STATERA
BALANCING THE GRID

East Claydon Battery Energy Storage System (BESS)

Environmental Statement

Non-Technical Summary

5/12/2023

Contents

1 VOLUME 1

Chapter 1: Introduction

Statera Energy Limited (referred to as the 'Applicant') is seeking planning permission for the development of a Battery Energy Storage System, located in Buckinghamshire, on land to the south of East Claydon National Grid substation, just off Hogshaw Road. The planning application is for a 500-megawatt battery storage facility, an underground electrical connection to East Claydon Substation, and landscaping (and is referred to as the 'Proposed Development' in this report). The Proposed Development is further described and illustrated on

Battery storage technology, which can import or export large amounts of electricity with no time lag, aims to

- Assist National Grid with balancing the energy market (balancing transmission requirements as large generation and consumption sources come on or offline); and
- Assist the energy market (by storing excess generation until it is needed).

Considering the nature and scale of the development proposed, a process of Environmental Impact Assessment (EIA) has been undertaken in accordance with the UK legal requirements to identify the likely significant environmental effects of the Projects. An environmental State has been produced, setting out the findings of the assessment process. The Environmental Statement (ES) accompanies the application to Buckinghamshire Council.

EIA is a process that allows the beneficial and adverse environmental effects of certain projects on the environment to be identified and reported upon. This is required by law and help.

This document is a Non-Technical Summary of the findings of the EIA which are reported on in the ES. This Non-Technical Summary has been prepared to explain the Proposed Development (that the Applicant is seeking planning permission for), the potential environmental effects of the proposed development and the measures proposed to protect the environment.

The site is irregular in shape and is centred around National Grid Reference (NGR) SP 75557 25324. The site is located on land to the South of East Claydon National Grid substation and between the settlements of Granborough and East Claydon in the county of Buckinghamshire.

Chapter 2: the Project

The battery storage system is currently envisaged to comprise 888 full-sized shipping containers modified to accommodate batteries and 74 half-sized shipping containers, modified to accommodate the inverters and transformers. The current design of the battery storage facility would provide storage capacity of 500 megawatts.

The site covers a total area of 10.75 hectares, with an additional 15.49 hectares will be established for landscape and biodiversity enhancement, which represents and total of over 59% of the total site area.

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Figure 1: Masterplan of Proposed Site

Chapter 3: ES Site Selection and Alternatives

This chapter of the ES summarises the surrounding context of the site including environmental opportunities and constraints that have influenced the design; discusses the alternatives analysis undertaken with regards to due consideration of a Do Nothing / No Development alternative, alternative sites, and alternative design.

It provides sufficient information on the Proposed Development to aid the identification and assessment of potential environmental impacts and likely environmental effects across the environmental topic areas addressed by the EIA.

The site comprises a collection of agricultural fields, predominantly in use for arable farming. The site is not an allocated site. It is a greenfield, countryside site. According to The Vale of Aylesbury Local Plan the site is within the zone of influence of two SSSI and 5 local nature reserves, shown in Figure 2.1 and include;

- Winslow Conservation Area
- Shipton Conservation Area
- Middle Claydon Conservation Area
- North Marston Conservation Area
- Botolph Claydon Conservation

The following environmental considerations were reviewed as part of the design evolution of the Proposed Development

- Land Use and Soil
- Archaeology and Heritage
- Ecology and Biodiversity
- Noise and Vibration
- Transport and Access
- Flood Risk and Water Resources
- Landscape and Visual Amenity
- Ground Conditions

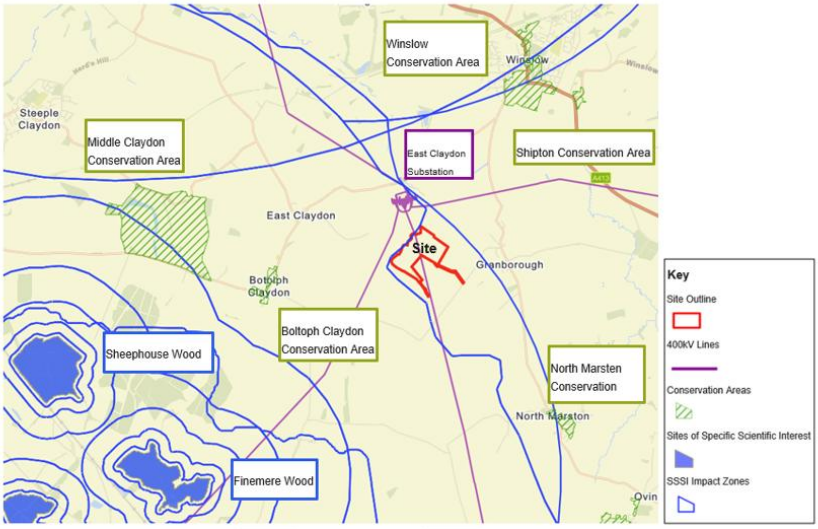

Figure 2: Site in relation to Conservation Areas and Areas of SSSI

In terms of Alternative Sites, a number of criteria is needed to meet the primary electrical objectives of the scheme;

- Located in a region where there is a need for voltage and power flow support
- Connection to the National Grid transmission networks 275/400kV
- Three or more 275kV and 400kV circuits
- Available grid connection by 2030

All of these were met at East Claydon Substation.

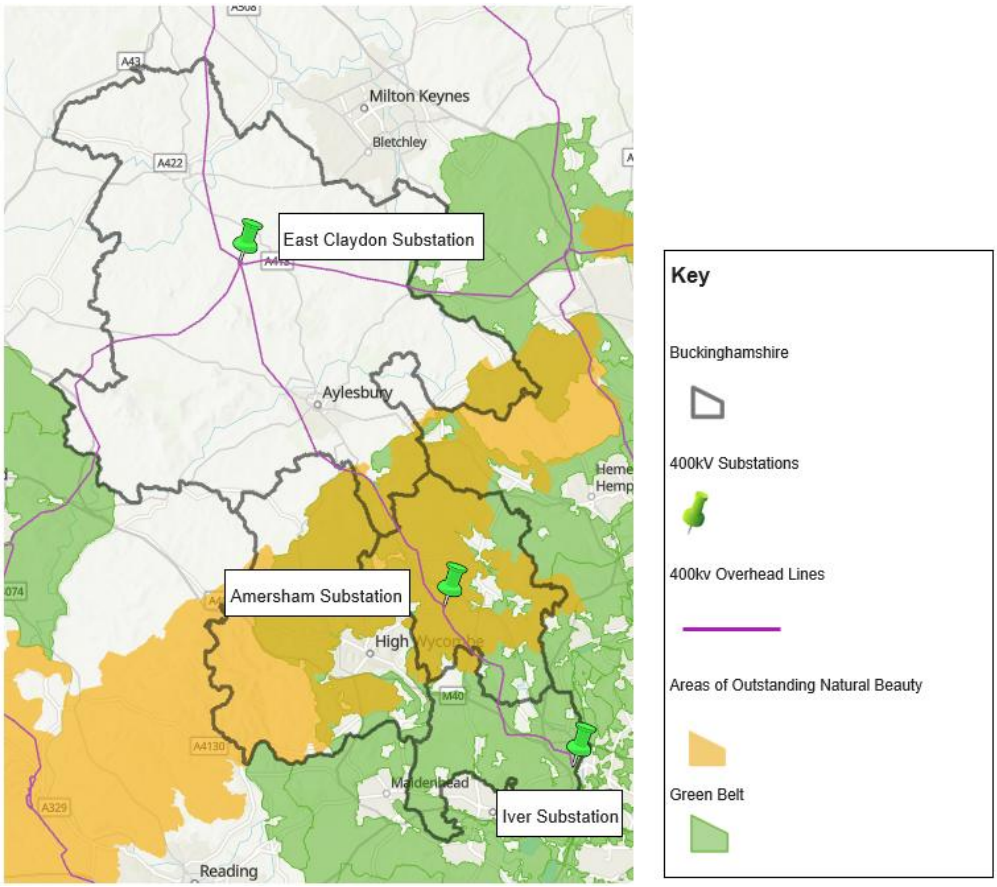

Figure 3: Map showing all substations in Buckinghamshire in relation to Green Belt and AONB

In conclusion, Statera has carried out a thorough site selection process to identify a suitable site for the Proposed Development. Each site was assessed against criteria that were specifically identified to ensure that the primary objectives of the scheme could be met.

Chapter 4: Environmental Assessment Methodology

This chapter of the ES sets out the overall approach to, and methodology for, undertaking the EIA. It details the process for identifying environmental issues / topics to be included within the EIA and the method of addressing likely significant environmental effects that have the potential to arise because of the Proposed Development, during construction, operation and demolition. Further detail on how the assessment methodology is applied to each topic is presented within this chapter.

This chapter also details local and national planning policies considered such as:

- National Planning Policy Framework
- National Planning Practice Guidance
- Aylesbury Vale Local Plan (2018)
- Emerging Local Plan for Buckinghamshire
- Buckinghamshire Minerals and Waste Local Plan (2019)
- Granborough Neighbourhood Plan (2022)

The potentially significant environmental issues that were identified during the EIA Scoping process and that have been addressed within this EIA are listed below:

- Landscape and Visual
- Ecology and Biodiversity
- Archaeology
- Built Heritage
- Noise and Vibration
- Hydrology and Floodrisk
- Climate Change and Carbon / Greenhouse Gas Emissions
- Traffic and Transport

Chapter 5: Conclusions

This chapter of the Environmental Statement (ES) presents a summary of the likely significant environmental effects of the Proposed Development during the construction and once the Proposed Development is completed and operational. It also looks at following the decommissioning of the Proposed Development. The chapter includes an overview of the key conclusions that can be drawn from the assessment.

The Proposed Development would result in the following:

- The significant adverse effect upon soil resources arising from the enabling and construction process are reflective of the loss of a primary function of the soils (i.e., agricultural use).
- The significant adverse landscape and visual effects arising from the construction process will be temporary in nature lasting only for the time it takes to complete these works on-site, whilst the operational phase effects will be temporary (except for the permanent changes in site topography), albeit for a long duration (40 years).
- The operational benefits would be significant with regards to climate change.
- The proposed Development is in line with the National Planning Policy Framework's principle of supporting new renewable infrastructure.

By facilitating the expansion of renewable energy supply, the Proposed Development would assist the UK Government target of achieving a fully decarbonised power system by 2035 and becoming net zero by 2050.

As a facilitator of the expansion of renewable energy generation, the Proposed Development is in line with UK-wide energy policy and legislation and national planning policies

2 NOISE AND VIBRATION

A noise and vibration assessment has been undertaken for a development comprising a battery storage facility with associated infrastructure, including access, drainage and landscaping (the 'Proposed Development') on land to the south of East Claydon National Grid substation in Buckinghamshire (the 'Site').

The key aspects for this chapter with regards to noise and vibration are:

- Site operation and construction effects
- Operational effects

The construction noise assessment established that no significant adverse effects are predicted at the existing sensitive receptor locations, with the assumption that the proposed haul road will not be built during the night-time period. However, best practice measure shall be implemented throughout the construction phase to avoid adverse noise effects being generated by lack of care and ineffective control measures.

With regards to national and local planning policy it is considered that the results of the operational assessment demonstrate that Proposed Development will not result in an adverse impact to amenity of the nearby receptors.

It is therefore considered the development is compliant with the requirements of the Noise Policy Statement for England (NPSE), the National Planning Policy Framework (NPPF) and Planning Practice Guidance on Noise (PPG-N), and Local Policies of BC.

3 ECOLOGY AND BIODIVERSITY

The proposed development at East Claydon BESS (the Site) has two distinct stages which are likely to present different impacts, as follows:

i. Construction activities associated with ground works and building construction; and

ii. Operational activities associated with the intended ongoing use of the proposed development.

Potential impacts are varied and include habitat loss and disturbance of species. However, opportunities have been optimised to provide appropriate mitigation and enhancements to deliver net gains in biodiversity that are appropriate to the surrounding landscape.

In terms of Biodiversity, biodiversity net gain assessment has been undertaken for the proposed development. To provide an objective assessment of the potential value of the proposed biodiversity enhancements, the DEFRA statutory metric was applied. The figure below shows the current biodiversity units compared with the predicted to calculate the percentage change that could be met by the Proposed Development:

Feature	Current biodiversity units	Predicted biodiversity units	Net change in biodiversity units	Net percentage change
Habitats	57.54	84.77	27.23	47.32%
Hedgerows	39.95	57.92	17.97	44.98%

Figure 4: Biodiversity Net Gain percentage breakdown

During construction, the principal impacts are loss of habitats. These losses are largely restricted to habitats which are of lower ecological value, such as arable farmland and modified grassland. Habitats of higher value, including hedgerows and the adjacent stream will be protected from accidental damage through the installation of fencing and by following regulatory guidance on preventing pollution. The proposed development incorporates a range of new habitats which will offset any habitat losses. These new habitats include hedgerows, woodland, ponds, scrub, and species-rich grassland.

Mitigation measures will be required to avoid minor adverse impact on protected species and will be detailed within a Construction Ecology Management Plan.

Overall, with the provision of the new habitats proposed, the impact assessment concludes the proposed development will result in minor beneficial impacts for habitats, breeding birds, bats, reptiles, badger, and otter.

4 HYDROLOGY AND FLOODRISK

This chapter assesses and reports on the of the effects of the proposed development regarding water resources and flood risk. The key issues identified to be addressed within this assessment relate to the potential effects of the proposed development on local flood risk (including effects of site drainage), and effects on water resources, including water quality, flow regimes and availability of water supply.

The chapter also outlines the current conditions of the proposed site and surrounding are, the assessment methodology, the mitigation measures which would be implemented, and any likely residual effects after these would be employed.

In terms of floodrisk, most of the site is located within Flood Zone 1. A small section is shown to be assessed as Flood Zone 2 and 3. The development layout shows that the built development has been steered to Flood Zone 1. The redevelopment of the site should include the installation of a surface water drainage scheme consisting of attenuation ponds and permeable gravel, this will help alleviate the risk. Based upon the layouts, access/egress at the site would not be impacted during a flood event. Overall, the risks during the construction phase are low.

In terms of drainage during the operational phase, the proposed mitigation measures would restrict surface water run off to greenfield rates through on-site storage such as loose permeable gravel, attenuation ponds, and the new wildflower planting. These strategies would mitigate the surface water flood risk at the site and ensure that there would be no increase in flood risk elsewhere as a result of the proposed development.

During the maintenance phase, the routine maintenance operations could potentially affect ordinary water courses through spiling or leakages of oils and chemicals, which can impact the water quality. However, the suggested mitigation measures should ensure that the overall risk is considered to be negligible.

5 LANDSCAPE AND VISUAL

The Landscape and Visual Amenity Chapter determines what if any landscape and visual effects that may arise as a result of the Proposed development and also suggest mitigation measured design specifically to avoid, prevent, reduce, offset, or compensate for any significant negative effects. The aim of this chapter is the identify those effects which are considered 'Significant'. This identification of significant effects allows them to be considered in the planning process.

Using the methodology laid out in this chapter, we can determine that Site and its immediate surroundings do not lie within a designated landscape such as a National Park or Area of Outstanding Natural Beauty. The Site lies within the Hogshaw Claylands Landscape Character Area, a gently sloping bowl of low ground in mixed agricultural use. Landscape quality has been determined as low to medium.

In terms of landscape designations, there are no international or national landscape designations relating to the application Site or its immediate surroundings. The Site is not in a National Park or an AONB and does not lie within the settings of such areas. Quainton Hill, 4km to the south has a local designation, Area of Attractive Landscape. The Site and immediate area are classified as Countryside within the Local Plan. Landscape designations are plotted below:

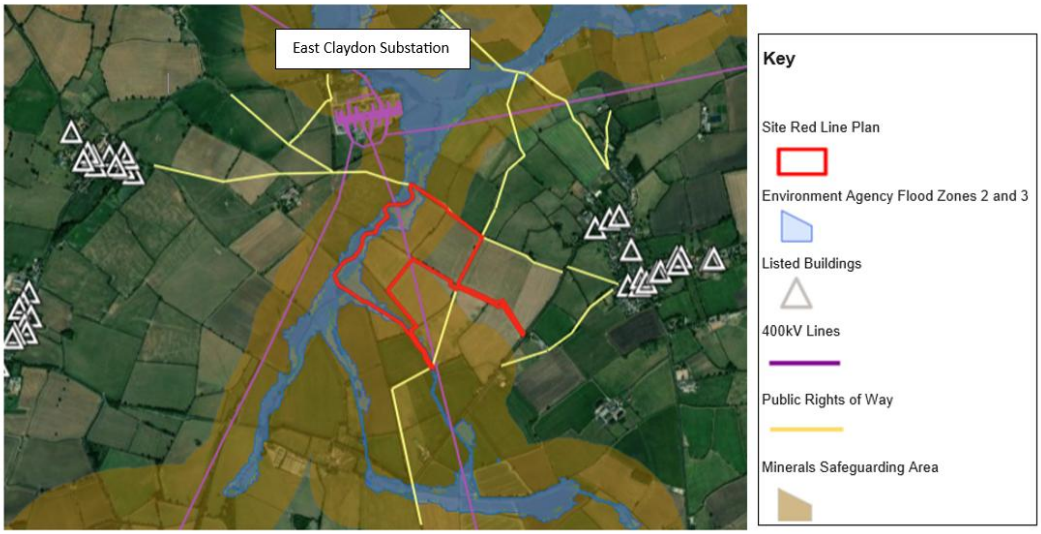

Figure 5: Map showing the area in relation to flood zones and minerals.

In terms of visual impacts, the main affected body will be the users of the Public Rights of Way network which passes close to the site. Although views are already limited, the existing hedges around the fields which comprise the Site are substantial and will significantly reduce the visibility of the Proposed Development from viewpoints which are at a similar level to the Site. Statera Energy will also ensure substantial tree planting occurs around the site to maximise initial screening.

It can be concluded from this chapter that the Proposed Development will have some significant adverse landscape and visual effects during construction and initially when

complete, but these will decline to acceptable levels within ten years, once the mitigation has become effective. On decommissioning the woodland planting and habitat creation will deliver a legacy of landscape and visual benefits.

6 BUILT HERITAGE

This chapter of the Environmental Statement (ES) assesses the potential effects of a battery storage facility with associated infrastructure, including access, drainage and landscaping on the local historic environment (built heritage assets). It has laid out the likely significant effects of the proposed development on the environment, in respect of the direct effects on the particular significance of the built heritage assets which include:

- Listed Buildings
- Areas of Conservation
- Registered Parks and Gardens

The site forms a group of nine fields lying between the villages of East Claydon and Granborough, on the east side of the Claydon Brook in the county of Buckinghamshire. Throughout the site's history it has been undeveloped land in agricultural use which lies some distance from any settlement areas.

The site does not contain any nationally designated heritage assets. However, there are two Grade II Listed buildings within 1km of the site and several other designated heritage assets are located within the wider area. The site does not lie within a conservation area. One Grade II Listed building, Rookery Farmhouse, may be affected by the proposed development. The remainder of the designated heritage assets are not afforded further assessment due to the distance between them and the site and intervening landscape topography.

Rookery Farm is of high significance, but the development will have a negligible impact upon the building and the effect upon it will not be significant.

No shared built heritage assets have been identified with the site from nearby cumulative schemes and there will be no cumulative effects.

Also, none of the built heritage assets present around the site are reliant on current climate for their survival so therefore the impacts of the Proposed Development and resulting effects are very unlikely to change. As a result of this, no climate change resilience measures are required for this built heritage.

7 ARCHAEOLOGY

This chapter of the Environmental Statement (ES) assesses the potential effects of a battery storage facility with associated infrastructure, including access, drainage and landscaping o the historic environment or buried heritage assets/archaeology.

The historic environment comprises archaeological remains, structures, monuments or heritage landscape within or immediately around the development site that are considered to be significant because of their evidential, historic, aesthetic or communal interest. The chapter itself contains a description of the heritage planning policy context and the methods used in the assessment.

It describes the baseline historic environment currently existing at the site and in its immediate vicinity; provides a statement of significance of known or possible buried heritage assets; assesses the magnitude of change (impact) of the Proposed Development upon the significance of known or potential buried heritage assets and the resulting environmental effect; identifies the mitigation measures required to prevent, reduce or off-set any significant adverse environmental effects; and reports on residual effects (those that might remain after mitigation has been implemented).

In terms of what was found during the surveying stage, there are two Archaeological Notification Areas within the south-western part of the Site which are the possible route of a Roman road and pottery scatters. The geophysical survey identified remains of probable Iron Age and Roman date within the northern area of easement and along the western boundary of the northern field, which includes a possible pit alignment. An enclosure of possible prehistoric date was also identified at the western end of the proposed access route.

This assessment has identified the potential for remains dating to prehistoric, Roman, medieval, and post-medieval periods. The significance of those remains dated to the prehistoric and Roman periods is medium or high, depending on their nature, extent, and condition. The significance of remains dating to the medieval and post-medieval periods is low.

The proposed development will have a moderate adverse effect upon the significant prehistoric remains and associated features relating to settlement and the agricultural management of the landscape. The proposals will also have a moderate adverse effect upon the significant Roman remains, cut features and finds of the period. The proposal will also have a minor adverse effect on those remains of medium significance, including prehistoric remains and cut features relating to settlement and agricultural use of the landscape, and Roman cut features and finds.

8 TRAFFIC AND TRANSPORT

This chapter provides further assessment of the site access strategy, the impacts of the development proposal on the local highway network and the proposed mitigation.

It describes the assessment methodology, the baseline conditions, the likely significant effects on the environment, the proposed mitigation measures to prevent or reduce adverse effects, and the likely residual effects that will remain. It also considers potential cumulative effects from other local development projects.

The Study Area follows the proposed construction traffic route between the A421 Buckingham Bypass and the site via the A413 London Road, local roads through Winslow, Granborough Road to East Claydon Road and beyond to the main construction access to the site. A second route for the AIL movements and to act as a reserve construction route should the main construction access be blocked for whatever reason will continue via Granborough Road and Winslow Road to Granborough village, and Hogshaw Road to the proposed operational site access. These routes are shown below.

During construction of the Proposed Development, the temporary effects on receptors will be minor adverse in respect of 'severance', 'driver delay' and 'pedestrian delay and amenity', and, neutral in respect of 'fear and intimidation', 'accidents and safety' and 'hazardous loads'.

During operation of the Proposed Development, the long-term effects will be neutral for all receptors and for all environmental effects. This is due to the development being an unmanned, remotely controlled facility and therefore requiring minimal car or van trips by operatives.

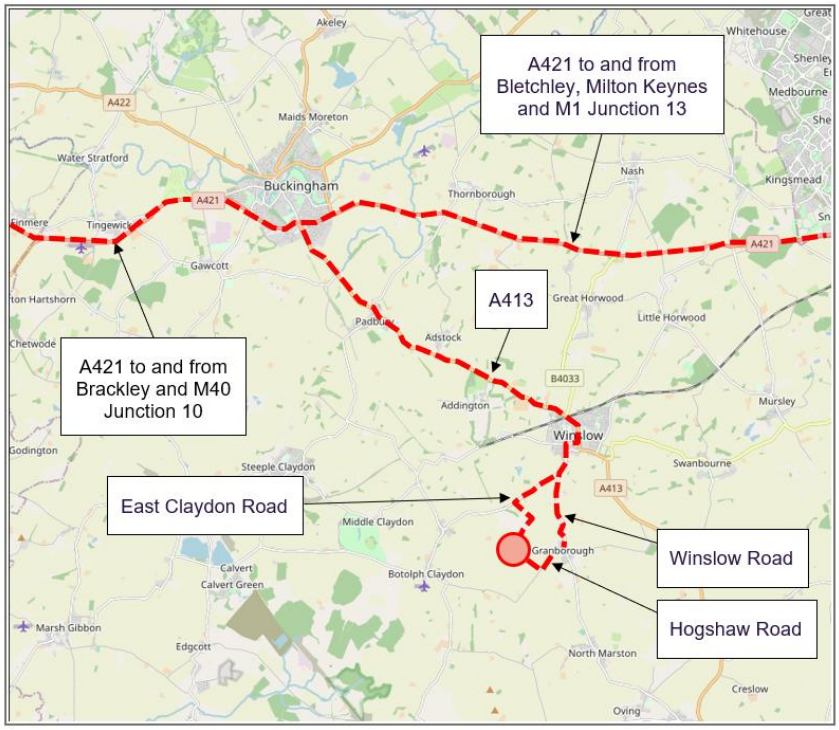

Figure 6: Transport routes to the site

9 CLIMATE CHANGE AND GHG

The potential impact of greenhouse gas emissions due to the Project, resulting in an effect on the global atmospheric greenhouse gas concentration the contributes to climate change has been assessed and reported.

The results are that an estimated 27,646 tonnes of carbon dioxide equivalent during construction of the Project though the operational phase of the Project would enable the storage and use of excessive renewable electricity (avoiding generation curtailment) and thus resulting in a positive impact and saving approx. 71,253 tonnes of carbon dioxide equivalent by 2037.

This would result in a significant beneficial effect on the basis that:

- It contributes to reducing carbon budget expenditure at a national and local level
- It has an emissions intensity significantly lower that the grid average and that of the current baseline for flexible energy generation; and
- It is in keeping with local and UK energy and climate policy.

Despite the significant impact of the construction-phase and given the above-listed reasons for the effects of the operational stage, this would result in a significant beneficial effect.

10 GROUND CONDITIONS

This chapter considers ground conditions; geology, hydrology, agricultural land classification, and the potential for contamination on the site where the East Claydon Battery Energy Storage System Project will be located.

The bedrock geology across the majority of the Site is anticipated to consist of the Mudstone of the Weymouth Member:

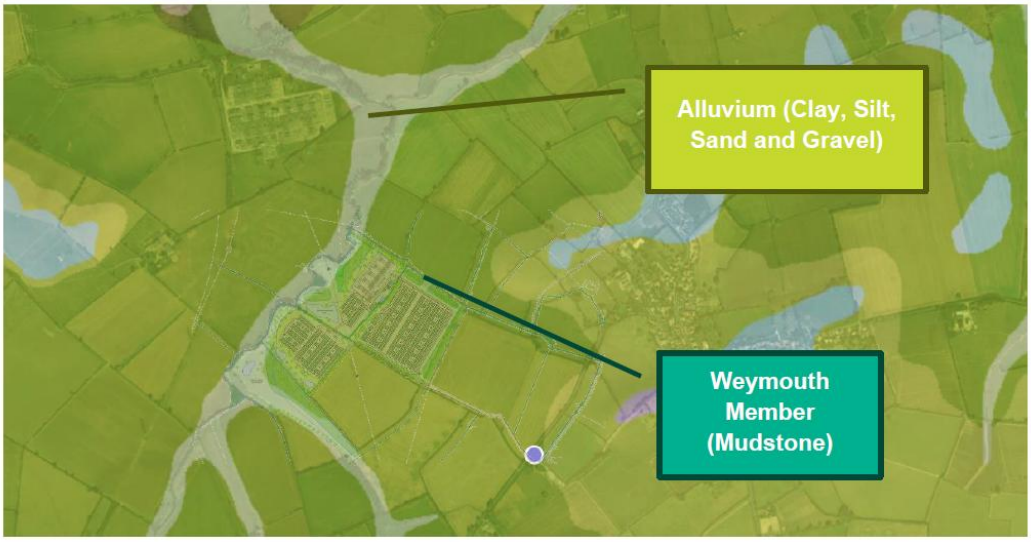

Figure 7: Minerals Map

During the construction phase it is considered that the overall risk to receptors from potential contamination across the whole of the Site is 'low'.

Sensitive receptor	Site Workers
Potential effects	**Low** During the construction phase of the proposed development construction workers may be exposed through dermal contact, ingestion and inhalation pathways. This effect is considered to be **Minor Adverse**.
Additional mitigation	Construction workers on-site will require adequate Personal Protective Equipment (PPE). This is likely to comprise standard PPE as a minimum, which will include hand protection and safety footwear to mitigate the effects of ground contamination. However, the Main Contractor will undertake further risk assessments and provide additional PPE such as dust masks and eye protection and/or respiratory protective equipment (RPE) which may be required for certain tasks. In addition, the risk assessments should be used to develop and formalise safe systems of work. Whilst this is considered a very low risk on this Site, caution will be taken during construction with regards to asbestos within any pockets of Made Ground and an 'Asbestos Management Plan' will be written by an accredited asbestos specialist, to mitigate the risks to construction and maintenance workers. Hand scavenging of asbestos fragments is unlikely to be feasible due to its sporadic and dispersed nature.

Figure 8: Table for potential effects to site workers

There was also an assessment of the potential effects and additional mitigation to any adjacent land users which was found to be of negligible significance.

Sensitive receptor	Adjacent Land Users
Potential effects	**Very Low** Dust and soils generated, particularly during the early phases of the construction works could potentially migrate off-site. Such dust and soils, without any mitigation measures, could potentially include substances deleterious to human health. The effect is considered to be of **Negligible** significance.
Additional mitigation	A Construction Environmental Management Plan (CEMP) will be drawn up to cover the construction stage. The CEMP will consider all relevant areas of environmental management during the construction phase. As part of this, measures will be employed to mitigate the generation of dust such as damping down on-site and wheel wash or road sweepers to limit the tracking of dust onto neighbouring roads. The height of soil stockpiles will be controlled to minimise wind erosion. Contaminated material and any other material to be removed off-site to be disposed of in accordance with the Environmental Protection Act section 34 and the Environmental Protection (Duty of Care) Regulations 1991. All off-site material movements should be undertaken in self-sheeting wagons with sheeting completed prior to leaving the Site.

Figure 9: Table for potential effects to Adjacent Land Users

In summary, it is considered that the overall risk to receptors from potential contamination across the whole of the Site is 'Low' to ‘Very Low’ and that no widespread contamination is likely on the Site. The residual risk is anticipated to be “Negligible”, only very low risks will remain on site / very low risks will have been removed.

There is a risk of contamination being introduced/impacting adjacent site users during the construction phase. The risk of this is considered to be 'Low' to ‘Very Low’ and can be avoided with adherence to the recommended mitigation measures.

Once development has been completed, no significant residual effects should remain, if contamination issues are identified these will need to be remediated in the construction phase. The residual risk is anticipated to be “Minor Beneficial”, low risks will have been removed from the site.

11 LAND USE

The current Agricultural Land Classification (ALC) and soil resources baseline conditions have been characterised through a soil survey and appraisal of the existing site conditions carried out in November 2022.

The main effects on agricultural resources are concerned with the temporary, albeit long-term, loss of agricultural land at the site and the temporary effects on the soil resources within the site – i.e., for the duration of the operation of the Proposed Development.

The sensitivity of agricultural land is defined according to its grade within the ALC, as set out below

Sensitivity	Description
High	Grade 1, Excellent Quality Agricultural Land
Medium	Grade 2 and Subgrade 3a, Very Good to Good Quality Agricultural Land
Low	Subgrade 3b and Grade 4, Moderate to Poor Quality Agricultural Land
Negligible	Grade 5, Very Poor-Quality Agricultural Land

Figure 10: Agricultural Land Classification Breakdown

Below are the ALC survey results of the Proposed Site:

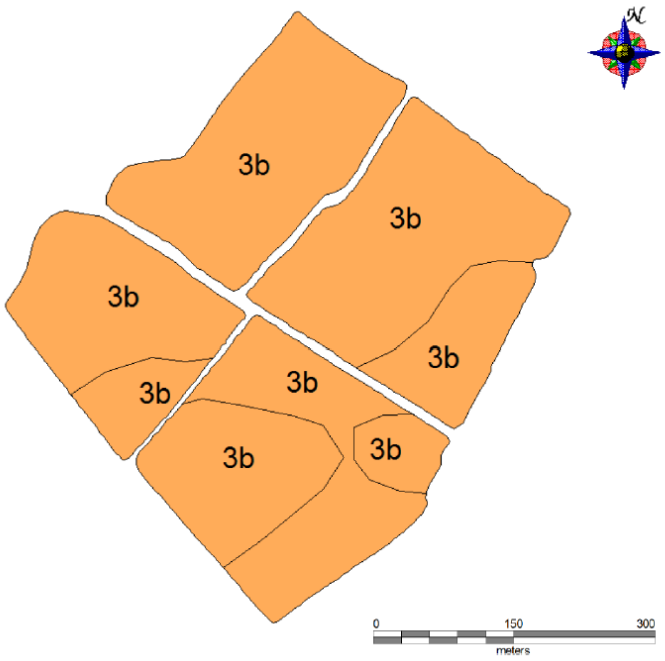

Figure 11: ALC breakdown of the Proposed Site

Enabling and construction of the Proposed Development will require the development of the existing agricultural land at the site which is in Subgrade 3b and is a resource of low sensitivity. The magnitude of impact is medium.

During the construction phase of the Proposed Development there will be a temporary negative effect on soil resources which is significant. This effect is partially reversed following decommissioning and the restoration of land once the 40-year operation of the Proposed Development has ended. Following restoration, the impact on soil resources overall is minor and is not significant. Other effects are not significant.

In conclusion, there will be a temporary negative effect on soil resources during construction, which is of moderate significance, this effect is reversed on restoration of the land following decommissioning of the Proposed Development, with a minor adverse effect overall which is not significant.