



DESIGN AND ACCESS STATEMENT

GREENFIELDS BATTERY ENERGY STORAGE SYSTEM
LAND AT GREENFIELDS FARM, THORNEY EDGE ROAD, BAGNALL,
STOKE-ON-TRENT, ST9 9LA
P60-01-DAS AUGUST 2024

CONTENTS:

1.	INTRODUCTION	2
2.	THE SITE	3
3.	PROPOSED DEVELOPMENT	4
4.	DESIGN	5
5.	ACCESS	8
6.	CONSTRUCTION	9
7.	CONCLUSION	10

1. INTRODUCTION

- 1.1 This Design and Access Statement (DAS) has been prepared on behalf of Enso Green Holdings X Limited ("The Applicant") to accompany a full planning application to Staffordshire Moorlands District Council ('SMDC') for the proposed installation of a Battery Energy Storage System and Substation with associated infrastructure and works ("the Proposed Development") on land at Greenfields Farm, Thorney Edge Road, Bagnall, Stoke-On-Trent, ST9 9LA ("the Site").
- 1.2 The purpose of this document is to demonstrate how matters of design and access have been considered and how they have informed the development of application submitted. This DAS first provides an overview of the Site (Section 2), before detailing the Proposed Development (Section 3) and outlining the design principles which have informed the proposals (Section 4). The DAS continues to detail the proposed means of access (Section 5) before an overview of the construction, operation and decommissioning stages are outlined (Section 6).
- 1.3 This document has been prepared in line with Article 9 of the Town and Country Planning (Development Management Procedure) (England) Order 2015, which sets out the required contents of a DAS. This DAS is prepared pursuant to Part 9(1)(a) as a 'major' development.
- 1.4 The Planning Practice Guidance (PPG) sets out that a DAS should be a "concise report" and that "level of detail in a Design and Access Statement should be proportionate to the complexity of the application, but should not be long" ('Making an application' Paragraph: 029 Reference ID: 14-029-20140306).
- 1.5 This DAS should be read alongside the plans and documents forming the application.

2. THE SITE

- 2.1 The Greenfields Battery Energy Storage System (BESS) is located on land at Greenfields Farm, Thorney Edge Road, Bagnall, Stoke-On-Trent. The Site is within the administrative area of Staffordshire Moorlands District Council.
- 2.2 The Site comprises land totalling approximately 9.74 hectares. The application area includes the main Battery Energy Storage System ('BESS') site, access to the public highway for construction and operation, a separate access only to be used for emergency vehicles, and the underground cable route to the point of connection at Cellarhead National Grid Substation to the northeast of the Site.
- 2.3 The Site is mainly rural in character albeit a location that is heavily influenced by man-made features including overhead electricity transmission lines, the Cellarhead National Grid Substation, several agricultural holdings with associated barns and buildings, and residential development to the west and south. There are several public rights of way and associated field access points within and surrounding the Site.
- 2.4 The Site is currently accessed from Thorney Edge Road to the northwest, and Greenfields Farm to the north of the Site.
- 2.5 The field network within the Site is characterised by hedgerows with some tree planting. The Site is generally flat with a gently sloping topography from southwest to northeast. The site is described in the Landscape and Visual Impact Assessment as being set within a natural 'bowl' in the landscape that also hosts the Cellarhead National Grid Substation.
- 2.6 The Site is located approximately 700 metres to the north of Werrington and approximately 2.7 kilometres to the east of Stoke-on-Trent. The surrounding area is comprised of agricultural land separated by hedgerows and tree planting. The surrounding land is used for both grazing and arable purposes, along with scattered farm properties and residential dwellings. The Cellarhead National Grid Substation is located approximately 400 metres to the northeast of the BESS.
- 2.7 The Agricultural Land Classification of the site has been investigated and confirmed as Grade 3b quality land, which is not classed as 'Best and Most Versatile' land.
- 2.8 The BESS will have no direct (material) or indirect (setting) impact on the significance of any Designated Heritage Assets or non-designated built heritage assets.

3. PROPOSED DEVELOPMENT

3.1 The proposal is for the construction, operation, maintenance and decommissioning of a battery energy storage system which would be utilised to reinforce the electricity grid. All associated development (such as access roads, CCTV and fencing) is included within the proposals. The proposal would operate for a time limited period of up to 40 years.

3.2 The description of development for the application is:

“Battery Energy Storage System and Substation with associated infrastructure and works”

3.3 The main components of the proposal comprise:

- Battery storage facility comprising a series of linked battery containers (or containers of similar appearance);
- Inverter/transformer stations with cooling equipment and associated electrical infrastructure distributed evenly across the Site, housed within containers;
- Underground cabling to connect the battery storage facility and inverter/transformer stations to the proposed substation and control room, which comprises the plant and equipment necessary to export the electricity stored on-site to the electricity network;
- Underground cabling from the BESS to Cellarhead National Grid Substation;
- Security fencing (2.4m high metal weld mesh) and acoustic fencing with monitoring CCTV/infra-red cameras mounted along the perimeter of the BESS Site;
- Landscape planting, biodiversity enhancements and surface water attenuation measures;
- Groundworks; and
- Land for the temporary construction laydown area and access from the public highway.

3.4 Individual elevations and component parts of the proposals described above are shown on the supporting drawings to the application.

3.5 The establishment and careful management of new planting will increase the biodiversity value of the Site and help mitigate any visual impacts.

3.6 The relevant planning policies for design matters are addressed within the Planning Statement.

4. DESIGN

- 4.1 The overarching design principle of the development is to support the continuing deployment of renewable energy and low carbon energy sources in the UK, through the deployment of flexible energy storage. The benefits of this ongoing deployment include tackling climate change through reduced fossil fuel use, improving domestic energy security, and also providing valuable income for a rural business.
- 4.2 The proposed planting also seeks to ensure ecological improvements, and act as a valuable carbon store through natural sequestration.
- 4.3 While several factors have influenced the design and layout of the BESS, the Proposed Development is of functional appearance. The proposals have been refined because of the advice received from the consultant team, the extensive site surveys undertaken, and responses from Staffordshire Moorlands District Council's consultees.
- 4.4 The scheme design has also been influenced by the site selection process, the choice of technologies necessary to form a BESS, and the refinement process responding to the environmental constraints of the Site.

Use

- 4.5 The current use of the site is agricultural land and grazing.
- 4.6 The Site is proposed to be used for a BESS connected to the National Grid for a 40 year period. The plant and equipment necessary for the Proposed Development to function for this use is set out within this report.
- 4.7 The use is proposed for a time limited period. At the end of the 40 year operational life the Proposed Development will be removed from Site and the land will revert to an agricultural use.
- 4.8 This Design and Access Statement, and the accompanying documents forming the application, set out the relevant considerations for why this site well suited to accommodate the proposed use.

Layout

- 4.9 The proposed layout is fully detailed on the accompanying drawings to this application. The site design and layout responds to site specific environmental and topographic considerations which have been identified as the application has been progressed.
- 4.10 The identification of such constraints, and opportunities to improve the site layout, have been identified from a number of sources. These include assessments made by the Applicant and their consultant team (both as part of desk and site studies and survey) and in other feedback received from

informal discussions with statutory consultees and the landowner. Such examples include the proposed drainage arrangements and landscaping works.

Amount and scale

- 4.11 The total Site extends to approximately 9.74 hectares; the BESS occupies approximately 4.48 hectares of this area. The rest of the site is dedicated to access from the public highway network, on-site biodiversity improvements, hard and soft landscaping, planting and surface water attenuation features.
- 4.12 The scale of the Proposed Development has been defined by the equipment necessary to form a BESS. The equipment specifications for the Proposed Development (see Section 3) have been designed to occupy as small a footprint as possible whilst still being able to carry out their specific functions.

Appearance

- 4.13 The development is of functional appearance. The plant and equipment associated with the Proposed Development are shown on the accompanying drawings to the application.
- 4.14 The appearance of the Proposed Development is fully assessed within the Landscape Chapter of the Environmental Statement and supporting documents. This report concludes that the proposed development would have a limited impact on the visual amenity or character of the wider landscape beyond the site boundary. These effects are time limited, and will disappear altogether with the removal of the Proposed Development.

Landscaping

- 4.15 A scheme of landscaping has been developed which is prepared to deliver biodiversity improvements and screen the Proposed Development from localised views. A detailed soft landscape plan accompanies the application, which includes:
- Hedgerow planting;
 - Native Scrub planting
 - Tree planting;
 - Areas of grassland and wildflower planting; and
 - Relaxed management of existing field boundaries.
- 4.16 The landscape mitigation proposals include measures that aim to avoid, reduce, or remedy significant adverse impacts on the landscape by ensuring the scheme is incorporated into the landscape setting. It also includes measures that would reduce the visual prominence of the Proposed Development, whilst delivering an overall Biodiversity Net Gain.

Site Security

- 4.17 The perimeter of the Proposed Development will comprise a combination of 2.4 m metal weld mesh security fencing and acoustic fencing, both coloured green. The entrance to the BESS and Substation will be secured by gates which will be secured with padlocks meeting BS EN 12320 (Grades 56).
- 4.18 The site will be secured with a full CCTV and intrusion system manned 24 hours a day by personnel contractually committed to act promptly on the site in case of an alarm.
- 4.19 During construction valuable plant and materials will be stored in a secured construction compound with a security team undertaking regular inspections. Other measures, as appropriate, will be employed to reduce the risk of crime and deter criminal activity from occurring during this period. Details will be contained within a final Construction Environment Management Plan.
- 4.20 In addition to the built-in safety measures within each battery container, water tanks are included with the Proposed Development, providing an on-site standby supply of water in the unlikely case of a fire or other emergency.

5. ACCESS

- 5.1 The Site is to be accessed from Thorney Edge Road. A separate access, only for emergency vehicles, is also included within the proposals.
- 5.2 The BESS has been designed to include an internal perimeter road to allow access around all the battery containers and substation, as recommended by the latest NPPG and NFCC guidance on BESS projects. The site access arrangements are fully detailed within the Transport and Highways chapter of the Environmental Statement.
- 5.3 It is considered the proposed access is suitable and would provide for a safe means of access to the site for construction and operation. Temporary signage will be placed in the locality of the Site and the construction route to indicate that heavy construction vehicles are turning and using the route.
- 5.4 Once vehicles are within the site there is sufficient space to enable vehicles to exit in a forward gear onto Thorney Edge Road. The accompanying details set out how the access is to be achieved. The compound will provide all necessary parking for visitors to the site and provide space for the secure storage of materials, plant and welfare facilities during the construction period.
- 5.5 Once operational the same access used for construction would be used for maintenance purposes.

Public Rights of Way

- 5.6 The Proposed Development is a suitable distance away from the majority of PRoW located in the surrounding area.
- 5.7 The route of footpath 'Bagnall 35' shares the proposed access road from Thorney Edge Road. The Transport and Access chapter of the ES sets out the management and safety measures to be implemented as part of the construction phase.

6. CONSTRUCTION

- 6.1 The construction of the proposal would take place over approximately 12 months, with construction vehicles accessing the site via Thorney Edge Road.
- 6.2 The Transport and Highways chapter of the Environmental Statement contains all the required information for the construction phase, as well as suggested mitigation measures which can be controlled by a suitably worded planning Condition.
- 6.3 There will be an average of approximately 3 HGV deliveries per day accessing the Site over the construction period. The level of traffic expected during the construction period is not of a nature which would have an adverse or material effect on the safety or operation of the local highway network.

Operation

- 6.4 Once operational, there would be limited vehicle visits each month comprising a transit style van or similar for maintenance purposes. Impacts on local highways will be negligible.

Decommissioning

- 6.5 After a 40-year period the proposal would be decommissioned with all electricity generating equipment and built structures associated with the development removed from the Site and the land returned to agricultural use.
- 6.6 It is considered a suitably worded Condition can ensure the removal of the Proposed Development within a fixed period of the end of the operational lifetime.
- 6.7 Suitably worded planning Conditions are commonly attached to such development to ensure decommissioning takes place in accordance with a scheme of decommissioning agreed with the Local Planning Authority, typically, just before the commencement of decommissioning activities. The proposed means of construction and limited nature of the intrusion required mean the development can be easily removed and land returned to an agricultural use.

7. CONCLUSION

- 7.1 This Design and Access Statement has been prepared to support an application made to Staffordshire Moorlands District Council seeking Planning Permission for Greenfields BESS. This DAS should be read alongside the plans and documents forming the application and has taken a proportionate approach having considered the relatively uncomplex nature of the application in line with the requirements of the Planning Practice Guidance.
- 7.2 This DAS has provided an overview of the Site and the Proposed Development, outlined the design principles on matters of use, layout, amount, scale, appearance, landscaping, crime and access, that have informed the developed proposals. The design and access issues associated with the Proposed Development have been assessed in the context of the scheme as submitted.
- 7.3 The appearance of the BESS and associated plant and equipment are dictated by their functional requirement. The infrastructure proposed is the minimum required for the operation of the Proposed Development. Measures to increase biodiversity and improve boundary vegetation are proposed as part of the scheme.
- 7.4 The document has demonstrated how matters of design and access have been considered and how they have informed the refinement of application submitted. It is concluded the proposal is appropriate in terms of design and access matters and therefore such matters should not be a reason for refusal.



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