

Appendix B

Substation Siting Considerations

BT Route Tie-in and Associated Ladyburn 132 kV Collector Substation

Appraisal Topic	Considerations	Implications for Siting
Geology, Topography and Soils	<ul style="list-style-type: none"> Geological Conservation Review Sites (GCR) Local Geodiversity Sites (GDS) Peat soils (especially Class 1 and 2) 	<p>Siting should take advantage of the screening provided by landform and existing features, as well as the potential use of site layout and levels, to keep intrusion into surrounding areas to a reasonably practicable minimum.</p> <p>Exposed high ground where a substation might be visible on the skyline should be avoided wherever practicable.</p> <p>Areas designated for geology or geomorphology should be avoided wherever practicable</p> <p>Peat (especially deep peat) should be avoided wherever practicable, as it is highly environmentally sensitive and can pose engineering and construction challenges.</p>
Landscape and Visual	National Parks	Areas designated as nationally important for the landscape should be avoided wherever practicable. This includes the defined settings of protected landscapes.
	National Scenic Areas	
	Wild Land	
	Special Landscape Areas (or other locally designated landscapes)	Locally designated landscapes and landscapes with inherent landscape and visual sensitivities should be avoided wherever practicable.
	Gardens and Designed Landscapes	
	Landscape Character (including susceptibility to landscape change caused by a new substation).	<p>Different landscape character types comprise a range of elements, features, patterns, forms, scales, colours, and textures shaped by natural processes and human intervention. Together, these characteristics influence the landscape's capacity to accommodate substation infrastructure. The shape of the landform and vegetation cover may provide opportunities for screening or backgrounding, while the scale of the landscape is an important consideration in relation to the size and appearance of the substation within the wider landscape context.</p> <p>Siting should respect the character and pattern of the landscape, taking advantage of screening and the visual backdrop provided by landform and vegetation.</p> <p>The design of associated access roads, perimeter fencing, earthshaping, planting and ancillary development should form an integral part of the site layout and design to fit in with the surroundings.</p>
	Views from individual properties	Substations should, as far as practicable, be situated away from settlements and residential properties, and take advantage of opportunities to use existing landform and woodland for screening or as a visual backdrop. The inter-relationship between the substation infrastructure (including the overhead line entries) and foreground and background features should aim to reduce
Visual amenity - potential for views from settlements and routes		

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		the prominence of structures from key viewpoints. Where practicable, substations (and overhead line entries) should avoid exposed high ground, as the support as the infrastructure is more noticeable against the sky and can increase the likelihood of glare affecting views at some distance.
	Tourism and recreation offer potential for views from OS-promoted viewpoints, National Trails, National Cycle Routes, Core Paths, and long-distance trails. Tourist attractions and recreational areas, such as golf courses, holiday parks or designed parks and gardens, are places where appreciation of the landscape is important to their enjoyment.	Recreation and tourism are important to the local community and the economy. Siting should seek to minimise effects on people enjoying the countryside or visiting attractions. Visual effects may be exacerbated by noise and disturbance during construction and operation, affecting tranquillity and the overall recreational experience.
	Existing transmission and distribution network	Siting a substation close to existing high-voltage electricity infrastructure can help minimise landscape and visual impacts, but care must be taken to avoid cumulative effects.
Biodiversity (including ornithology)	Special Areas of Conservation (SAC)	Sites designated as internationally, nationally, or locally important for biodiversity should be avoided wherever practicable.
	Special Protection Areas (SPA)	
	Ramsar sites	
	Sites of Special Scientific Interest (SSSI)	European Protected Species (EPS), their habitat, and other protected fauna/flora (e.g. bats, otter, wildcat, great crested newt, breeding birds) should be avoided, wherever practicable. If this is not possible, the mitigation hierarchy should be applied (minimise, restore/rehabilitate or, as a final resort, compensate).
	Local Wildlife Sites (LWS)	
	Scottish Wildlife Trust Reserves	
Other sites of biodiversity or ornithological interest.	Sites of biodiversity or ornithological interest should be avoided wherever practicable.	
NatureScot Priority Peatland Habitat (Class 1 and 2 in Scottish Natural Heritage Carbon and Peatland 2016 Map)	Priority Peatland Habitat (Class 1 and 2) should be avoided wherever practicable. If unavoidable, then all efforts must be made to minimise any effects.	
Woodland and Trees	Ancient Woodland Inventory (AWI) sites	Irreplaceable ancient and native woodland sites, particularly ancient semi-natural woodland (ASNW), long-established plantations, and ancient, veteran, or notable trees should be avoided wherever practicable.
	Native Woodland Survey of Scotland (NWSS) sites	
	Woodland Trust Ancient Tree Inventory (ATI) sites in Scotland	
	Woodland and trees generally	Tree and woodland removal should be avoided wherever practicable. Where unavoidable, impacts should be minimised through measures such as micro-siting poles to reduce the number of trees felled, using longer spans to retain mature trees, and retaining understorey or habitat features where they can safely coexist with

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		the line. Any residual loss should be compensated through woodland creation, habitat enhancement, or biodiversity net gain initiatives, in line with the NPF4 policy objectives.
Archaeology and Cultural Heritage	Archaeologically Sensitive Areas (ASA)	Sites designated as internationally, nationally, or locally important for archaeology or cultural heritage should be avoided wherever practicable.
	Scheduled Monuments	
	Listed Buildings, Category A, B and C	If unavoidable, impacts should be minimised through careful infrastructure siting and sensitive construction, with any remaining effects managed through archaeological mitigation in line with Historic Environment Scotland guidance.
	Conservation Areas	
	Inventory Gardens and Designed Landscapes	
	Inventory Historic Battlefields	
Non-designated records identified by the local planning authority and Historic Environment Record, including non-Inventory Designed Landscapes	Known sites should be avoided wherever practicable. If unavoidable, minimise impacts by careful infrastructure siting and sensitive construction, with any remaining effects managed through archaeological mitigation in line with Historic Environment Scotland guidance.	
Land Use	Agriculture	Areas of high-quality agricultural land (Class 1, 2 and 3i) should be avoided wherever practicable.
	Commercial forestry capability	Although there isn't a legal requirement to avoid forestry land in the same way as prime agricultural land, Scottish Planning Policy encourages development proposals to avoid high-value commercial forest land unless there is no reasonable alternative. Existing and proposed grant-aided planting schemes should be avoided wherever practicable.
	Other developments, including: <ul style="list-style-type: none"> • Approved but not yet constructed developments - projects that have received permission or consent and are expected to be implemented soon • Proposed or planned developments - projects that are in the pipeline but may not have formal approval yet. 	The likelihood of cumulative impacts from the development, in combination with other reasonably foreseeable future developments, should be avoided or minimised wherever practicable.
Physical environmental features and technical/engineering	Waterbodies/watercourses	A minimum 50 m separation zone from watercourses/waterbodies should be maintained unless otherwise agreed with SEPA.
	Flood Zones	Flood-prone zones should be avoided wherever practicable. If unavoidable, impacts should be minimised by reducing the number of poles, designing flood-resilient foundations, and limiting disruption to watercourses and habitats. Residual impacts should be minimised through careful construction practices,

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		habitat restoration, and ongoing maintenance, in line with SEPA guidance and NPF4 policy objectives.
	Deep peat	Avoid deep peat wherever practicable, as it can pose engineering and construction challenges.
	Mineral extraction/opencast sites (including disused workings)	Operational mineral extraction sites should be avoided, although restored or inactive sites may offer feasible siting opportunities with reduced environmental and operational constraints.
	Topography, elevation and side slopes	Topography, elevation, and slope gradients should be carefully considered, avoiding areas where steep or unstable terrain could compromise constructability or require excessive earthworks.
	Existing and proposed transmission and distribution network	Existing and proposed transmission and distribution infrastructure should be carefully considered to avoid potential technical conflicts and ensure safe and efficient integration.
	Wind turbines	A minimum separation distance from turbines of at least three times the rotor diameter, or the turbine height to blade tip plus 10%, should be maintained to avoid potential technical conflicts and ensure safe operation.
	Safeguarding zones	Safeguarding zones should be avoided wherever practicable. These are areas around existing or proposed infrastructure, such as airports, transport corridors, pipelines, utilities, and safeguarded environmental or cultural assets, where development is controlled to protect operational safety and avoid land-use conflicts. Where unavoidable, additional consultation with the relevant safeguarding authority is required, and design changes or mitigation measures may be needed to ensure compliance with technical and safety requirements.