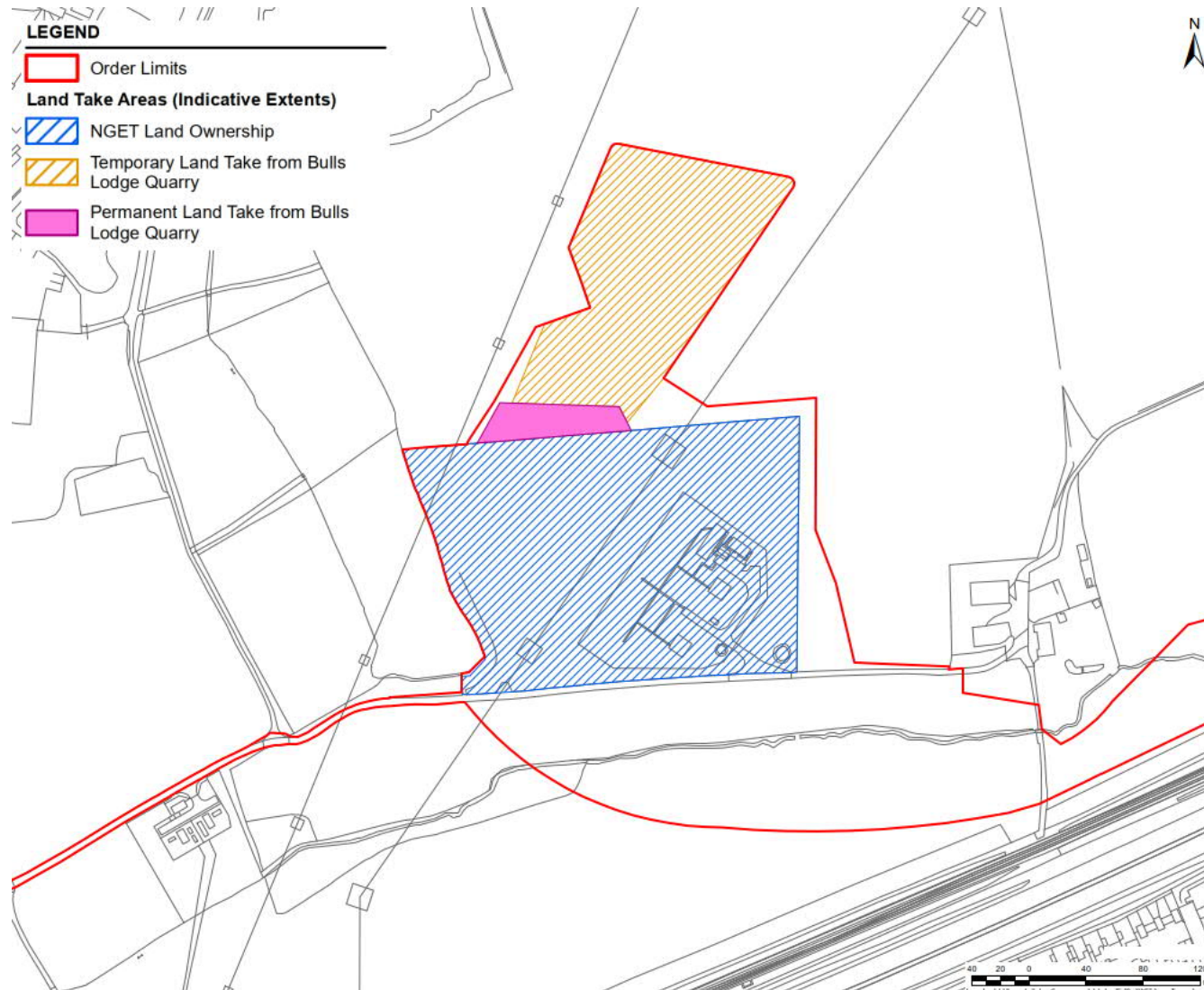


Figure 3-3: Southwestern section of the Scheme (the Order limits), around the 'Brick Farm' area of Bulls Lodge Quarry

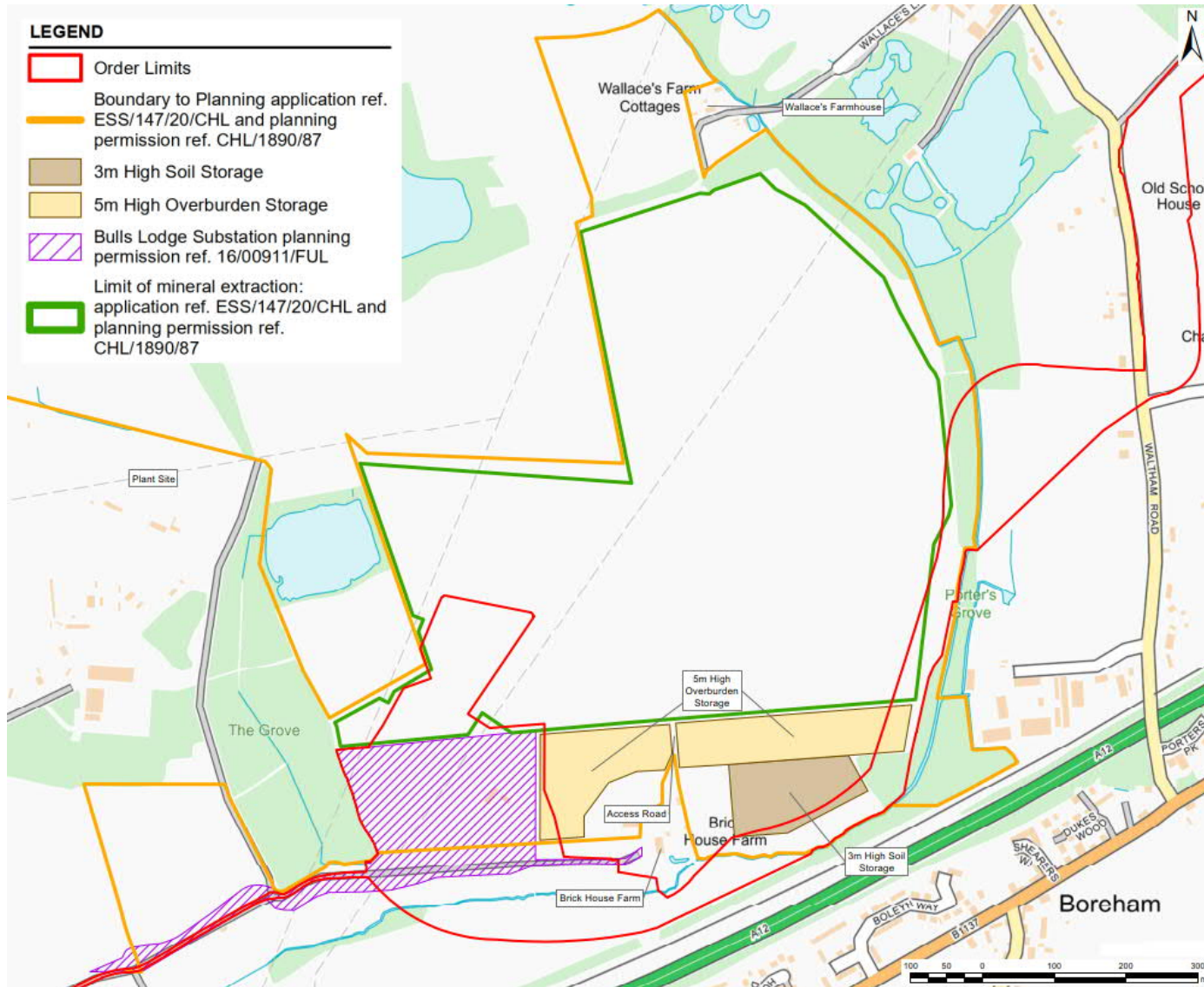


Figure 3-4: Proposed Order limits overlain on limits for Mineral Extraction at Brick Farm (Bulls Lodge Quarry), as per planning application ref. ESS/147/20/CHL (Plan 60548237.BL.008 Brick Farm Proposed Mineral Extraction Phasing).

4. Potential Sensitivity and Impact of the Scheme Upon Safeguarded Mineral Infrastructure at Bulls Lodge Quarry

4.1 Introduction

4.1.1 The main construction access for the Scheme will be on Waltham Road, accessed from the A12 by the A130, Wheeler's Hill and Cranham Road. The construction works at Bulls Lodge Substation for the Scheme will share the access route to Bulls Lodge Quarry along Generals Lane and part of the access road to the quarry (as shown in orange on Figure 3-2).

4.1.2 The Order Limits also overlap with the boundary of Bulls Lodge Quarry in the area known as 'Brick Farm', near Brick House Farm. The two areas of overlap are shown on Figures 3-3 and 3-4:

- both temporary and permanent land take to the north of Bulls Lodge Substation associated with construction of the Bulls Lodge Substation Extension, and
- the Grid Connection Route along the south-eastern edge of the soil and overburden storage areas at Brick Farm.

4.1.3 The permanent land take to the north of the proposed extension to the Bulls Lodge Substation (Figure 3-4) comprises an area of approximately 0.2 Ha, which represents approximately 0.1% of the 243 Ha of land within the boundary of Bulls Lodge Quarry and 0.4% of the 46.3 Ha of land within Brick Farm Quarry (areas provided in application form for planning application ESS/147/20/CHL). This could potentially sterilise approximately 18,000 m³ of mineral in the south-west of the Brick Farm area. This represents less than 0.5% of the remaining 6 million m³ reserve for which consent is being sought to continue working. This will not impact on the viability of the remainder of the reserve in Brick Farm or significantly reduce the mineral supply in Essex. Prior extraction of this mineral may be possible but is unlikely to be economic as a standalone activity, or warranted by the extremely small area and volume that would be affected. If this mineral is removed, it may require subsequent replacement by inert materials to allow construction of the northern edge of the Bulls Lodge Substation Extension (see Section 5 in the Minerals Safeguarding Assessment [EN010118/APP/7.8]).

4.1.4 The Scheme also falls within the MCA associated with Bulls Lodge Quarry (including Brick Farm). A small area of the Scheme near Russell Green also falls within the WCA.

4.2 Principle of Agent of Change

4.2.1 Paragraph 187 of the National Planning Policy Framework (NPPF) (2021) states that:

“Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or ‘agent of change’) should be required to provide suitable mitigation before the development has been completed.”

- 4.2.2 The potential for impacts arising from Bulls Lodge Quarry upon the Scheme is assessed below in relation to noise and lighting.

Noise

- 4.2.3 The Scheme, being a solar farm, will not be sensitive to noise impacts from quarry operations and will not, therefore, act as an agent of change in relation to the effect of current noise emissions from on-going mineral operations at Bulls Lodge Quarry.

Visual and Lighting

- 4.2.4 The Scheme is not a sensitive visual receptor and will not be affected by the visual or lighting impacts of on-going operations at Bulls Lodge Quarry.

Dust

- 4.2.5 It is not anticipated that the Scheme would experience significant adverse effects relating to dust generated by Bulls Lodge. The worst-case screening distance for the risk of significant dust soiling from a sand and gravel quarry is typically 250m. As shown in **Figure 2-1**, those areas of the Scheme closest to Bulls Lodge Quarry in which PVs are to be installed are greater than 250 m from present or future mineral operations, being separated by a chain of waterbodies on the eastern boundary of Bulls’ Lodge. Outputs from the solar farm will also be monitored and if generation drops due to dust this will be addressed by cleaning. A relatively small area of the Scheme in the south, proposed for the electrical sub-station connection, is located close to mineral operations (as shown on **Figure 2-1**, above), but will not be sensitive to dust deposition.

4.3 Traffic

- 4.3.1 The construction and maintenance traffic associated with the Scheme would access the trunk road network at Junction 19 (Boreham) of the A12 from the south via either Generals Lane or the A130. Traffic associated with Bulls Lodge Quarry would also access the trunk road network at Junction 19 (Boreham) of the A12 via Generals Lane.
- 4.3.2 During the peak construction phase of the Bulls Lodge Substation Extension, the Scheme is expected to result in a maximum of 46 HGVs and 22 LGVs per day on the private road to/from the substation. This equates to a maximum of 68 daily vehicles, resulting in an average of 5-6 vehicles arriving or departing per hour between 7am and 7pm. These additional trips are not expected to affect the operation of the private road from a capacity perspective, including with the operation of Bulls Lodge Quarry. In addition, the Transport

Assessment, which is **Appendix 13A** to the **Environmental Statement [EN010118/APP/6.2]** demonstrates that the Scheme is expected to have a negligible impact on the operation of the Boreham Interchange.

- 4.3.3 The private road was previously upgraded to accommodate the original construction of Bulls Lodge Substation, where it would have been shared between construction traffic and existing users including quarry traffic. The extension of Bulls Lodge Substation as part of the Scheme will effectively replicate this scenario which has occurred previously.

4.4 Capacity

- 4.4.1 The Scheme will have no significant impact on the capacity of Bulls Lodge Quarry given that the electrical connection works are routed to avoid mineral extraction and stockpiling operations in the south-east corner of Brick Farm and there is no impact on traffic movements along Generals Lane and the access track as a result of shared usage.

5. Conclusion

- 5.1.1 To conclude, based upon the above, it is not considered that the Scheme would experience significant adverse effects as a result of the on-going operations at Bulls Lodge Quarry or that the quarry would experience significant adverse effects as a result of the construction and operation of the Scheme other than the potential sterilisation of a small quantity of mineral at Brick Farm as a result of the permanent land take associated with the Bulls Lodge substation extension. As such, no additional mitigation measures are required.
- 5.1.2 During the peak construction phase of the Bulls Lodge Substation Extension, the Scheme is expected to result in a maximum of 46 HGVs and 22 LGVs per day on the private road to/from the substation. This equates to a maximum of 68 daily vehicles, resulting in an average of 5-6 vehicles arriving or departing per hour between 7am and 7pm. These additional trips are not expected to affect the operation of the private road from a capacity perspective, including with the operation of Bulls Lodge Quarry. In addition, the Transport Assessment, which is **Appendix 13A** to the **Environmental Statement [EN010118/APP/6.2]** demonstrates that the Scheme is expected to have a negligible impact on the operation of the Boreham Interchange. The Scheme will have no significant impact on the capacity of Bulls Lodge Quarry or associated mineral infrastructure as the electrical connection works are routed to avoid mineral extraction, to minimise any impact on stockpiling operations in the south-east corner of Brick Farm and there will be no impact on traffic movements along Generals Lane and the shared access track as a result of shared usage.
- 5.1.3 Overall, it therefore follows that the Scheme complies with Policy S8 of the EMLP (2014), which requires that development proposals do not conflict with the effective workings of permitted minerals development or Preferred or Reserve Mineral Site allocations.