



PLANNING STATEMENT

Muttonhole Road BESS

Applicant: Advance Grid Solutions Limited

Version 1.0

EXPERTISE | KNOWLEDGE | SUPPORT

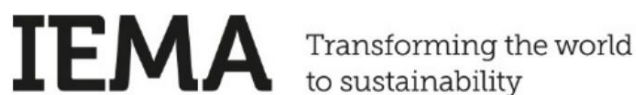
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Contributors

Date	Report	Prepared
02/24	Preliminary Ecological Appraisal Biodiversity Enhancement Plan	EP Ecology Ltd Suite G4, Prospect House, Stanley Boulevard, Blantyre, G72 0BN 01355 457577
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Document Abbreviations

Abbreviation	
PS	Planning Statement
BESS	Battery Energy Storage Systems
PCS	Power Conversion System
SM	Scottish Ministers
SLC	South Lanarkshire Council
EIA	Environmental Impact Assessment
AGS	Advance Grid Solutions Limited
ECU	Energy Consents Unit
PAC	Pre-Application Consultation
PoC	Point of Connection
DNO	Distribution Network Operator
NPF4	National Planning Framework 4
EEA	European Environment Agency
NPPF	National Planning Policy Framework
FES	Future Energy Scenario
SPP	Scottish Planning Policy
SES	Scottish Energy Strategy
LVIA	Landscape and Visual Impact Assessment
DPEA	Scottish Government's Planning and Environmental Appeals Division
PAL	Prime Agricultural Land
SLCLDP	South Lanarkshire Council Local Development Plan
GN	Green Network
CTMP	Construction Traffic Management Plan
SAC	Special Area of Conservation
SuDS	Sustainable Drainage System
DIA	Drainage Impact Assessment
SPG	Supporting Planning Guidance
PEA	Preliminary Ecological Appraisal
BEP	Biodiversity Enhancement Plan

Document Attachments

Document Title	Description
Appendix 3.1	Location Plan
Appendix 3.2	Existing Site Plan
Appendix 3.3	Site Plan
Appendix 3.4	Supplementary Site Plan
Appendix 3.5	Battery Storage and PCS Unit Elevations
Appendix 3.6	Fence and Pole Mount Elevations
Appendix 3.7	Substation Building Elevations
Appendix 3.8	Fire Wall Elevations
Appendix 3.9	Standard Transformer Technical Drawing
Appendix 3.10	Cut and Fill Drawing
Appendix 6.1	Excluded ZTV
Appendix 6.2	Viewpoint 1 Enva Newhousemill Road Baseline
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Appendix 8.1	Environmental Noise Assessment
Appendix 9.1	Drainage Impact Assessment
Appendix 10.1	Swept Path Analysis
Appendix 10.2	Visibility Splays
Appendix 12.1	Coal Authority Report

1. INTRODUCTION

1.1. Proposed Development

This Planning Statement (PS) presents the proposed installation of a Battery Energy Storage System (BESS) and ancillary infrastructure with a generating capacity of 500MW on land north of Muttonhole Road, Hamilton, ML3 8RJ.

The development consists of a 500MW BESS proposed to store and release energy to the grid when there are variances in supply and demand. As the energy supply in the UK begins to rely more on renewable energy technologies (i.e. wind and solar) there is an increased need for BESS developments to maintain a consistent supply. The proposed BESS will store and transfer electricity back into the local distribution network when required by National Grid at times of peak demand. As such, the Proposed Development is to be regarded as Essential Infrastructure that will help deliver wider targets for lower greenhouse gas emissions and increased renewable energy generation.

Proposed alongside the BESS is a series of ancillary works and infrastructure, consisting of the following:

- 226x BESS units;
- 113x power conversion system (PCS) units;
- 2x auxiliary transformers and 2x firewalls;
- 1x substation building;
- Palisade fencing surrounding transformer area;
- Construction compound and parking area;
- Security perimeter fencing;
- Cut and fill;
- Access track;
- Emergency access track;
- Internal roads;
- Gravel hardstanding;
- CCTV and lighting columns;
- Drainage infrastructure;
- Landscape planting and biodiversity enhancements.

1.2. Planning Application

Section 36 of the Electricity Act 1989¹ applies to proposals for the construction, extension or operation of an onshore electricity generating station whose capacity exceeds 50MW. At 500MW, this BESS development is subject to the Section 36 consenting process. The application will therefore be determined by the Scottish Ministers (SMs) via the Energy Consents Unit (ECU).

Cogeo Planning and Environmental Services Ltd. have prepared this PS on behalf of the Applicant, Advance Grid Solutions Limited (AGS), seeking consent under the Town and Country Planning (Scotland) Act 1997 from the SMs and

¹ Electricity Act 1989: <https://www.legislation.gov.uk/ukpga/1989/29/section/36>

South Lanarkshire Council (SLC) as a statutory consultee. The application submitted is supported by a number of detailed environmental assessments, alongside detailed plans illustrating the proposal sought.

1.3. Applicant Details

AGS is a division of Advance Construction (Scotland) Ltd, one of Scotland's largest family-owned groundworks and civil engineering businesses with expertise in solar, battery and wind projects across the UK. AGS have around 2,500MW currently in progress for delivery throughout the UK, including a 1,000MW transmission-connected BESS project.

2. PLANNING HISTORY

2.1. EIA Screening

In accordance with the Electricity Works (Environmental Impact Assessment) Scotland Regulations 2017 (the EIA Regulations), a Screening Request was submitted in October 2023 seeking an opinion from the SMs. SLC were consulted on the proposal as a Statutory Consultee, given the location of the site.

In June 2024, an Opinion was issued by the SMs confirming that the development presented does not constitute an EIA development, with no significant environmental effects likely. A planning application accompanied by a full suite of environmental assessments and reports would adequately address any potential environmental impacts, without the requirement for an EIA Report.

2.2. Pre-Application Consultation

As a Section 36 development, Pre-Application Consultation (PAC) is not mandatory. However, the Applicant recognises the importance of engaging with the local community and two in-person public consultation events were held prior to the submission of the application. An online website has also been live throughout the duration of the planning process. Full details of public engagement undertaken for the proposed BESS site is presented in the submitted PAC Report.

3. PROJECT SPECIFICATIONS

3.1. Site Description

As per the submitted plans, the proposed development is situated on vacant grassland north of Muttonhole Road, near Hamilton. The field is largely level to the south, sloping to Earnock Burn at the north of the field, existing topographic data is presented in Appendix 3.2. The site has been selected by the Applicant due to the proximity to the available point of connection (PoC) at Strathaven substation.

Appendix 3.1 illustrates the site in the context of the wider area whilst Appendices 3.3 and 3.4 show the proposed development in greater detail.

3.2. Development Specifications

3.2.1. Design Flexibility

Technology is rapidly evolving for BESS and therefore such developments are subject to a great deal of uncertainty in terms of the components which will be installed and the methodology for installation. Examples of the variation may be in the number and size of batteries or the ancillary infrastructure design. Flexibility in the site design would allow any alterations within reason prior to the implementation and operation of the facility.

3.2.2. Key Development Components

The equipment sought as part of this development is set out in Table 3.1. This should be read in conjunction with Appendices 3.3 – 3.8.

Table 3.1 Infrastructure Details

Specification	Detail	Appendix
Battery Energy Storage System (BESS) Units	A total of 226 battery units will be installed. The units are prefabricated/modular in appearance.	3.3, 3.4, 3.5
Electrical Connection	113 PCS units are proposed – one to be connected to every two sets of Battery Units. The site also hosts two transformers and fire walls as well as a substation building for regulating power supply to and from the development. The BESS will provide energy security by storing excess energy to feed directly into the Local Distribution Network at times of high demand.	3.3, 3.4, 3.5, 3.7, 3.8, 3.9
Cable Route	A private electrical wire will connect the site to Strathaven Substation. Multiple cables in one housing will be buried in trenches along Muttonhole Road. Exact routing to be confirmed by the Distribution Network Operator (DNO).	N/A

Specification	Detail	Appendix
Access	Access is gained by enhancing the existing field junction off Muttonhole Road, to be used for construction and throughout the operational lifetime of the development. At the site entrance, a new access road will be formed, and internal tracks will provide access to the battery units and associated infrastructure during operation. Access tracks from Muttonhole Road will comprise of non-permeable tarmac, while internal roads are proposed as semi-permeable gravel, reinforced for vehicles and BESS units, allowing for water percolation. The secondary emergency access from Muttonhole Road will provide an additional entrance to the BESS compound (for fire safety purposes) along the southern side, to be comprised of semi-permeable gravel.	3.3, 3.4
Site Compound	A construction compound will be instated near the development entrance. This will provide vehicle parking to ensure Muttonhole Road remains clear of obstructions, as well as a laydown area and welfare facilities for construction personnel.	3.3, 3.4
Fencing	A 2.4m perimeter security fence will be erected around the boundary of the development site. It is anticipated that the design of the fencing installed will be a recessive green metal-mesh to suit the surrounding area. Mesh wire fence panels at 3m width will be fixed to pile-driven posts with a secure access gate installed at both site entrances. 2.4m high palisade fencing with a 3m wide gate will surround the substation area, constructed of galvanised steel or similar.	3.3, 3.4, 3.6
CCTV and lighting	CCTV columns (approx. 4m height) and lighting will be deployed as a security measure at intervals around the site boundary. Installed within the security fencing, the cameras will overlook the BESS site throughout its operational lifetime to monitor site conditions. Column numbers will be finalised at the installation phase, depending upon the lines of sight achieved by the cameras available. Each CCTV column will be installed with motion-censored lighting for security purposes. The BESS will be operated remotely and monitored 24/7, with no requirement for the site to be continuously lit.	3.3, 3.4, 3.6
Cut and Fill	Cut and fill required to create a platform for the development. Drawing shows areas and levels of earth movements within the site.	3.10

3.3. Duration of the Development

Developments of this type, as standard, have a set operational lifespan during which time technological advancements allow increased efficiency in equipment. BESS units have an accepted operational span of 40 years, after which newer models may be available to enhance the sites storage potential. As such, this application seeks permission for the development for 40 years, with any model upgrades to be discussed with the ECU and SLC as and when required.

3.4. Construction Phase

Given the scale of development, the construction phase onsite is estimated to run for approximately 18-26 months², this includes all site preparation works, delivery of components, installation and commissioning of equipment. The compound area allocated for the set-down of components ensures adequate space at the site for secure storage of equipment and materials.

Construction timescales are weather dependent and may vary as a result of factors outwith the control of the applicant. Electrical connection will be subject to timescales dictated by the DNO electrical engineers and contractors, these works will be scheduled, where possible to fall in line with the completion of works onsite. The implementation of any consented landscaping will be undertaken within the appropriate planting season and has not been accounted for in the construction timescale.

Following the commissioning of the development, all machinery and tools used during the construction phase will be removed from site. The area will be cleared of equipment and a walkover undertaken to ensure no debris or parts have been left behind.

3.5. Operational Phase

Once commissioned, the site will be monitored remotely 24/7 to ensure the safe and efficient operation of the equipment. It will only be necessary for a maintenance engineer to visit the site on an occasional basis (i.e. one maintenance van per week). As such the operational phase of the project will not generate significant traffic impacts.

3.6. Decommissioning

Upon expiration of the 40-year operational period, provision for site decommissioning will be made. As per best practice, the site will be restored within 6 months of this time unless planning permission is sought for the extension or repowering of the development. Disassembled parts can mostly be recycled, taken to a suitable recycling plant, or alternatively, be refurbished and sold on. Given the reversibility of the development, there are no long-term impacts anticipated with the land being able to return to its pre-construction nature.

² Timescales relating to the sourcing, manufacture and supply of the equipment at this stage.

4. DEVELOPMENT CREDENTIALS

4.1. Need for Development

Policy documentation, as assessed fully in Chapter 5 of this Statement, encourages greater deployment of renewable and low carbon energy. With a nationwide drive towards increasing energy generation from low carbon technologies such as solar and wind, energy balancing solutions are essential for when supply is variable. Well-sited developments to aid the ambitious UK energy targets are encouraged through the support of Local Authorities within Policy formation. Each development, regardless of its scale or output, should be viewed as contributing towards goals set at a local, regional, and national level.

Although the proposed BESS will not directly generate renewable energy, this type of technology is vital for maintaining a grid system balance. Renewable energy sources are highly variable due to their weather dependency and may generate surplus energy at peak generation but may not meet demands during times of high usage. Therefore, by storing excess energy from the grid, battery systems capture energy that would otherwise be lost. The ability to store and import excess energy at times of need will play an important part in the UK target of achieving net zero emissions by 2050.

BESS typically operate in two modes to address different areas of the electricity system by providing response services, described in Table 4.1.

Table 4.1 BESS Operation

BESS Mode	Description
Frequency Response	Batteries will act quickly to respond to signals from the system operator to charge or discharge power to the grid, responding to imbalances in generation and load.
Energy Trading	Batteries will charge or discharge in response to price signals in the electricity market. When there is an abundance of energy in the market, the price will be low, and when there is a shortage of power, the price will be high.

Battery storage systems respond to this by charging with abundant, cheaper energy during the day when demand is lowest and then discharging later in the day (usually during the late afternoon and early evening peak period) when demand is at its highest resulting in higher prices. This enables more stable energy prices in the market, aiming to keep the cost of electricity lower for consumers. Battery storage positively compensates for the intermittency of renewable generation and contributes towards providing a secure, diverse and affordable energy supply mix.

Development of this BESS, therefore, provides a valuable service to both the National Grid and Local Distribution Grid. Battery Storage facilities play a fundamental role in decentralising the grid system, enabling power to be generated and stored in localised areas where it is required, reducing transmission losses. Increasing the amount of operational storage developments reduces the over-dependence on centralised, fossil-fuel facilities, which in turn has a cumulative effect on reducing CO₂ emissions and de-carbonising the grid.

4.2. Socio-Economic Benefit

Based on figures presented by the National Grid, this BESS project will provide grid stability for over 300,000 homes³. In accordance with the National Planning Framework 4 (NPF4), the development offers significant socio-economic benefits to the community through the form of employment, which is looked upon favourably for renewable energy and low carbon proposals. It is important to recognise the strategic significance of the proposed development in ensuring a secure energy supply. This stability will provide further societal benefits by reducing vulnerability to fluctuating energy sources and prices.

4.3. Site Selection

A detailed site selection process has been undertaken for this BESS proposal, from initial conception through to final design seeking planning permission.

4.3.1. Grid Connection

One of the biggest constraints to be considered when developing a BESS site is gaining access to the local electricity grid. Obtaining a grid connection is a lengthy and complex process. The number of potential development sites reduce in suitability when accounting for distance from PoC, as efficiency is significantly affected with distance. With increased cable distance there are more issues, such as transmission inefficiencies and voltage drops, whilst similarly siting too close may result in high fault levels.

The proposed site is deemed a suitable location for the development in relation to grid connection, following identification of the nearby Strathaven Substation with capacity to support the BESS.

4.3.2. Environmental Constraints

The sites' location in relation to matters such as local and environmental designations, as well as physical constraints, were assessed in the selection process of the proposed development site.

Development has been sited with suitable distance (approx. 450m) from the nearest residential receptor for noise purposes. Located within a large field, the site is an appropriate size to ensure necessary space for drainage infrastructure, landscape screening and demonstrable biodiversity enhancements. The host landscape has no designation and there are no designated heritage assets within or surrounding the site.

³ <https://utilityweek.co.uk/national-grid-an-extra-500-mw-of-network-capacity/>

5. PLANNING POLICY APPRAISAL

5.1. National Planning Framework 4 (NPF4)

On a national level, the main policy document is the National Planning Framework 4 (NPF4)⁴. Adopted on 13th February 2023, this replaces both the NPF3 and Scottish Planning Policy (SPP). The updated framework for Scotland focuses on encouraging, promoting and facilitating all forms of renewable energy development and storage. Furthermore, it confirms that development for all forms of renewable, low carbon and zero-emissions technologies will be supported where they are suitably designed, and impacts are appropriately mitigated.

The NPF4 highlights the long-term plan for Scotland, detailing key areas where development and infrastructure are required. A key theme of the NPF4 is the continued need to tackle climate change, with the target of achieving net zero emissions by 2045 considered a priority with all new development, this includes energy storage through the means of NPF4 Policy 11.

The Scottish Energy Strategy (SES) (2017)⁵ covers the Scottish Government's action plan for decision-making for the energy system over coming decades, stating that a "diverse, well-balanced energy supply portfolio or 'energy mix' will remain essential". This sentiment is enhanced further within the Draft Energy Strategy and Just Transition published in 2023⁶, with BESS units seen as an opportunity to reduce consumer bills and increase reliability of supply. Whilst 2.2GW of battery storage had been consented within Scotland at the time of issue, there is recognition of the Governments need to significantly increase the capacity.

As such, documentation published demonstrates that ambitious targets set by the Government require significant action and investment to ensure they can be met. The proposed BESS at Muttonhole Road will play an important role in balancing the grid and contributing towards achieving these goals.

As the main framework for development within Scotland, Table 5.1 lists the overarching NPF4 Policies of note which relate to climate & nature crises and landscape.

⁴ National Planning Framework 4 (2023) available at:

<https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2023/02/national-planning-framework-4/documents/national-planning-framework-4-revised-draft/national-planning-framework-4-revised-draft/govscot%3Adocument/national-planning-framework-4.pdf>

⁵ Scottish Energy Strategy: the future of energy in Scotland (2017): [00529523.pdf](https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2023/01/draft-energy-strategy-transition-plan/documents/draft-energy-strategy-transition-plan/draft-energy-strategy-transition-plan/govscot%3Adocument/draft-energy-strategy-transition-plan.pdf) (www.gov.scot/)

⁶ Draft Energy Strategy and Just Transition Plan: <https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2023/01/draft-energy-strategy-transition-plan/documents/draft-energy-strategy-transition-plan/draft-energy-strategy-transition-plan/govscot%3Adocument/draft-energy-strategy-transition-plan.pdf>

Table 5.1 Relevant NPF4 Climate, Nature and Landscape Policies

Policy	Policy Aim	Assessment/Response
Policy 1: Tackling the Climate & Nature Crisis	To encourage, promote and facilitate development that addresses the global climate emergency and nature crisis.	<p>The proposed BESS installation will store energy generated within the local grid network, for the benefit of the residents of South Lanarkshire and wider grid stabilisation. The introduction of this technology will aid wider UK/Global zero carbon targets.</p> <p>Biodiversity enhancements are an integral part of the proposed development. Biodiversity improvements are set out in the submitted Biodiversity Enhancement Plan (BEP) and Planting Plan. The benefits of the proposed development will ultimately make a positive contribution to the Policy Outcomes of Policy 1 which is to deliver 'zero carbon, nature positive places'.</p>
Policy 2: Climate Mitigation & Adaption	To encourage, promote and facilitate development that minimises greenhouse gas emissions and adapts to the current and future impacts of climate change	<p>The proposal benefits Scottish, UK and wider global goals in the effort to reduce overall carbon emissions; providing capacity to store excess energy for release at times of either peak demand or when generation exceeds demand. Environmental assessments undertaken demonstrate the developments design benefits, accounting for future climate change effects.</p>
Policy 3: Biodiversity	To protect biodiversity, reverse biodiversity loss, deliver positive effects from development and strengthen nature networks	<p>Siting of the development has been considered to have a low impact on the local and wider biodiversity. A planting plan and BEP have been designed to positively contribute to the local landscape. Native trees, hedgerows and meadow mix are proposed, enhancing the ecology of the site and providing corridors for wildlife connectivity. Landscaping softens the development, assimilating the proposal into the surrounding area. This BESS site will benefit wider biodiversity through the reduction in carbon emissions and contribution to national climate change targets.</p>

Policy	Policy Aim	Assessment/Response
Policy 4: Natural Places	To protect, restore and enhance natural assets making best use of nature-based solutions	The proposal presents a suitably scaled BESS development at Muttonhole Road, on a currently un-utilised and non-developed parcel of land. Views of the site are largely omitted by topography and further mitigated by planting measures proposed within the landscape proposal. Located on Muttonhole Road, the development is not sited on or near any ecologically designated sites. Furthermore, and as discussed within the LVIA in Chapter 6, there are no landscape designations within the immediacy of the site, which may be subject to adverse impact or influence of any form. As aforementioned, planting will reduce the visual impact of the proposal; decreasing overall impact to the landscape and its receptors. Consideration of this policy has been taken throughout the planning process to ensure no adverse or unacceptable impacts are caused by development.
Policy 5: Soils	To protect carbon-rich soils, restore peatlands and minimise disturbance to soils from development.	Groundworks, including movement of soils, will be required to enable the construction of this development. The works will adopt a cut and fill construction technique, balancing the amount of earth moved to create a level surface for the BESS units and associated infrastructure. Soil disturbance will be minimised and no more than is necessary. The Provisional Land Classification Map ⁷ shows the development to be located on Class 3.2 and therefore is not Prime Agricultural Land (PAL). The site is not located on peatland or carbon-rich soils. Development is in adherence of Policy 5.
Policy 7: Historic assets and places	To protect and enhance historic environment assets and places, and to enable positive change as a catalyst for the regeneration of places.	With no heritage assets within the search area identified there will be no impact to the historic environment.

⁷ Scotland's Soils: Provisional Land Classification Map: [Scotland's Soils - soil maps \(environment.gov.scot\)](https://environment.gov.scot/scotland-s-soils-soil-maps)

Policy	Policy Aim	Assessment/Response
Policy 8: Green belts	To encourage, promote and facilitate compact urban growth and use the land around our towns and cities sustainably.	Policy is supportive of essential infrastructure in the green belt. Furthermore, the proposed development must be located within the green belt as the Strathaven Substation is wholly surrounded by land designated as green belt. As there are extremely limited grid connection opportunities, grid availability should be maximised. With the development sited within a single field, the proposal does not undermine the purpose of the green belt. Assessment of impacts on the countryside and landscape character in Chapter 6 concludes that the proposal is suitable in this location with proposed landscape planting minimising its visibility within the wider area. The site will be restored to its current state after the 40-year operational period.
Policy 11: Energy	To encourage, promote and facilitate all forms of renewable energy development onshore and offshore.	Policy 11 covers energy storage, stating that proposals will be supported where design and mitigation impacts have been addressed. Impacts including noise, landscape and visual impact, transport, drainage, ecology and biodiversity have all been addressed in detail throughout relevant chapters, concluding that the proposed development will not have a significant impact on the wider environment. Where deemed appropriate, mitigation measures have been designed into the scheme to further minimise effects on the area and its receptors. This policy also sets out that when assessing planning balance, significant weight must be given to proposals which contribute towards renewable energy generation targets, and GHG emission reduction targets discussed within Chapter 4. The proposed BESS development at Muttonhole Road provides an opportunity to increase energy security through the strengthening of the local energy network, providing adherence to Policy 11 a (iii).
Policy 22: Flood Risk and Water Management	To strengthen resilience to flood risk and reduce the vulnerability of future development to flooding	The development proposed is not located within a flood risk area. A Drainage Impact Assessment (Appendix 9.1) has been undertaken and submitted, demonstrating that the proposed development will not increase the risk of flooding onsite, or elsewhere with the incorporation of a suitable SuDS design.
Policy 23: Health and Safety	To protect people and places from environmental harm, mitigate risks arising from safety hazards.	As discussed in Chapter 11 10.7, battery safety has been at the forefront of the design for the proposed development. A noise impact assessment has been completed which concludes the development will not create significant adverse noise impacts and therefore the development is deemed in accordance with the criteria of this policy.

5.2. South Lanarkshire Council Local Development Plan 2

Whilst support for the uptake of renewable energy is stressed at the highest level by Government, it is the responsibility of Local Authorities to support the deployment of appropriate development opportunities, which in turn will contribute towards the ambitious energy targets set.

In line with the UK and Scottish Governments, SLC declared a Climate Emergency in September 2019, with an aim to achieve net zero by 2045. SLC's Sustainable Development and Climate Change Strategy 2022-2027⁸ shapes the region's approach to becoming net zero carbon and climate resilient.

SLC Local Development Plan 2⁹ (SLCLDP) (2021) details the Policies which guide development within the Local Authority boundary. This LDP pre-dates the 2023 NPF4 and therefore refers to the now superseded NPF3 and SPP. Additional information is provided within Supplementary Guidance documents, adopted to support the LDP by way of supplying additional information relating to designing, delivering and implementing development.

5.2.1. LDP Policy

LDP Policies are assessed in Table 5.2 It should be noted that while not all subsections of each policy are relevant to this development; those applicable are discussed in detail.

Table 5.2 South Lanarkshire Council Policy Analysis

Policy	Assessment
Policy 1: Spatial Strategy	Renewable energy developments in appropriate locations are supported by the spatial strategy. This policy protects the natural and historic environment and aims to mitigate against the impacts of climate change. The proposed development has been designed into the landscape and is not considered to present a significant negative impact on the wider area. The storage of energy for times of high demand will aid in mitigating the impacts of climate change in SLC.
Policy 2: Climate Change	Design of the proposal has ensured the development is sustainably located, in proximity to Strathaven Substation to minimise works required for connection to the grid. Assessment of ecology has been undertaken to ensure there are no negative impacts. Biodiversity enhancements have been incorporated into the design.

⁸ SLC Sustainable Development and Climate Change Strategy 2022 – 2027: https://www.southlanarkshire.gov.uk/info/200303/climate_change_and_sustainability/2100/sustainable_development_and_climate_change_strategy

⁹ South Lanarkshire Council Local Development Plan 2, Volumes 1-2: <https://www.southlanarkshire.gov.uk/developmentplan2>

Policy	Assessment
Policy 4: Green Belt and Rural Area & GBRA1: Rural Design and Development	Although this policy references SPP, NPF4 Policy 4 supersedes this and therefore should be assessed in this case. Located within the Green Belt between the settlements of Hamilton and East Kilbride, the location is necessary for the development due to the PoC at Strathaven Substation, where all surrounding land is designated as Green Belt. The proposal has been designed and assessed to ensure that it respects the existing landform and local landscape character and setting. Landscaping has been incorporated into the design to soften the development in its surrounding landscape. Existing trees and hedgerows are to be retained. The proposal will not generate 'bad neighbour' nuisances including noise and light pollution in keeping with this policy.
Policy 5: Development Management and Placemaking & DM1: New Development Design	Planting proposed within the site boundary will soften the development. An environmental noise assessment has concluded that there will be no adverse impacts on nearby residential properties. Assessment of ecology onsite and nearby has concluded there will be no adverse effects. With regards to part 5 of the Policy, the Coal Authority report (Appendix 12.1) submitted confirms that there are no mining records within the site boundary. Under part 8, the site design has incorporated appropriate roads infrastructure (Chapter 10), and a suitable SuDS proposal (Chapter 9). The proposed development is therefore in adherence with Policy 5 DM1.
Policy 13: Green Network (GN) and Greenspace	The proposal is situated within the Calder Glen and Hamilton West area of the South Lanarkshire Strategic GN. There are biodiversity enhancement measures and landscape planting designed into the proposal which will contribute towards supporting biodiversity.
Policy 14: Natural and Historic Environment	Due to the separation distance to the closest Special Area of Conservation (SAC) and with best practice measures adopted during construction, there will be no impact to the site. An area of Ancient Woodland is present to the northeast of the BESS site, however there is no work proposed that would impact this as the development is concentrated to the south of the field. With no heritage assets within 2km of the site, there will be no impact to the historic environment. A comprehensive assessment of the Landscape and Visual impact of the proposal has been completed in Chapter 6, which concludes there to be no significant impact, taking account of the SLC Landscape Character Assessment guidance.
Policy 15: Travel and Transport & SDCC4: Sustainable Transport	A Transport Statement has been prepared and presented in Chapter 10 which details the likely vehicle movements associated with the construction of the development. Operational traffic is expected to be minimal with negligible impact on the wider road network. Whilst the development will result in increased traffic during construction, permanent additional transport links are not considered necessary for the lifetime of the development.
Policy 16: Water Environment and Flooding; SDCC 2: Flood Risk & SDCC3: Sustainable Urban Drainage	The submitted drainage report details the SuDS proposed as part of the development. SuDS measures to be implemented have considered flooding from all sources. The site is not located within a flood risk area with no impact anticipated onsite or in the wider area. The northern border of the site runs parallel to Earnock Burn, which is registered as having high surface water risk. However, the development is not located in this area, and as such, will not pose a significant risk.

Policy	Assessment
Policy 18: Renewable Energy & RE1: Renewable Energy	<p>BESS developments work to store excess energy generated in the grid. Whilst it is not possible to determine that all energy stored by the BESS will be from renewables, the technology is increasingly working in tangent with renewable developments such as turbines and solar. With increased generation within the energy mix, storage technologies are vital for the stabilisation of the grid, ensuring local and national energy targets are achieved.</p> <p>The development has been carefully sited and designed to have as minimal an impact on the surrounding area as possible. Due to the proposed landscaping, the addition of the BESS does not present a significant departure from the immediate landscape in which it is located. The site has been assessed both cumulatively (where appropriate) and individually against biodiversity, landscape and visual impact, transport, hydrology and noise and is seen to accord with Policy 18.</p> <p>All appropriate guidance within Policy RE1 have been reviewed and discussed where applicable. All relevant LDP2 Policies are discussed above, where alignment with the Volume 2 Appendix 1 Assessment Checklist for Renewable Energy Proposals is addressed and discussed throughout the PS.</p>
Policy DM17: Air Quality	The site is not situated within one of 3 Air Quality Management Areas (AqMA) within South Lanarkshire and does not pose a risk to the immediate air quality. Due to the temporary nature of the construction period and with best practice measures adopted during construction phase, a dust impact assessment is not required. As such, the proposal is deemed in line with this policy.
Policy DM18: Noise Management Areas	The site is not situated within either of the two noise management areas in South Lanarkshire. The noise impact assessment concludes that there will be no impact on the nearby noise sensitive receptors.
Policy DM20: Supporting Information	Supporting documentation has been provided where relevant and appropriate within subsequent chapters.
Policy NHE7: Natura 2000 Sites	Best practice construction measures will be adopted ensuring there are no impacts on the closest SAC caused by dust during construction. These measures, and the separation distance to the site ensure the development complies with Policy NHE7.
Policy NHE12: Water Environment and Biodiversity	The proposed BESS development at Muttonhole Road has been designed to minimise all potential impacts on the surrounding water environment, incorporating the provision of SuDS.
Policy NHE13: Forestry and Woodland	<p>It is acknowledged that there is an area designated as Ancient Woodland to the north, but this will be unaffected. Further landscaping proposed ensures the use of native species.</p> <p>During construction, the implementation of mitigation measures will reduce dust mobilisation and run-off towards the site. The proposal will not result in the loss of Ancient Woodland or any other trees onsite.</p>
Policy NHE16: Landscape	The proposed development has accounted for its scale, design and location within the wider landscape. Chapter 6 contains the full LVIA, which concludes no significant impacts on the landscape or its surrounding receptors.
Policy NHE18: Walking, Cycling and Riding Routes	The development does not sit along any designated walking or cycle routes. Proposed transport routes avoids disruption to core paths where possible without the need to close any routes. Mitigation measures for core paths are outlined in Chapter 10.

Policy	Assessment
Policy NHE20: Biodiversity	There will be no significant loss to biodiversity with enhancement measures proposed within the design. Mitigation measures implemented during construction ensure there will be no adverse impact on biodiversity.

5.2.2. Supplementary Guidance Appraisal

Table 5.3 SLC Supporting Planning Guidance

Supplementary Planning Guidance Document	Assessment
SPG Renewable Energy (2021)	Battery storage is mentioned as an emerging area of renewable technology to be assessed against LDP policies and relevant criteria within the renewable energy assessment checklist. Whilst it cannot be guaranteed that the BESS will only store renewable energy, it will be used to promote local use, address grid capacity issues and balance supply and demand as per the guidance. Reporting submitted alongside this application assesses the likely effects of the proposed development.

6. LANDSCAPE AND VISUAL IMPACT ASSESSMENT (LVIA)

6.1. Introduction

This chapter sets out the Landscape and Visual Impact Assessment (LVIA) for the proposed development. The purpose of this assessment is to ascertain the potential landscape and visual effects of the proposed BESS development on land north of Muttonhole Road.

Landscape and visual impacts are considered separately as resources within this assessment in accordance with published guidance, although the procedures for each are closely related. The distinctions between landscape and visual impacts are:

- Landscape impacts relate to the effects of the proposal on the fabric, character, and quality of the landscape.
- Visual impacts relate to the effects on the character of views and the visual amenity experienced by receptors, such as residents, footpath users, tourists, and users of recreational facilities.

The LVIA is an iterative process, providing an appropriate level of study for development allowing for identification of the most significant impacts of the proposed development and presentation of suitable mitigation through design.

Through the LVIA process with identification of impacts, the proposal has been designed with mitigation and enhancement measures drawing from Ecological findings and recommendations for biodiversity enhancement provided by EP Ecology detailed in Chapter 7.

6.2. Legislation, Policy, and Guidance

The informed design process and assessment of potential impacts of this development have been guided by various documents which have been published relative to renewable energy and infrastructure, however, refers mainly to:

Guideline	Document
National Guidance	National Planning Framework for Scotland 4 ¹⁰ (NPF4)
Local Policy, Design and Assessment Guidelines	South Lanarkshire Local Development Plan 2, Volume 2 (2021) ¹¹
Assessment and Visualisation Guidelines	Landscape Institute & Institute of Environmental Management & Assessment (LI-IEMA; 2013) 'Guidelines for Landscape and Visual Impact Assessment. 3rd Edition' (GLVIA3) ¹²
	Technical Guidance Note 06/19 Visual Representation of Development Proposals (Landscape Institute, September 2019) ¹³

¹⁰ NPF4: <https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2023/02/national-planning-framework-4/documents/national-planning-framework-4-revised-draft/national-planning-framework-4-revised-draft/govscot%3Adocument/national-planning-framework-4.pdf>

¹¹ South Lanarkshire Council Local Development Plan 2, Volume 2 (2021): [CEN_LDP2_Volume_2_document_v2.pdf](#)

¹² Landscape Institute & Institute of Environmental Management & Assessment (LI-IEMA; 2013) Guidelines for Landscape and Visual Impact Assessment. 3rd Edition'

¹³ Landscape Institute, Tech Note 06/19: https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2019/09/LI_TGN-06-19_Visual_Representation.pdf

Full analysis of relevant legislation and policy is detailed within Chapter 5.

6.3. Assessment Methodology

The methodology for this assessment, as best practice dictates, is flexible. In identifying receptors and assessing the landscape and visual impacts, assessment has been undertaken in a systematic and comprehensive manner in accordance with best practice guidance. The LVIA assesses the impacts of the proposed BESS development on the landscape character and visual receptors within a defined study area.

This assessment has been carried out using a Cogeo established approach which accords with the Landscape Institute (LI) publication GLVIA3, in addition to Technical Guidance Note 06/19 in relation to visual representation, and draws upon various industry accepted guidance, including NatureScot (formerly SNH). Whilst broadly based on GLVIA3, the process has evolved from professional experience on an extensive range of development assessments, with professional judgement used throughout to ensure appropriate and robust study.

The broad structure of assessment is as follows:

- **Step 1:** Establishing the baseline nature of the environment, including landscape and visual sensitivities.
- **Step 2:** Assessment and definition of anticipated effects, including whether adverse or beneficial.
- **Step 3:** Evaluation of the significance of effects.
- **Step 4:** Mitigation, where appropriate.

6.3.1. Step 1: Establishing Baseline Conditions

The first step of an LVIA is to determine the baseline nature of the environment, with the level of detail required to “be appropriate and proportionate to the scale and type of development and the type and significance of the landscape and visual effects likely to occur”¹⁴. It is essential that the area of focus allows an understanding of the landscape that may be affected as well as establish the visual impacts that may be resultant from the development. Study areas are therefore selected utilising background information including any landscape designations, Landscape Character Assessments/Types (LCA/LCT) as well as through consultee engagement and generating Zones of Theoretical Visibility (ZTVs) in order to best anticipate the likely perceived presence of a development within its environment. The national programme of LCA was republished in 2019 showing areas of consistent and recognisable landscape character¹⁵.

6.3.1.1. Zone of Theoretical Visibility (ZTV)

Bare Earth: ‘Bare earth’ ZTV calculations are completed to present a worst-case scenario of visual impact. This is prepared based on a Digital Terrain Model derived from Ordnance Survey Landform Panorama data (10m height contours at a scale of 1:50,000), using Resoft™ Windfarm software. Information is limited by the detail of the digital terrain model data available for use. Generated for receptors at a height of 1.7m, as recommended in GLVIA3, visibility is calculated to the maximum development height. Areas with suggested visibility may consist of woodland or contain hedgerows or built form with views significantly reduced as a result.

¹⁴ GLVIA3, paragraph 3.1.6

¹⁵ NatureScot, LCA: <https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/scottish-landscape-character-types-map-and-descriptions>

Excluded: An excluded ZTV is equally required, prepared as above. This ZTV is produced to account for both woodland and built structures within the local area to provide a more accurate representation of the likely impact and visibility of the proposed development. The barriers, as considered by the software, are opaque and cannot account for variance in density of vegetation or the filtering of views. No individual trees, shrubs or other vegetation are accounted for within the modelling, nor man-made features of rail or road embankments.

6.3.1.2. Visualisations

Viewpoint locations are identified within the local landscape, utilising the ZTV, with appropriate fieldwork then undertaken. These viewpoints are selected following comprehensive analysis and chosen according to criteria, as detailed in Table 6.1.

Table 6.1 Viewpoint Selection Criteria

Viewpoint Selection Criteria
Being publicly accessible;
Having a high potential number of viewers or being of particular significance to the viewer(s) affected;
Providing a representative range of viewing distances (i.e. short, medium and long-distance views) and elevations;
Representing a range of viewing experiences (i.e. static views, for example from settlement, designated viewpoints or car parks and points along sequential views, for example from public highways and walking and cycling routes);
Ensuring that the assessment includes areas with features such as pylons, or other 'intrusive' features to enable assessment of impacts of the proposal in the context of such features;
Representing a range of views (i.e. panoramas, vistas, glimpses);
Representing views with different extents of the development visible (the full array and infrastructure, or just partial glimpse).

Industry-standard photography is consequently conducted from suitable positions to facilitate production of Photomontage imagery.

Photography and visualisations are conducted following the Technical Guidance Note 06/19 Visual Representation of Development Proposals (Landscape Institute, September 2019).

Photography

- Camera – Sony a7 digital camera with fixed 50mm lens.
- Camera/viewer height – 1.5m
- Field of View (Included Angle) – 39.6° for single frame images.

Photomontages

- Resoft Windfarm™
- Trimble Sketchup™
- Chaos V-Ray™
- Adobe Photoshop™

Photomontages are photorealistic prepared images of development created to industry standards to illustrate the visual impact of a development within the landscape. These images are created using wireframe overlays on photographs to

ensure accuracy. Photomontages provide a useful tool for assessing potential changes to baseline conditions. During the compilation phase, software allows for screening effects of buildings and vegetation to be considered.

6.3.2. Step 2: Identification of Impacts

Anticipated impacts on the landscape and visual resource can be grouped into four categories:

Type	
Physical impact	Direct impacts on the fabric of the development site and its associated access/infrastructure, such as the removal of agricultural land or addition of trees and alteration to ground cover.
Impact on landscape character	The introduction of features that physically alter the pattern of elements making up landscape character, or through visibility of proposed development which may alter the way the pattern of elements is perceived.
Impact on views	<p>An assessment of how development will impact views throughout the study area. The assessment of the impact on views is conducted in two ways:</p> <ul style="list-style-type: none"> • An assessment of the impact that development will have on views from identified visual receptors, being notable settlements/individual residences, routes and attractions located within the study area; and • An assessment of the overall impact of development on visual amenity across the study area.
Cumulative impacts	Defined as ' <i>the additional changes caused by a proposed development in conjunction with other similar developments or as the combined effect of a set of developments taken together</i> ' ¹⁶ .

6.3.2.1. Landscape Receptors

The assessment of potential landscape impacts includes the consideration of physical and perceptual changes in the character that may result from development. The assessment of the level of impact considers both the sensitivity of the landscape character (nature of receptor) and the nature of effect (magnitude of change).

Sensitivity is the receptivity of a LCT to the loss or change of key features or land cover and its susceptibility to such change. GLVIA3 notes that the impact of development on landscape receptors needs to be assessed in terms of size or scale, its duration, and its reversibility. Value, integrity and capacity are all relevant considerations when assessing the nature of receptor (sensitivity). Value corresponds to the scenic or aesthetic qualities, and presence of national, local or regional designations; integrity denotes the degree to which value is retained, whilst capacity relates to the ability of the landscape to accommodate change whilst retaining its defining character. Figure 6.1 details the assessment criteria used to define the nature of landscape receptors within this report.

¹⁶ GLVIA3

Negligible	Low	Medium	High
<p>Significantly degraded landscape. No landscape elements remain intact and in good repair.</p> <p>High number of obvious detracting or incongruous elements.</p> <p>Landscape areas already heavily developed and industrialised, unchanged by the introduction of additional development – insusceptible to change.</p>	<p>Low value landscape with no level of designation.</p> <p>Landscape is in poor condition with degraded character. Few landscape elements remain intact and in good repair.</p> <p>Identified in local Landscape Character / Capacity Studies as being able to accommodate change without significant adverse impacts on baseline character.</p>	<p>Landscape where the existing sense of scale may be affected by development of an inappropriate scale or location.</p> <p>Locally recognised landscape, though undesignated (valued at a community level).</p> <p>Some landscape elements remain intact and in good repair.</p> <p>Identified in local Landscape Character / Capacity Studies as having some sensitive key landscape characteristics, however able to accommodate development in some situations – moderate susceptibility to change.</p>	<p>Internationally, Nationally, and Locally designated/ valued landscape.</p> <p>Rare landscapes of high value with a distinct character identified through assessment of baseline qualities. Susceptible to change.</p> <p>Tranquil or remote landscapes noted to be vulnerable to change within Landscape Character Assessment.</p>

Figure 6.1 Nature of Landscape Receptors (Sensitivity)

6.3.2.2. Visual Receptors

Visual Receptors are identified as “*the people who will be affected by changes in views or visual amenity at different places*”¹⁷. Each visual receptor, meaning the person or group of people likely to be affected at a specific viewpoint, are identified and assessed in terms of both their susceptibility to change in views and visual amenity as well as the value attached to particular views¹⁸.

Susceptibility of receptors to changes in views is mainly a function of the current occupation and viewing opportunity of the people at identified locations and the extent to which their attention or interest is focused on views and visual amenity. Figure 6.2 details the criteria used to determine the sensitivity of visual receptors within assessment, with criteria used as a guide rather than a strict rule. Receptor sensitivity is assessed on a case-by-case basis.

¹⁷ GLVIA3

¹⁸ GLVIA3

Negligible	Low	Medium	High
Restricted or contained views within towns, conurbations, and heavily industrialised or degraded areas.	<p>Those engaged in outdoor sports or recreation, other than for viewing (e.g., fishing, water sports, golf).</p> <p>Those using major roads or motorways in the region.</p> <p>Those engaged in commercial activity and transport or in education, whose attention is focused on their work or activity rather than the wider landscape.</p>	<p>Residential properties with secondary views or indirect views of development.</p> <p>Walkers on secondary network of footpaths and tracks.</p> <p>Transport users of local roads, train lines, rivers, and canals.</p>	<p>People who are engaged in outdoor recreation, focused on the landscape and on views (e.g., strategic footpaths, cycle routes or rights of way, picnic areas, public viewing areas).</p> <p>Residential properties with principal views from main living rooms and gardens. Important landscape features with physical, cultural, or historic attributes.</p>

Figure 6.2 Nature of Visual Receptors (Sensitivity)

6.3.2.3. Nature of Effect (Magnitude of Change)

Guidance on the nature of effects (magnitude of change) is provided in GLVIA3, which states: *"effects can be positive (beneficial) or negative (adverse) in their consequences for landscape or for views and visual amenity"*¹⁹. Paragraph 5.37 adds:

"One of the more challenging issues is deciding whether the landscape effects should be categorised as positive or negative. It is also possible for effects to be neutral in their consequences for the landscape. An informed professional judgement should be made about this and the criteria used in making the judgement should be clearly stated. They might include, but are not restricted to:

- The degree to which the proposal fits the existing character;*
- The contribution to the landscape that the development may make in its own right, usually by virtue of good design, even if it is contrast to existing character"*.

¹⁹ GLVIA3 paragraph 3.22

Criteria	Negligible	Low	Medium	High
Landscape Effects	The proposal would cause no discernible deterioration or improvement to the landscape or how it is perceived.	Where the proposal would cause a barely perceptible change. Existing built form reduces presence of development proposed.	Where the proposal would cause a noticeable change. Partial loss of or alteration to the key characteristics of the landscape. Out of scale or at odds with the local landform or pattern of landscape.	Where the proposal would cause a significant change affecting the character of the landscape or key characteristics. Size of development would be wholly out of scale with existing features.
Visual Effects	No view, or the character of the view is unaltered by the development. At such a distance where it is imperceptible or may go unnoticed.	Visible but not prominent, with a barely perceptible change. Does not affect overall quality or character of the view.	Appears prominent. Does not define the view but does present a key element. A noticeable change in the quality and character of the view.	Dominant visual change. Results in a defining influence on the view.

Figure 6.3 Nature of Effect (Magnitude of Change)

The nature of effect (magnitude of change) affecting landscape or visual receptors, depends on the nature, scale and duration of the change within the landscape, location, and the overall effect on a particular view. Figure 6.3 is used as a guide during judgment, equally utilising professional experience and reasoned opinion as informed by best practice guidelines. In landscape terms, the magnitude of change will depend on the loss of, or change in important features, key characteristics, backdrops or outlook from landscape. The duration of view, contrast with the existing view, angle of view, its openness or degree of obstruction by trees and buildings and the distance of the viewer from the proposed change, all influence the nature of effect. General visibility, openness, topography, and degree of obstruction from hedges, trees or buildings also impact this effect.

6.3.2.4. Cumulative Impact Methodology

The purpose of cumulative assessment is to analyse the predicted combined impact on landscape and visual amenity caused by the proposal, collectively with similar development. Though produced in relation to wind energy, SNH (now NatureScot) defined and interpreted cumulative landscape and visual effects in 2012, with GLVIA3 reiterating²⁰:

²⁰ GLVIA paragraph 7.3

- **Cumulative effects** are "the additional changes caused by a proposed development in conjunction with other similar developments or as the combined effect of a set of developments, taken together"
- **Cumulative landscape effects** consist of "effects that can impact on either the physical fabric or character of the landscape, or any special values attached to it"
- **Cumulative visual effects** relate to "effects that can be caused by combined visibility...and/or sequential effects".

Cumulative visual effects mentioned fall under two types of cumulative impacts, which are detailed further as:

- **Combined Visibility** occurs where two or more developments can be viewed by a receptor from a single viewpoint. These views can be experienced in combination, when several developments are within the receptors field of view at the same time, and/or in succession, where a receptor must turn to see several developments from a single location.
- **Sequential effects** result where an observer has to travel through a landscape, to another viewpoint, to see different developments.

Key factors that affect the perception of cumulative change include, but are not confined to:

- The attributed 'value' attached to the receptor.
- The distance over which effects are visible.
- The overall character of the landscape and its sensitivity to development.
- The siting and design of development (particularly size and arrangement).
- The way in which the landscape is experienced.

6.3.3. Step 3: Evaluation of Effects

Assessing the sensitivities of both landscape and visual receptors against the nature of effect, it is possible to conclude anticipated effects on the landscape and visual baseline, known as the significance of effect (Figure 6.4). For the purposes of robust assessment, based upon EIA Regulations and guidance, landscape and visual impact effects are assessed to be either significant or not significant.

Significance of Effect

In the LVIA/TVIA, those effects considered Major or Major/Moderate will be described as significant as required by the EIA Regulations. These are the effects that the reviewing authority considers to be material in the decision-making process.

Significance of Effect ratings, determined through establishment of receptor sensitivity/value/importance and considered evaluation of Nature of Effect (Magnitude of Change), are determined through the experienced professional judgement of the qualified assessor.

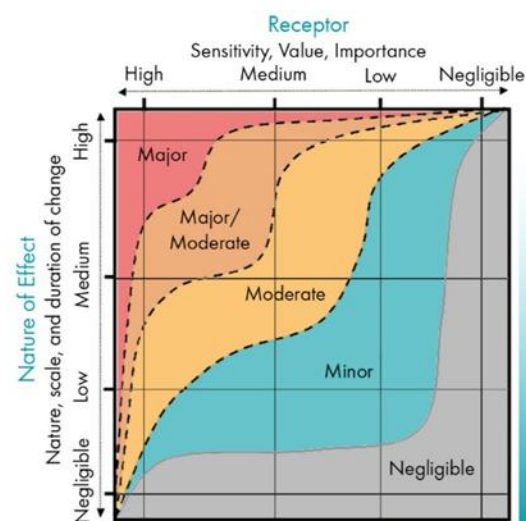


Figure 6.4 Significance of Effect

6.3.4. Step 4: Mitigation

Where significant adverse landscape and/or visual effects are found through this assessment, mitigation will be proposed. These measures fall under three categories, known as the 'mitigation hierarchy':

- Primary: developed through the lifetime of the project and rooted in the initial design.
- Standard: general practices used to avoid and reduce environmental effects as part of typical construction and operational management techniques.
- Secondary: measures to address effects that remain after primary and standard practices have been implemented.

A proactive approach is considered the best method, avoiding the need for mitigation through sensitive early design influence. However, mitigation will be proposed where necessary, in addition to possible enhancement measures, with examples detailed in Table 6.2.

Table 6.2 Mitigation and Enhancement

Potential measures	
Mitigation	<p>Prevention/avoidance through careful planning, siting and design from early stages.</p> <p>Reduction of significant adverse effects, through changes in design, such as:</p> <ul style="list-style-type: none"> - Modification of site levels; - Ensuring form, design, materials and finishes are all of a standard that allows incorporation into the surroundings; and - Formation of bunds or mounds in conjunction with proportionate planting. <p>Offsetting adverse effects e.g. through replacing like for like in combination with assessment of the existing landscape resource to ensure similar values.</p>
Enhancement	<p>Improving visual attractiveness, land management and/or restoration of historical landscapes, habitats, etc.</p> <p>Positively influencing the character and individuality of the landscape/townscape/seascape.</p> <p>Creation of new areas which help to address certain needs, including opportunities in relation to ecology and cultural heritage.</p>

6.4. Baseline Site Identification

A study area of 2km from the proposed development site has been used for the LVIA. This is deemed appropriate given the nature of the LCT, the scale of development proposed, and its potential influence over the wider landscape. Beyond this 2km study area, it is determined that any view of the proposed BESS development will not be significant within wider vistas, posing negligible impact on existing views.

For this assessment, both bare earth (Figure 6.5) and excluded (Appendix 6.1) ZTVs have been generated as per the stated methodology.



6.5.1. Landscape Character Assessment

EXPERTISE | KNOWLEDGE | SUPPORT

The landscape character of the site and surrounding area is described in the NatureScot National Landscape Character Assessment²¹. The site is located within Landscape Character Type (LCT) area 201, identified as Plateau Farmland – Glasgow & Clyde Valley²², shown in Figure 6.6. Key characteristics are listed in Table 6.3.



Figure 6.6 Landscape Character Types

²¹ NatureScot, LCA: <https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/scottish-landscape-character-types-map-and-descriptions>

²² NatureScot, LCT 201: Plateau Farmland – Glasgow and Clyde Valley: [LCT 201 - Plateau Farmland - Glasgow & Clyde Valley - Final pdf.pdf \(nature.scot\)](#)

Table 6.3 Plateau Farmland - Glasgow & Clyde Valley Key Characteristics

Landscape Elements	
Physical Influences	<ul style="list-style-type: none"> - Flat or gently undulating landform with carboniferous geology. - Exposed landscape with minimal wind shelter. - Meandering streams with little visual impact. - Notable escarpments marking transitions to lower areas of the LCT.
Land Cover	<ul style="list-style-type: none"> - Predominantly pastoral farming (sheep and cattle). - Large, rectilinear fields with older hedges, drystone dykes, becoming increasingly defined by newer post and wire fences. - Limited, declining tree cover, with over-mature shelter belts. Commercial forestry areas located on less productive, higher ground. - Few ecological conservation areas, notable exceptions include a handful of Sites of Specific Scientific Interest (SSSIs) and Special Areas of Conservation (SACs).
Influence of Human Activity	<ul style="list-style-type: none"> - Sparse settlements, mostly scattered farmsteads. - Prominent towns such as Hamilton and East Kilbride are visible across the landscape. - Major infrastructure networks such as roads, railways, and pylons favour this landscape, and considerable impact on this landscape. - Areas of opencast coal mining and landfill sites present throughout.
Aesthetic & Perceptual Factors	
Rural/Countryside/ Coastal	<ul style="list-style-type: none"> - Open views with few visual focal points. - Landscape forms the backdrop to the Clyde Valley. - A mixture of tranquil rural areas and increasingly urbanised zones. - Designed landscapes add visual contrast and interest.

Table 6.4 analyses the LCT of the proposed development location.

Table 6.4 Overall Landscape Character Type of Proposed Development Site

Receptor	Plateau Farmland - Glasgow & Clyde Valley LCT	Sensitivity of Receptor	Low
<p>Baseline: The site is located wholly within this LCT, in an area of vacant land. Whilst rural in character, the Plateau Farmlands LCT, demonstrates human influence in the form of renewable developments and utility infrastructure. Neighbouring built urban environments such as Hamilton and East Kilbride largely deteriorate the tranquillity and natural quality of the area. Sensitivity is considered Low for this type of development.</p>			
<p>Analysis: The proposed BESS is a small-scale development within the LCT. The LCT is influenced by utility infrastructure and renewable energy; the BESS will continue this pattern of development. In terms of character, this is a minor further degradation of the agricultural profile through the physical alteration of land and loss of natural features. The physical reprofiling of the site will be a permanent alteration, although not unique to the historic land use of the area. The mix of rural and urbanised areas will be exacerbated with the addition of this BESS but not significantly degrade the character of the LCT. Whilst the long-term impacts of the change of character are partially reversible, the reprofiling of the site will result in a permanent alteration. Despite this, the Nature of Effect is Low with a Minor Significance of Effect due to the low sensitivity of the LCT.</p>			
Nature of Effect (Magnitude of Change)	Low	Significance of Effect	Minor

In addition to the LCT, SLC has a Landscape Character Assessment with designated Landscape Character Areas²³. The proposed development lies wholly within the Urban Fringe Farmland, assessed in Table 6.5.

Table 6.5 Landscape Character Area of the Proposed Development Site

Receptor	Urban Fringe Farmlands	Sensitivity of Receptor	Medium
<p>Baseline: This LCA is linked to the LCT Plateau Farmland, however the Urban Fringe Farmland is more heavily characterised by its position on the urban fringe. The existing urban influence on this LCT means it is sensitive to urbanisation and particularly the loss of viable green space between communities. The presence of the Strathaven substation is noted within the LCA as a feature characterising the area, highlighting the existing electrical presence. This LCA has some areas of tranquillity, but the SLC recognise the capacity to accommodate well designed developments. Given the sensitivity to the loss of green space, the Sensitivity of the Receptor is Medium.</p>			
<p>Analysis: The proposed development is located within an area of Green Belt and urban fringe, in an LCA which is sensitive to development. The immediate landscape consists of numerous electrical infrastructure features such as the Strathaven substation, windfarms, pylons and overhead power lines. The LPA has recognised the strong electrical presence in this LCA with the Strathaven substation; this development would add to the electrical infrastructure presence. The proposed BESS is enhancing the pressure on the LCA which is sensitive to the urbanisation and loss of greenspace. Relatively small in scale, the BESS expands a concentration of infrastructure development in the locality, although this is not in contrast with the existing pattern or development. Positioned between East Kilbride and Hamilton, the development is causing infill between the two settlements which is a key pressure on the LCA. Although localised in impact, the effect is Medium with a Moderate Significance of Effect. There will be Minor long-term enhancement through the proposed planting and the development should be considered partially reversible. The development must be seen in context of a degraded baseline.</p>			
Nature of Effect (Magnitude of Change)	Medium	Significance of Effect	Moderate

6.5.2. Landscape Designations and Core Paths

Within the 2km study area, there are no international, national or locally recognised landscape designations. However, there are council designated core paths and cycle routes. These are displayed in Figure 6.7 overlain with the excluded ZTV identifying areas where views of the proposed development may be possible.

²³ South Lanarkshire Landscape Character Assessment

https://www.southlanarkshire.gov.uk/downloads/file/4146/landscape_character_assessment_-_final_report_november_2010

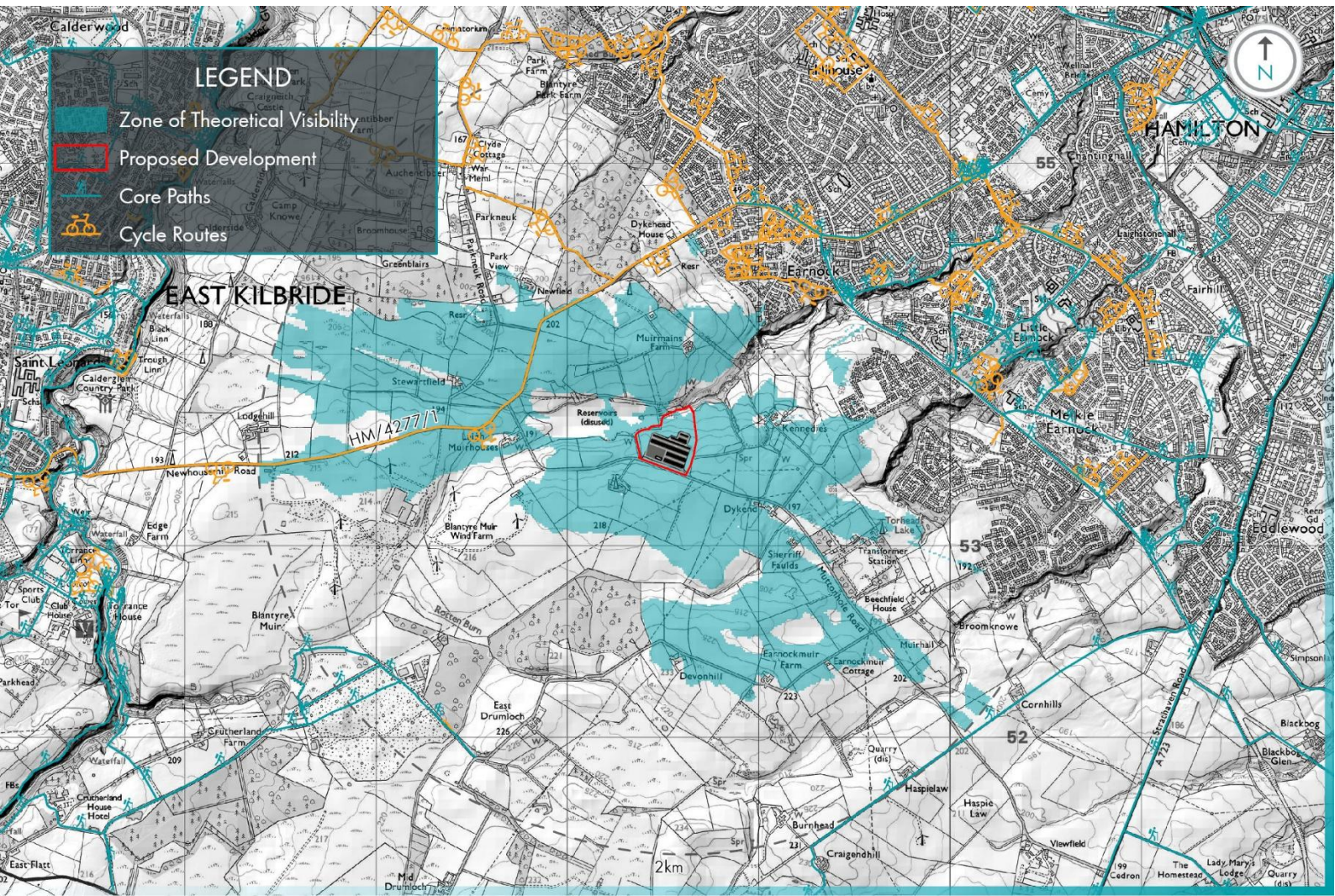


Figure 6.7 Landscape Designations

The ZTV mapping overlay shows that there is no theoretical visibility from any designated core paths, but there is potential visibility from cycle route HM/4277/1. There are no direct (physical) impacts on the existing cycle paths through construction or residually through the long-term lifespan of the proposal. As an important asset to leisure, recreation, and tourism, key routes of the path network on which users would be potentially visually impacted by the residual impact of the proposal have been assessed in Table 6.6 to show predicted effects.

6.6. Visual Assessment

As described in the methodology, the visual assessment comprises a desk-based assessment, extensive fieldwork, and creation/study of the visualisations which have been produced from viewpoints within the study area.

6.6.1. Assessment of Visualisations

Visualisations have been produced to illustrate the predicted views of the proposed development from two locations, based upon greatest potential magnitude of change. Figure 6.8 illustrates the locations of these viewpoints. Viewpoints outside the ZTV and the study area have been excluded from this assessment on the grounds that the proposed

development will not be visible or will be at a distance whereby significant impacts are unlikely. Viewpoints were selected following detailed analysis chosen according to criteria detailed in Table 6.1.

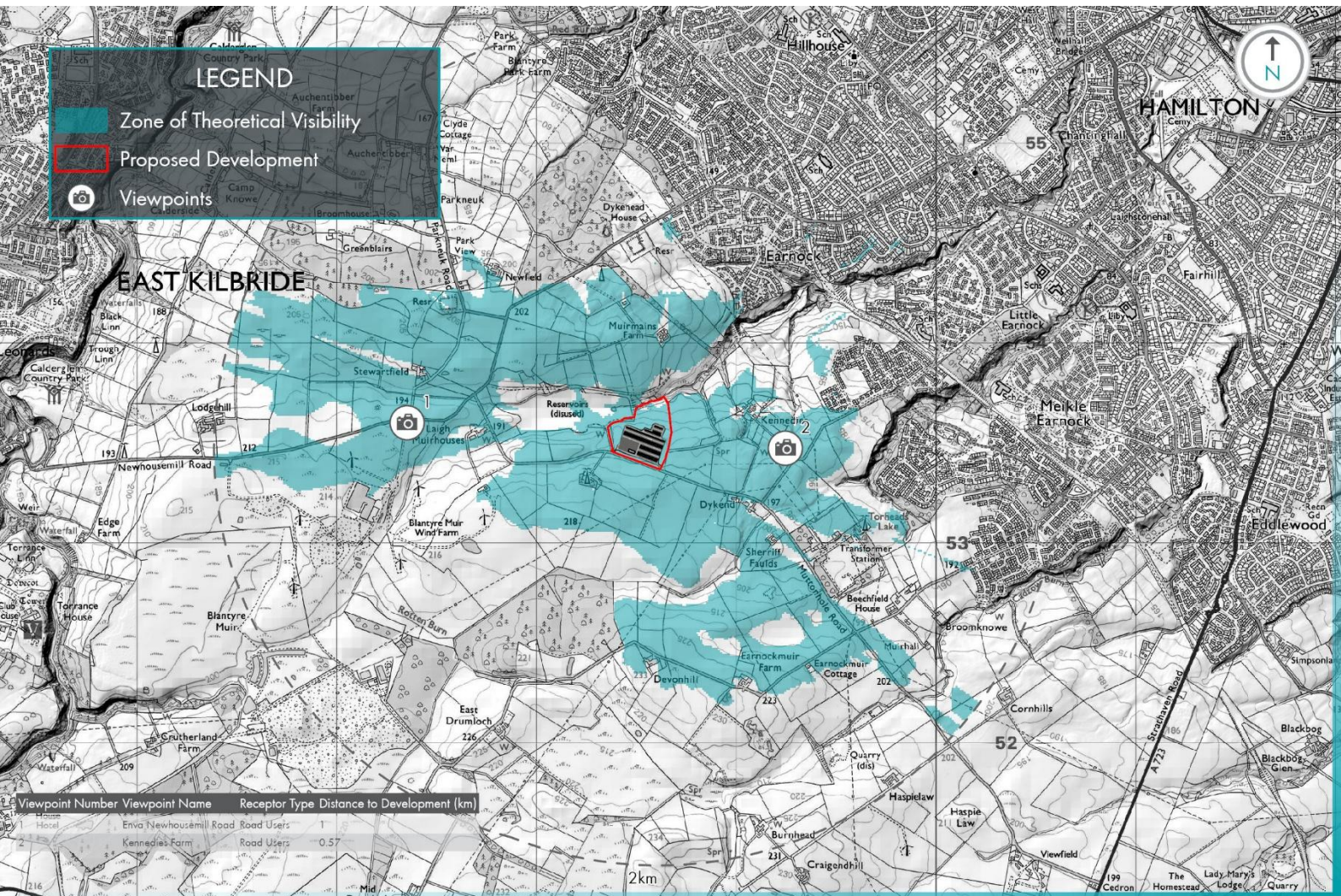


Figure 6.8 Viewpoint Locations

Table 6.6 and Table 6.7 set out the baseline visual receptors and assess the visual effects of the proposal on each of the viewpoints selected. These should be read in conjunction with Appendices 6.2 – 6.5.

Table 6.6 Viewpoint 1 – Enva Newhousemill Road

Grid Reference	E267351, N653602	Appendix	6.2, 6.3
Direction of View	East	Distance to Development	1km
Receptor Type	Road users/ cycle route HM/4277/1	Sensitivity of Receptor	Medium

Baseline View: The view comprises of Hamilton, pylons, windfarms, mature vegetation and Laigh Muirhouses Farm. The view is representative of cycle path and road users. The photograph was taken in the Enva site entrance due to road safety reasons. The road is 60mph, winding in character and heavily vegetated. Long distance views are difficult to achieve. The baseline photomontage location is representative of a small portion of the road as users travel west to east towards the development. This view is representative of this portion of the road only.

Grid Reference	E267351, N653602	Appendix	6.2, 6.3
<p>Analysis: The proposed BESS is largely screened by existing mature vegetation; the photomontage presents the view in winter where vegetative screening is sparse. Whilst visible, the proposed development presents a barely noticeable change from the baseline view. The character of the view is heavily influenced by existing development. The lack of clear visibility reduces any potential impact but does not reach the threshold of imperceptible change. Within the specific view and for this portion of the road, the Nature of Effect is Low. This effect will be amplified for cyclists due to the slower nature of travel but not to the effect of increasing the overall impact.</p> <p>These effects should be seen in the context of the transient nature of receptors who will be traversing the landscape at various speeds and orientations. For significant portions of the roadway, the development will be at an oblique angle or screened by terrain/vegetation. This will result in a Negligible impact of the majority of the roadway.</p>			
Nature of Effect (Magnitude of Change)	Low	Significance of Effect	Minor/Negligible

Table 6.7 Viewpoint 2 – Kennedies Farm

Grid Reference	E269247, N653475	Appendix	6.4, 6.5
Direction of View	West	Distance to Development	0.57km
Receptor Type	Road Users	Nature of Receptor	Medium
<p>Baseline View: The view is representative of Highstonehall Road with the picture taken from the private road to Kennedies Farm. The farm residence will not have views of the development, therefore this photomontage is fully representative of road users. The viewpoint has been obtained to show a deliberately clear view, this is not representative of the full roadway which is lined with unbroken hedgerows. The receptor is a single-track road, typically driven at a low speed. Users of the road travelling north to south will be orientated towards the development.</p>			
<p>Analysis: The proposed BESS is not at odds with the surrounding land use, as the character of the view is heavily influenced by energy infrastructure. The development is partially visible and evident against the skyline. The infrastructure is relatively low profile and cohesive with the pattern of landform.</p> <p>The development is visible but not prominent and does not affect the overall quality of the character of the view which is influenced by larger scale infrastructure. Within this specific view, the Nature of Effect is Low. This represents the impact for road users travelling north to south where views of the development are achievable and direct. However, due to the level of screening and the relatively short distance of where these views will be achieved, the true impact is likely to be much less. Whilst it cannot be claimed that the development will be imperceptible where visible, however the true impact for the majority of road users is that development will go unnoticed, particularly when travelling south to north.</p> <p>There is a change in the baseline view with the addition of the proposed development, however, the overall quality and character of the view remains intact. The nature of effect is Low with the resultant significance of effect as Minor.</p>			
Nature of Effect (Magnitude of Change)	Low	Significance of Effect	Minor

6.7. Cumulative Assessment

Cumulative effects may arise when more than one development of a similar scale and nature combine to create potential effects, different to that which would result from the proposed development alone.

As detailed in consultation with SLC²⁴ there is the possibility of cumulative impacts from developments of a similar nature (BESS). As such, a cumulative search was undertaken on SLC's Planning Portal on the 6th March 2025, and the ECU and Scottish Government's Planning and Environmental Appeals Division (DPEA) on the 22nd March 2025 for;

- Any existing developments already present in the landscape;
 - Any consented developments which have not yet been constructed; and
 - Any pending development planning applications currently within the planning process
- Figure 6.9 Cumulative Developments
- Figure 6.9 shows like developments within 2km of the proposed development site.

6.7.1. Cumulative Landscape Effects

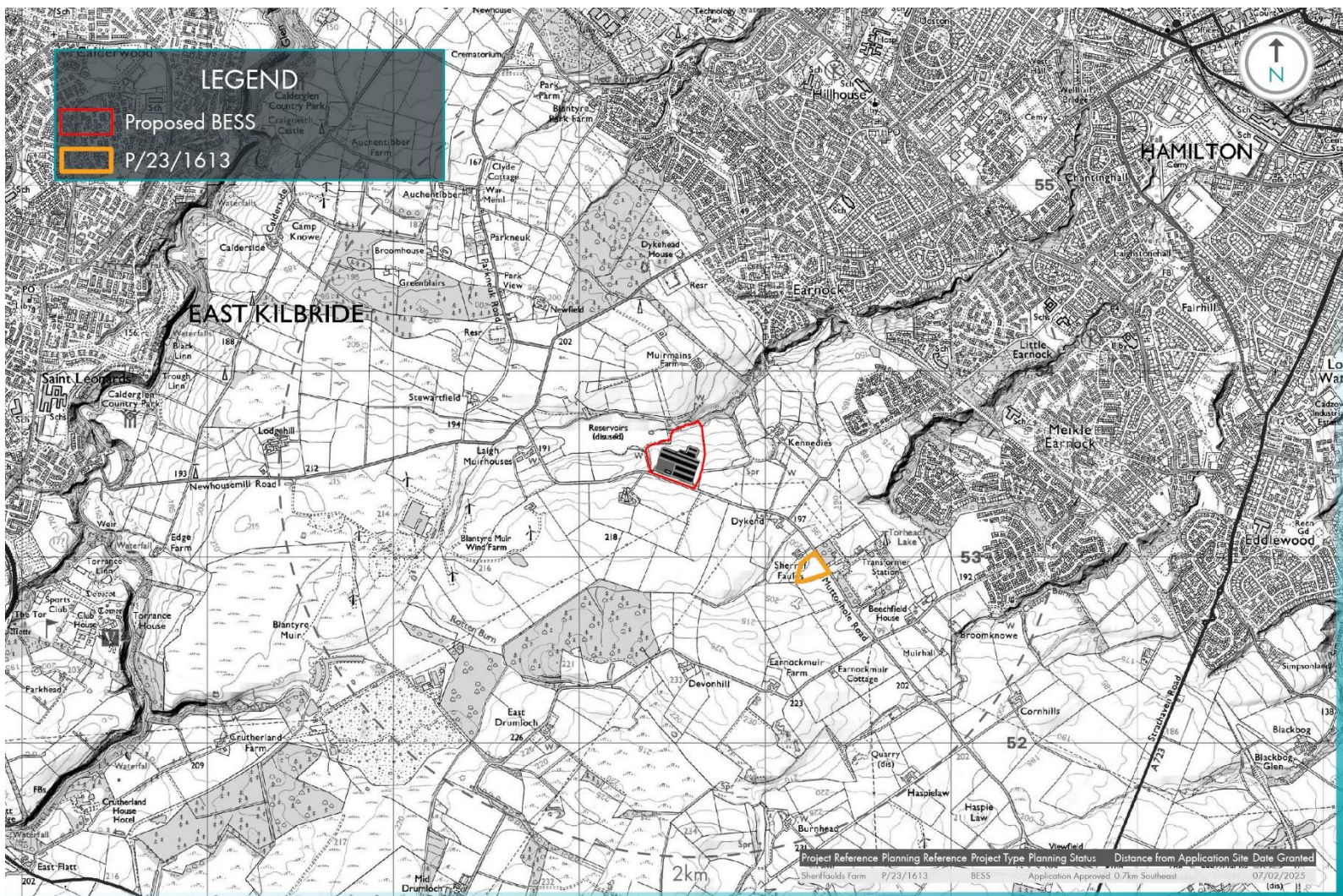


Figure 6.9 Cumulative Developments within 2km

²⁴ Screening opinion P/24/0180

Both developments within Figure 6.9 are within the Glasgow & Clyde Valley LCT and Urban Fringe Farmland LCA.

Due to the proximity of the two BESS developments, there is a concentration of development within the LCT/LCA. However, these remain small scale and separate. There is no over-concentration of developments within the search area. Both developments contribute to the degradation of the agricultural character but in combination this effect remains Minor.

6.7.2. Cumulative Visual Effects

Combined visibility of both developments will be difficult to achieve and where visible, the physical separation will avoid a coalescing presence. The main cumulative effect will be felt sequentially for users of Muttonhole Road. Receptors travelling along the roadway will have a perception of an increased presence of BESS development and overall increased utility development. Developments are differing sides of the carriageway and at varied distances from receptors. There will be no sense of ribbon development affecting Muttonhole Road due to the distance between developments. Although there is a minor cumulative effect upon receptors, the cumulative impact does not reach the threshold of significance.

6.8. Mitigation

In assessing the impact on views from the surrounding LTC, and in line with recommendations set forth in the Preliminary Ecological Appraisal and BEP prepared by EP Ecology Ltd, a Planting Plan (Appendix 6.7) has been prepared.

The Planting Plan sees the introduction of mixed native hedgerow to the southern and northeastern perimeter of the site, and the proposed planting of 70 native trees and 16 conifers. A combination of Maple, Alder, Silver Birch, Oak and Whitebeam have been proposed to ensure there is sufficient planting year-round to soften the view, and to be consistent with the local landscape. The plants have been chosen considering local species, native/naturalised preference, and the recommendations of the RHS Plant Selector.

Although the planting is a minor benefit to the overall landscape character, it is not necessary to be utilised to mitigate visual impact due to the Minor impact of the development. Where minor screening and softening of views is coincidentally achieved this is beneficial but not to the extent of changing the impact of the development.

Existing vegetation to the northwest perimeter of the site will be retained.

6.9. Summary and Conclusion

The LVIA undertaken for the proposed BESS at Muttonhole Road has identified that there would be limited non-significant landscape and visual effects within a localised area surrounding the proposed development site. Furthermore, the proposed BESS development will be viewed alongside large-scale energy infrastructure features already in the wider landscape and has been assessed against the degraded baseline.

In conclusion, this LVIA does not consider any significant or unacceptable landscape or visual effects that should preclude the development as proposed.

7. ECOLOGY

7.1. Introduction

EP Ecology Ltd. was commissioned by Cogeo Planning & Environmental Services Ltd. to conduct a preliminary ecological appraisal (PEA) (Appendix 7.1) and Biodiversity Enhancement Plan (BEP) (Appendix 7.2) to accompany the planning application.

7.2. Preliminary Ecological Appraisal

In September 2023, the proposed site area was surveyed for habitats and their likelihood to support protected and notable species. One ancient woodland inventory site and other designated sites including Waukenwae Moss SAC may be impacted by the proposed works.

The Screening Opinion request submitted in October 2023 requested confirmation if a Habitats Regulation Appraisal (HRA) will be necessary to assess the Waukenwae Moss SAC. The requirement for this was not specified in the Screening Opinion, therefore this has not been completed.

Requirements and recommendations to reduce impacts on ecological sites, habitats and species will be implemented during construction of the proposed development. It should be noted that the red line boundary has changed marginally to include the area of cut and fill, shown on drawings submitted (Appendix 3.1 – 3.4).

7.3. Biodiversity Enhancement Plan

The PEA has been used to create the baseline habitat description for the BEP. Suggestions for biodiversity enhancement are made for each broad habitat type and also made to enhance the post-development site for broad species expected to be regularly using the site. The Planting Plan (Appendix 6.6) incorporates the biodiversity enhancement measures and helps to soften the proposed development in its surrounding landscape.

A long-term post development monitoring schedule will be undertaken to prove the biodiversity enhancements have had a positive effect or to modify recommendations if outcomes are not as initially expected.

8. ENVIRONMENTAL NOISE ASSESSMENT

8.1. Executive Summary

Sharps Redmore Partnership Limited have conducted an assessment of the potential noise impact from the proposed BESS development (Appendix 8.1). Noise from the battery storage units, PCS and proposed substation and transformers have been considered and assessed against the background noise recorded at the site.

It should be noted that due to the distance from the nearest noise sensitive receptor (Dykend Farm) only half of the battery storage and PCUs were considered to have potential to impact, with assessment only accounting for 113 BESS units and 57 PCUs. The assessment concludes that the proposed development will not give rise to significant adverse noise impacts.

9. DRAINAGE IMPACT ASSESSMENT

9.1. Executive Summary

The construction of BESS developments and associated infrastructure can disrupt or alter drainage routes. Nimbus Engineering Consultants Ltd have completed a Drainage Impact Assessment to provide a solution for the management of surface water run-off and to ensure there is no risk of flooding onsite or elsewhere caused by the proposed development.

Due to the geology and topography of the site, infiltration has not been considered. Porous surfacing, in the form of granular material with a lined sub-base has been proposed for the areas of hardstanding. Perforated pipes will collect any excess surface water runoff from the sub-base, with a detention basin proposed, sized for the 1 in 200-year plus 45% storm event. Drawings and full assessment report are submitted as Appendix 9.1.

10. TRAFFIC MANAGEMENT PLAN

10.1. Introduction

This section details the Traffic Management Plan (TMP) and access arrangements for the proposed BESS development at Muttonhole Road. It should be noted that the secondary access is for the purposes of fire safety and will not be used in the construction or day-to-day operation of the site. The purpose of this TMP is to detail the necessary machinery and vehicle movements to/from the development site during the construction and operational phase of the project. Details presented in this TMP are shown in Table 10.1.

Table 10.1 TMP Requirements

Detail
Intended transportation route, timings and methodology
Swept path analysis (SPA) detailing over run areas for specialist loads including details of local improvements in the public road geometry and strengthening to provide the required transport corridor
Junction Visibility Splays
All temporary work including relocation of signs, guardrails, bollards and street furniture
Any alteration to the public road network
Any necessary mitigation

10.2. Vehicle Routing

All vehicles associated with the delivery of this development will utilise the network of Public Roads surrounding the site. The proposed route is detailed in Figure 10.1, and is described below:

- Exit the M74 southbound at Junction 5 (A725 East Kilbride) and take the 4th exit at the roundabout;
- Follow the A725 (East Kilbride Expressway) leaving at the 3rd junction following signs for South Lanarkshire Crematorium;
- At the roundabout, take the 2nd exit onto the B758 then take an immediate left to join Sydes Brae. At the next roundabout continue straight ahead following onto Parkneuk Road;
- At the T-junction turn right onto Newhousemill Road followed by the first left to join Muttonhole Road;
- Continue along Muttonhole Road before reaching the site entrance on the left.

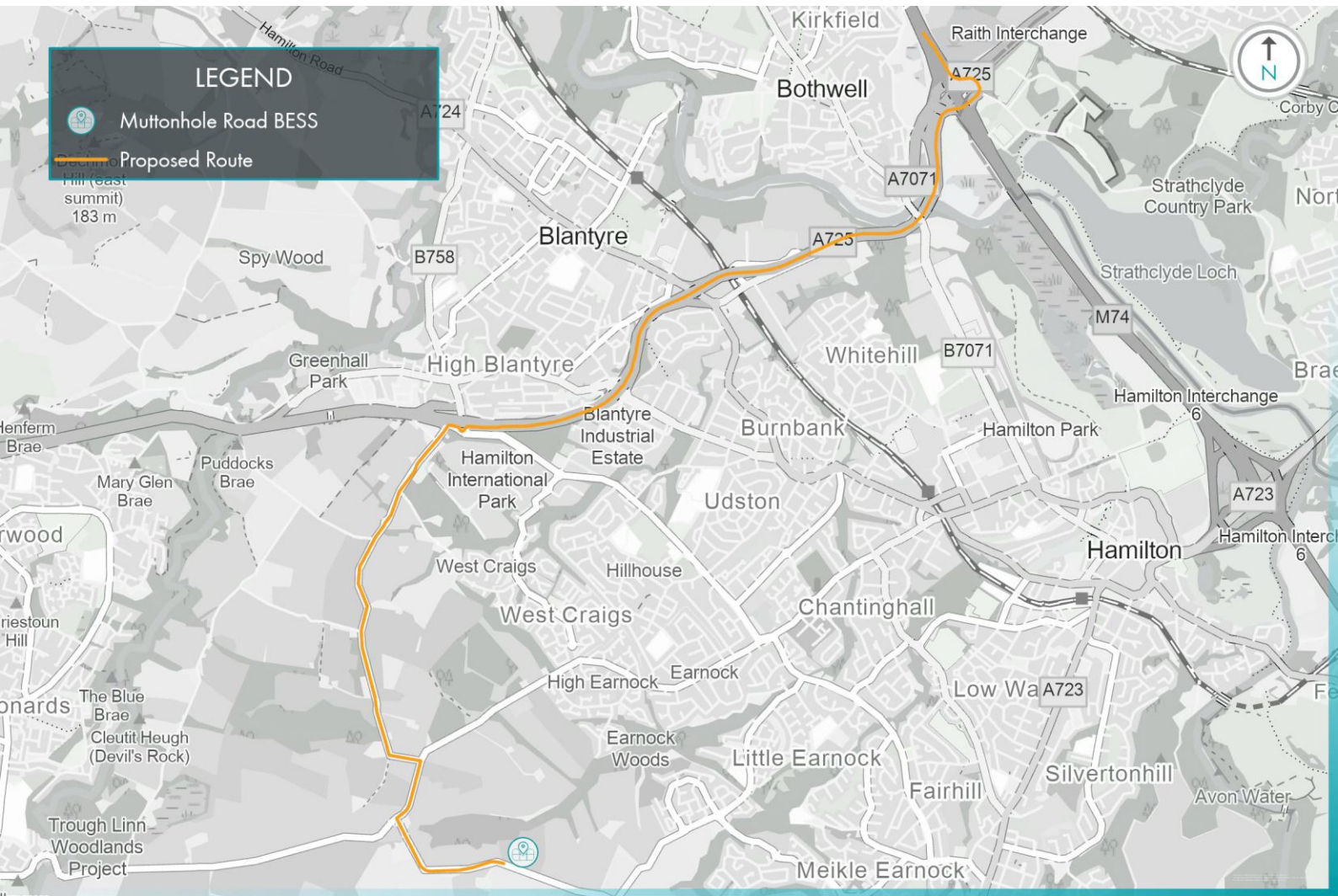


Figure 10.1 Proposed Access Route

10.3. Existing Network

This section details the existing transport network surrounding the site and the site location itself including walking, cycling and public transport facilities in proximity to the development site.

10.3.1. Existing Transport Context

The proposed development is located on and surrounded by agricultural land on Muttonhole Road which runs past the Strathaven Substation and a few sporadic residences. Enva Organics Recycling plant is located off Newhousemill Road to the southwest and is a waste management facility with a high number of vehicles known to be travelling on the surrounding road network for this purpose.

On Parkneuk Road, enhancements have been made for the delivery of turbines to Blantyre Muir Windfarm (planning ref. HM/10/0478). This area of enhancement will be utilised to deliver the transformer to the proposed BESS site.

10.3.2. Road Safety

Traffic incidents recorded via the crashmap database between 1999-2022 were recorded and mapped across the proposed route. Care will be advised across the proposed route, highlighting accident hotspots at the Auchentibber

Road/Parkneuk Road and Newhousemill Road/Muttonhole Road junctions. The temporary increase in construction traffic will not exacerbate existing incident levels.

A designated parking area will be provided within the construction compound to ensure construction staff vehicles will not interfere with traffic on Muttonhole Road.

10.4. Visibility Splays

10.4.1. Traffic Monitoring

To understand the existing traffic flow and speed of vehicles on Muttonhole Road, a traffic survey was conducted over a one-week period around 110m from the main access junction to the site.

Table 10.2 and Table 10.3 provide a summary of the vehicle classification and speeds recorded on Muttonhole Road respectively.

Table 10.2 Daily Vehicle Classification Splits

Date	Eastbound			Westbound		
	Class 1	Class 2	Class 3	Class 1	Class 2	Class 3
05/11/23	240	27	4	252	21	2
06/11/23	250	47	9	271	40	3
07/11/23	356	90	6	377	71	7
08/11/23	264	124	10	327	79	8
09/11/23	446	47	4	401	91	6
10/11/23	461	15	1	437	22	3
11/11/23	488	20	2	410	17	2
12/11/23	335	15	0	317	15	1
Average	355	48	4	349	44	4

Table 10.3 Average Speeds (mph) and Average 85th Percentile Results

Average Speed (mph)		85 th Percentile Speed (mph)	
Eastbound	Westbound	Eastbound	Westbound
31.5	31.7	35.7	35.9

10.4.2. Visibility Splay Design

As Muttonhole Road is subject to a national speed limit of 60mph, the visibility requirements for a junction are set out in guidance²⁵ as:

- 2.4m (x) into junction x 215m (y), at 1.05m height (average drivers eye height).

²⁵ Transport Scotland: Advice on Planning for Small Developments 2016: <https://www.transport.gov.scot/media/1412/trbo-advice-on-planning-for-small-development-march-2016.pdf>

However, the results from the speed survey undertaken between 5th November to 12th November 2023 concludes that the road is travelled at a lower speed, meaning the visibility splay requirements can be decreased accordingly.

Data gathered confirms that the 85th percentile speeds can allow the decrease in 'y' visibility to 90m as illustrated in Appendix 10.2. Achieving visibility at the junction will require management of the roadside hedgerow. See Figure 10.2 for

10.5. Swept Path Analysis

Along the proposed route, pinch points have been identified with swept path analysis (SPA), presented in Appendix 10.1. The largest vehicle required for the delivery of components to site will be a Girder Bridge Transporter, used to deliver the transformers. This vehicle has been used in the desk-based assessment, representative of a worst-case scenario. SPA concludes that no street furniture will be impacted along the proposed delivery route and areas where land will need to be reinforced are highlighted. Upon completion of the transformer delivery, the areas of reinforcement will be returned to their current state.

The existing field junction will be used for the delivery of components to site (see Figure 10.2). An area of temporary reinforcement in the adjacent field will be required to deliver the transformer as detailed in Appendix 10.1, to be reinstated once delivered.

Specific details of the proposed delivery vehicles will be confirmed prior to construction with SPA for the largest indivisible load included in the Construction Traffic Management Plan (CTMP) if different.



Track will be constructed from existing field entrance off Muttonhole Road.

Figure 10.2 Drone photography showing existing field access gate

10.6. Vehicle Impact

This section outlines the number of vehicle trips the proposed development is expected to generate. Vehicle movements associated with the development will be split into construction phase and operational phase movements.

10.6.1. Construction Phase

Construction working hours are expected to be between 08:00 to 18:00 on weekdays and 08:00 to 13:00 on Saturdays with no construction activities expected on Sundays or Bank Holidays.

The proposed construction works are estimated to take between 18 and 26 months from site establishment to energisation, depending upon construction methodologies. The construction programme has been divided into three sections; enabling works, main construction works, and post construction works, to establish traffic generation. Traffic numbers are based on previous experience of similarly scaled developments.

10.6.1.1. Enabling Works

Enabling works are expected to last for up to 12 months. This phase will include the deliveries listed in Table 10.4. The first phase of the construction will be a cut and fill exercise, prior to any building works commencing.

Table 10.4 Enabling Works Deliveries

Detail	Vehicles
Delivery of plant, welfare facilities and machinery & site preparation	Articulated flat bed Low loader HGVs
Cut and Fill	HGVs, Bulldozers, excavators, dump trucks, road rollers
Site access tracks material and platform material deliveries	HGV tippers

In total, around 4,000 single HGV movements are predicted in this phase of works.

10.6.1.2. Main Construction Works

Main construction works will last up to 12 months and will include the deliveries listed in Table 10.5.

Table 10.5 Main Construction Works Deliveries

Detail	Vehicles
Import of concrete	3no. axle cement mixers
Import of general building supplies	HGVs
Delivery of HV Electrical Components	HGVs
Delivery of Transformer	Abnormal Load Vehicle – 2no. Girder Bridge loads
Delivery of batteries	HGVs

Around 2,500 single HGV movements are predicted in this phase.

10.6.1.3. Post Construction Works

Post construction works will have some overlap with the main construction works and may continue after energisation. This is expected to last up to 3 months. Table 10.6 lists the deliveries required in this phase, with approximately 500 single HGV movements estimated to site.

Table 10.6 Post Construction Works Deliveries

Detail	Vehicles
Grid and electrical connection works	HGVs
Landscaping and security materials	HGVs
Removal of site compound	HGVs
Commissioning of the site	Staff LGV vehicles

Construction staff numbers will vary subject to the construction schedule. Staff trips will be made by cars or vans and will typically occur at the start and end of the working day i.e. will not coincide with the delivery of materials. Movements of

the construction staff will not present a significant impact on the local road network and have not been considered further in this report.

10.6.2. Operational Phase

The site will be monitored remotely and therefore any visits to site during operation will be to support operations and for general site maintenance. A parking area will be retained onsite, where the construction compound is proposed, for cars and vans visiting the site.

10.6.3. Vehicle Allowances

The Road Vehicle (Construction and Use) Regulations 1986 (C&U) and the Road Vehicles (Authorised Weight) Regulations 1998 (AW) give guidance on dimensions and weights of vehicles used on British Roads. Special types of vehicles are those which do not meet the regulations but can be used outside of these rules under the authority of the Road Vehicles (Authorisation of Special Types) (General) Order 2003 (STGO). Vehicles which do not comply with an STGO can be used on the road when a Special Order has been issued. The allowances for vehicles using the public road network are outlined in Table 10.7.

Table 10.7 Vehicle Allowances on Public Highway²⁶

Classification	Width (m)	Rigid Length (m)	Weight (T)	Notification
Abnormal Load – Special Types General Order	>2.6 - ≤6.1	>18.3 - ≤30	>40 - ≤80	2 days' notice to Police
			>80 - ≤150	Plus 5 days' notice with indemnity to Highway & Bridge Authority
Abnormal Load – Special Order	>6.1	>30	>150	5 days' notice with indemnity to Highway & Bridge Authorities, 5 days' notice to Police and Secretary of State 'Special Order'

Given the scale and nature of the development proposed at Muttonhole Road, most of vehicles will be standard load HGV's. Two abnormal loads will be required for the delivery of the transformers to the site. Adequate timing will be afforded to gain the required permits/orders prior to commencement onsite²⁷.

10.7. Mitigation Measures

Impacts identified and mitigation measures to be implemented as part of the construction phase are outlined in Table 10.8. Such measures aim to minimise environmental and operational impacts.

²⁶ Transport Scotland Abnormal Load Movements 13th June 2007: <https://www.transport.gov.scot/publication/abnormal-load-movements/>

²⁷ Managed by the Contractor

Table 10.8 Mitigation Measures

Concern	Mitigation Measures
CTMP	Arrangements for construction and delivery of components will be detailed in a CTMP which will be strictly enforced onsite to ensure defined routes and best practice measures are followed.
Construction Noise	<p>Delivery times will be scheduled to avoid peak delivery times and busy staff arrival and departure times.</p> <p>Working times will be scheduled within standard working hours:</p> <ul style="list-style-type: none"> – Monday – Friday: 08:00 – 18:00 – Saturday: 08:00 – 13:00
Road Safety	<p>All delivery vehicles to follow the confirmed route to site</p> <p>Appropriate warning signs notifying road users of construction vehicles will be placed along Muttonhole Road, if necessary.</p> <p>All vehicles will adhere to the existing speed limits and rules of the road.</p> <p>All deliveries to the site will be scheduled, with all drivers and personnel associated with the development issued with a copy for reference.</p>
Air Quality	<p>The Contractor will ensure vehicles numbers are kept to a minimum.</p> <p>Vehicle idling will be discouraged.</p>
Safe access/egress at Muttonhole Road	<p>All vehicles to utilise the designated site entrances.</p> <p>Banksman to be to ensure the successful and safe delivery of all components to site utilising the correct entrances and exits.</p>
Wheel Washing	Wheel washing facilities to be present onsite to ensure the surrounding road network is clear of mud and debris. Required at the early stages of the construction phase before access tracks are built however may remain in situ should it be deemed necessary.
Car Sharing	Car sharing amongst staff during the construction phase will be promoted to reduce car and van movements.

11. OUTLINE BATTERY SAFETY MANAGEMENT PLAN (BSMP)

This section outlines the key principles of safe design and operation for the BESS, to be incorporated into the project as it progresses through planning and construction.

11.1. Legislation and Guidance

There is no definitive guidance in the UK for the production of an Outline BSMP for BESS sites, however available information has been used to inform and develop this outline plan, listed in Table 11.1.

Table 11.1 Guidance Documents

Battery Safety Management Plan Guidance
NFPA 855 (Standard for the Installation of Energy Storage Systems) (USA)
DNV-RP-0043 Safety, operation and performance of grid-connected energy storage systems 2021
Underwriters Laboratories ('UL') 9540A Standard for Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems
UK Power Networks ('UKPN') Engineering Design Standard 07-0116: Fire Protection Standard for UK Power Networks Operational Sites, 2016
Scottish and Southern Energy TG-PS-777: Limitation of Fire Risk in Substations, Technical Guide, 2019

11.2. BESS Safety Requirements

The BESS has been designed to address industry standards and good practice, and these will be consulted if any design changes are required prior to construction commencing.

NFPA 855 recommends that BESS should be separated by a minimum of 3m from the following site features; site boundaries, public rights of way, buildings, combustible materials, hazardous materials and other exposure hazards.

The layout of the development provides sufficient separation between key component groups, in doing so, any fire that occurs will be contained and take longer to spread. A secondary access has been included in the design to ensure access can be achieved from both sides of the proposed development.

11.2.1. Fire Detection and Suppression

There will be monitoring systems adopted to identify any abnormal operation which will shutdown the system when required. All BESS units will be fitted with FK5112 fire suppression systems. Other measures to be adopted include:

- Thermal monitoring and automated cut-out;
- Battery cooling systems;
- Emergency stop;
- Fire detection system.

11.3. Pre-Construction Requirements

Following planning consent and prior to construction, a detailed BSMP will be created to include the following requirements:

- Detailed design drawings;
- Statement of battery unit specifications to include fire detection and suppression systems;
- Statement of operational procedures and training on emergency procedures;
- Review of compliance with current legislation;
- An emergency plan covering construction, operation and decommissioning.

Completion of this reporting pre-construction will ensure the safe operation of the BESS site.

12. OTHER CONSIDERATIONS

12.1. Historic Environment

Heritage assets surrounding the site that could potentially be affected by the development can be identified through desk-based study. Records of historic environment features have been consulted; no designated sites found within the 2km study area. There are no known archaeological remains within the development boundary. Therefore, heritage has not been considered further as it will not be significantly impacted by the proposed development.

12.2. Coal Mining

Reporting from the Coal Authority (Appendix 12.1) shows that the development will not be impacted by any past mining activity.