



**SCOTTISHPOWER**

SP Transmission Ltd

**Black Law Windfarm Extension Grid Connection  
Environmental Statement**

**Non-Technical Summary**

**October 2012**



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Environmental Statement  
Non-Technical Summary**

**Prepared by  
LUC  
on behalf of  
ScottishPower Transmission Ltd**

**October 2012**





## Preface

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This Non-Technical Summary has been prepared in support of the Black Law Windfarm Extension Grid Connection Environmental Statement and planning applications for the development of a grid connection for the proposed Black Law Windfarm Extension in South Lanarkshire.

The Environmental Statement comprises one volume which consists of the following:

- Written Statement (principal document)
- Figures
- Appendices

Further copies of the Environmental Statement may be obtained, and will be available for viewing at:

ScottishPower Energy Networks  
New Alderstone House  
Dove Wynd  
Strathclyde Business Park  
Bellshill  
ML4 3FF

This Non-Technical Summary is available free of charge. A hard copy of the Environmental Statement costs £300. In addition, all documents are available in an electronic format (as PDF for screen viewing only) on CD/DVD for £25.

The Environmental Statement is available for viewing by the public during normal opening hours at the following locations:

South Lanarkshire Council  
Planning and Building Standards Services  
Clydesdale Area Office  
South Vennel  
Lanark  
ML11 7JT

West Lothian Council  
Development Management  
County Buildings  
High Street  
Linlithgow  
EH49 7EZ

North Lanarkshire Council  
Planning Offices  
North Lanarkshire Council  
303 Brandon Street  
Motherwell  
ML1 1RS

Forth Library / Forth Primary School  
Main Street  
Forth  
ML11 1AE

Carluke Library  
Carnthwath Road  
Carluke  
ML8 4DR

Any representations to the application should be made by completing the online representation form on The Scottish Government, Energy Consents website at: <http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-Consents/Support-object>

or

by email to The Scottish Government, Energy Consents Unit mailbox at [representations@scotland.gsi.gov.uk](mailto:representations@scotland.gsi.gov.uk)

or

by post to The Scottish Government, Energy Consents Unit, Scottish Government, 4th Floor, 5 Atlantic Quay, 150 Broomielaw, Glasgow, G2 8LU.



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**Figure 1: Site Location**

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# Non-Technical Summary

## Introduction

- 1.1 SP Transmission Limited (SPT) is applying to the Scottish Ministers for consent to install, and keep installed, a 132kilovolt (kV) single circuit overhead line (OHL). An additional application for an underground cable and extension to the existing Linnmill substation will also be submitted. This is required to connect the consented Black Law Windfarm Extension to the existing electricity network. The Black Law Windfarm Extension Grid Connection (hereinafter referred to as the 'proposed grid connection') is located within the local authority boundaries of North Lanarkshire, South Lanarkshire and West Lothian, and is shown on **Figure 1**.
- 1.2 The application for consent to construct and operate the proposed grid connection is subject to an Environmental Impact Assessment (EIA) and is accompanied by an Environmental Statement (ES) which presents the findings of the EIA. This Non-Technical Summary (NTS) summarises the findings and conclusions of the ES. Furthermore, to obtain consent for the proposed grid connection, it is SPT's duty to consider the possible environmental impacts of the proposals and state what can 'reasonably be done' to mitigate any identified adverse environmental impacts.
- 1.3 The ES has been compiled by LUC for SPT. Whilst LUC had overall responsibility for the ES; sub-consultants prepared a number of the specialist chapters and provided input to the EIA.

## Environmental Impact Assessment

- 1.4 EIA involves the compilation, evaluation and presentation of any potentially significant environmental impacts resulting from a proposed development, to assist the consenting authority, statutory consultees, and wider public in considering an application. Early identification of potentially adverse environmental impacts also leads to the identification and incorporation of appropriate mitigation measures into the scheme design to avoid, reduce and, if possible, remedy potentially significant adverse environmental impacts. The ES presents information on the identification and assessment of the likely environmental impacts of the proposed grid connection.

## Design Strategy and Routeing

- 1.5 To determine options for connecting Black Law Windfarm Extension to the existing electricity network, SPT carried out a technical and economic study to review the capacity of the existing transmission system in the vicinity of the scheme. There were two possible connection options:
  - a) construct a single 132kV line to Wishaw substation, similar to the original Black Law Windfarm; or
  - b) construct a single 132kV line to Linnmill substation.
- 1.6 In examining the two connection options, SPT was obliged to have regard to its obligations to develop and maintain an efficient coordinated and economical system of electricity transmission, and also to preserve the environment.
- 1.7 On this basis, LUC commenced a strategic routeing study in 2010 to identify a route for the 132kV single circuit wood pole transmission line that meets the technical requirements of the electricity network and causes, on balance, the least disturbance to the environment and the people who live, work and undertake recreational activities within it. SPT policy seeks to find an OHL solution for all connections and only where there are exceptional constraints would underground cables be considered as a design alternative (e.g. in urban areas and in rural areas of the highest scenic and amenity value). Where an OHL solution is not achievable for technical reasons, SPT looks to an

underground cable solution as an alternative. However, sections of underground cable identified for inclusion within a scheme must balance the economic, technical and environmental considerations.

- 1.8 The routeing process sought to avoid or limit impacts on the environment and people by taking account of local conditions, including:
- landscape and visual amenity e.g. views;
  - ecology;
  - the water environment;
  - cultural heritage;
  - residential properties (in relation to noise);
  - land uses including mineral operations, agriculture and forestry;
  - recreational activities e.g. rights of way.
- 1.9 The findings of the routeing study **and the preferred route were presented in the 'Black Law Windfarm Extension Grid Connection Routeing Consultation Report'** which was provided to a number of organisations e.g. Councils, Scottish Natural Heritage (SNH), the Scottish Environment Protection Agency (SEPA), the Royal Society for the Protection of Birds (RSPB) and Historic Scotland, as well as local Community Councils. Consultation responses received from consultees and the local Community Councils, in combination with preliminary environmental survey work, was taken into account in making modifications to the preferred route to **identify the 'proposed route'**, which was progressed to the EIA stage.

## Scoping

- 1.10 The purpose of scoping is to help focus the EIA on the likely significant environmental impacts of relevance to the site. A Scoping Report, setting out the proposed EIA scope for the proposed grid connection, was prepared by LUC and submitted to the Scottish Government in June 2011.
- 1.11 The scope of the EIA was informed by the Scoping Opinion provided by the Scottish Government in September 2011 and the consultation responses received from key consultees including North Lanarkshire Council, South Lanarkshire Council, West Lothian Council, SNH and SEPA.
- 1.12 In addition to the consultees contacted by the Scottish Government during the formal scoping process, topic area specialists engaged in further consultation and contacted a number of other stakeholders to obtain background information to further inform the EIA, and to allow stakeholders the opportunity to raise any concerns that they might have in relation to the proposed grid connection.

## Development Description

- 1.13 As shown on **Figures 2a-2g**, the proposed grid connection comprises three elements:
- **A 132kilovolt (kV) OHL** mounted on wood poles running approximately 14.5 km south-west from the proposed Black Law Windfarm Extension substation towards the wood pole termination structure.
  - **An underground cable** from the wood pole termination structure as noted above running approximately 4.5km to the existing substation at Linnmill in the Clyde Valley.
  - **An extension to the existing Linnmill substation** of approximately 23m x 20m to accommodate additional electrical connection equipment.
- 1.14 The proposed OHL will be constructed using wood poles, typically 13 – 15m high above ground, with 2.5m below ground.

- 1.15 Delivery of construction materials to wood pole locations will be achieved by access from public roads and a number of access points from the public road network have been identified. Vehicular access will be required to every pole site along the route during construction and whilst final access arrangements will be agreed with the landowners, indicative access routes from the public road access points to each pole location have been identified.
- 1.16 At locations along the OHL route, temporary construction compounds will be required for delivery, storage and assembly of materials, dispersal of plant and equipment and temporary welfare facilities. These locations will be agreed between SPT and the landowners; however, indicative locations are shown on **Figures 2a-2g**. Temporary working areas around each pole location will also be required for foundation excavation and pole erection, with the dimensions of typical working areas being 15m x 15m.
- 1.17 A total of approximately 12.45 hectares (ha) of forestry will be felled for the proposed grid connection. This is necessary to physically construct the OHL and underground cable, and also to maintain the clearances required for safe operation and maintenance.
- 1.18 There will be approximately 10 – 12 contracting staff in total working on the construction of the OHL during the 6 month construction programme.
- 1.19 The underground cable between the wood pole termination structure and the substation at Linnmill will be constructed under the road carriageway of the A72, A73 and Sunnyside Road, in a trench approximately 1250mm deep and 1000mm wide.
- 1.20 A 23m x 20m extension will be made to the existing high voltage (HV) compound at Linnmill substation.

## Landscape and Visual Amenity

- 1.21 The landscape and visual amenity assessment considered the impact that the proposed grid connection will have on the landscape and on the people who view that landscape. The main objective of the routeing process was to avoid or reduce landscape and visual impacts within the local area through design. Following the routeing study, field surveys were undertaken to inform modifications to the route to further reduce impacts where possible.
- 1.22 To assess the likely impacts on visual amenity during construction and operation of the proposed grid connection, nine viewpoints were selected for detailed review; these were agreed in consultation with SNH, North Lanarkshire Council, South Lanarkshire Council and West Lothian Council.
- 1.23 The proposed grid connection will pass through five landscape character types (LCT). There are no nationally designated landscapes located within the 2km study area; however, the Leven Seat locally designated landscape lies within 2km of the OHL. The closest settlements to the proposed grid connection include Climpy, Forth, Kilncadzow, Linnville, Cartland, Lanark and Kirkfieldbank.
- 1.24 During construction, it is anticipated that there will be impacts on the A721 Road to West Coast Mainline Railway (WCML), the WCML to the A73 Road and on one viewpoint, viewpoint 6, the minor road near Collielaw Cottage. These impacts will be temporary for the duration of the six month construction programme.
- 1.25 No significant impacts are predicted during the operational phase of the project or cumulatively with other developments likely to be constructed or operated within the study area.
- 1.26 Mitigation measures for landscape and visual impacts are those embedded into the design of the scheme, and those relating to site restoration after construction.

## The Water Environment

- 1.27 This assessment considered the impacts on surface water hydrology, flood risk, surface water quality, groundwater and water resources during construction and operation of the proposed grid connection.

- 1.28 The study area included the catchments and streams where the proposed grid connection infrastructure is located. However, the assessment also considered downstream impacts of the proposed grid connection on surface water hydrology, flooding risk, water quality, groundwater and water resources.
- 1.29 The northern section of the proposed grid connection is located within the catchment of the River Almond but the majority of the proposed grid connection lies within the River Clyde catchment area, and the route will pass over, or close to, streams associated with a number of watercourses; all of which drain to the River Clyde. The OHL will also pass over watercourses that connect to the Springfield Reservoir which is stocked for fishing. The underground cable section will cross the River Clyde over the existing Stonebyres Weir.
- 1.30 During the design process, stream crossings, watercourses, hydrological features, private water supplies, wells and areas of wet ground were taken into consideration and the route designed to avoid these features where possible. The design process also identified the type of temporary access tracks needed to reflect the ground conditions along the route corridor.
- 1.31 The assessment identified a potential increased flood risk on the section of the A73 road during construction due to the possible blockage of drainage culverts under the road. A further potential impact was predicted on the Netherton Burn reach, as it is anticipated that there will be a decrease in water quality of the burn as a result of increased sediment levels during construction. A potential impact is also predicted on the water quality of Springfield Reservoir due to potential pollution risk from construction activities.
- 1.32 Potential impacts on hydrology will be prevented and reduced through the use of standard water run-off and sediment control measures and pollution prevention measures. These will be implemented through the Environmental Management Plan (EMP) for the proposed grid connection and no significant impacts are predicted on the water environment as a result of the proposed grid connection.

## Ecology

- 1.33 The ecology assessment considered the impacts that the proposed grid connection will have on habitats and protected species.
- 1.34 A number of field surveys were undertaken to inform the assessment. These included an assessment of habitat types and distributions, as well as an otter survey, water vole survey, badger survey, bat habitat survey and great crested newt survey. A total of 30 habitats were identified within the study area including improved and poor semi-improved pasture grasslands, fields containing arable crops, coniferous plantation woodlands and marshy grasslands. The study area was found to support otter, a number of badger setts, and habitat features suitable for bat commuting and foraging. The field studies found no evidence of great crested newt or water voles.
- 1.35 Routeing of the proposed grid connection sought to avoid areas of blanket bog habitat where possible and to ensure a 30m distance was maintained from all badger setts. In addition, the OHL was routed to avoid felling trees with high potential for bat roosts, and a section of the underground cable route will utilise a cable tray arrangement on the north bank of the River Clyde to minimise the felling of semi-natural broadleaf trees.
- 1.36 The proposed grid connection will result in construction impacts on non-statutory designated sites as a result of direct habitat loss (two ancient woodland sites and two Sites of Importance for Nature Conservation (SINCs)). There will be no impacts on statutory designated sites for nature conservation. A significant impact is predicted on habitats due to physical disturbance to peatland habitats during construction. A significant impact is also predicted on badger and otter due to physical and noise disturbance associated with construction activity in two locations.
- 1.37 Mitigation measures are proposed to minimise significant impacts during construction including pre-construction surveys and the appointment of an Ecological Clerk of Works (ECow). As a result, no residual significant impacts of the proposed grid connection are proposed.

- 1.38 It should be noted that the proposed construction methodologies and design associated with the proposed grid connection **already includes extensive 'built-in' mitigation that will safeguard** ecological features.

## Ornithology

- 1.39 The assessment of potential impacts on ornithology (birds) considered impacts relating to indirect habitat loss during construction and operation of the proposed grid connection, and risk of collision with the OHL during operation.
- 1.40 Bird populations were surveyed from March 2011 to May 2012 and surveys were undertaken for breeding birds, woodland birds, black grouse, and scarce breeding raptors and owls. Flight activity surveys were undertaken from six vantage points following established survey methods. The aim of the surveys was to identify bird species and numbers breeding, wintering and migrating within the study area.
- 1.41 Four scarce raptor species; hen harrier, goshawk, merlin and peregrine were recorded during the field surveys in addition to barn owl and short-eared owl. Wildfowl records consisted of whooper swan, pink-footed goose and greylag goose. In relation to wader species; golden plover, curlew, lapwing, snipe and oystercatcher were recorded. A number of other species were also recorded including herring gull, buzzard and kestrel; however, these species were not considered in the assessment due to their being present in low numbers and/or unlikely to be significantly affected by the proposed grid connection.
- 1.42 No significant impacts on birds are predicted due to indirect habitat loss resulting from disturbance and displacement of birds during construction of the proposed grid connection. A Bird Protection Plan (BPP), to be approved by SNH, will be put in place prior to construction of the proposed grid connection, which will describe survey methods for the identification of sites used by protected and sensitive birds, and detail operational protocols for the prevention or minimisation of disturbance to birds.
- 1.43 During operation of the proposed grid connection, displacement of birds due to the presence of the OHL is not considered to result in significant impacts on birds.
- 1.44 Although no significant impacts are predicted during operation, mitigation measures will be employed to reduce the likely risk of birds colliding with the OHL as good practice. To reduce potential collision risk, the OHL will be made more visible to birds by attaching markers to the line which has been shown to reduce collision rates by 60- 90%. In total, 5km of the OHL will be marked in consultation with SNH, including a section of line within 500m of Springfield Reservoir.
- 1.45 A cumulative assessment found that no significant operational impacts are predicted.

## Cultural Heritage

- 1.46 Cultural heritage assets include sites, features and areas with statutory and non-statutory designations, including Scheduled Monuments; Listed Buildings; Conservation Areas; Gardens and Designed Landscapes; Non Statutory Register sites and other historic environment interests. The assessment considered direct impacts on recorded designated and non-designated cultural heritage assets within the study area, indirect impacts on the setting of designated assets within the wider study area and cumulative impacts on cultural heritage assets. A desk based assessment, consultation and field surveys in 2011 and 2012 were undertaken to inform the assessment.
- 1.47 Seventy cultural heritage assets were identified within the study area for potential direct impacts, spanning a period from prehistory throughout the medieval period into the 20<sup>th</sup> century. The underground cable section of the proposed grid connection crosses the River Clyde via the Category A Listed Stonebyres hydroelectric power station, weir and bridge. There are 11 assets within 2km of the proposed grid connection, of which eight could have theoretical visibility with the OHL. These comprise: two Category A Listed Buildings, three Category B Listed Buildings, one Garden and Designed Landscape and three Scheduled Monuments.

- 1.48 The routeing process sought to avoid routeing through areas designated for cultural heritage importance where possible, e.g. Lee Castle Garden and Designed Landscape, with subsequent modifications made to the design of the OHL and access tracks to avoid direct impacts on known cultural heritage assets.
- 1.49 Due to the routeing design and subsequent modifications undertaken to avoid cultural heritage assets, whilst there will be unavoidable potential impacts on a number of assets during construction, these are not considered to be significant. Due to the limited length of the OHL with potential visibility and partial screening of views of the grid connection from the eight designated assets within the wider study area, no significant impacts are predicted on the setting of these features. Further, no significant cumulative impacts on cultural heritage assets are considered likely from the proposed grid connection in combination with other developments.
- 1.50 Whilst no significant impacts are predicted, SPT is committed to avoiding or reducing impacts where possible and is proposing that a Written Scheme of Investigation is prepared in advance of construction which includes measures for pre-construction survey, recording and preserving features on site. Guidance for construction staff on the identification and avoidance of assets will also be issued.

## Noise

- 1.51 The noise assessment considered the potential impacts from construction noise on residential properties within approximately 300m of all construction works and access tracks used by construction traffic. Given the nature and scale of the construction works, it was considered that receptors beyond this distance would not be subject to significant impacts.
- 1.52 The study area consists of a mixture of rural and residential locations, with mainly scattered farmhouse properties in the north and more residential areas located towards the southern end of the route near the Linnmill substation.
- 1.53 The routeing design has taken into consideration the distance to the nearest residences, and where practicable, the OHL route lies more than 100m from the nearest residents. Additionally, the temporary access points have been located to avoid or minimise noise impacts to residences.
- 1.54 No background noise monitoring surveys were required as the assessment was carried out based upon noise threshold values outlined in British Standards Institution (BSI) guidance for construction noise and values defined from other guidance in relation to traffic noise. Sound power output levels for each construction vehicle e.g. excavators, dumper-truck and chainsaw were utilised in combination with the construction programme to assess construction noise impacts.
- 1.55 No significant impacts have been identified due to the construction of the OHL as no residential properties are located within 50m of the felling and construction works. There are 29 properties located within the 60m threshold for potentially significant impacts of the underground cable route. Due to the duration of construction of the underground cable within 60m of these properties being less than one month, no significant impacts are predicted.
- 1.56 During the construction period, the number of vehicle movements per day is estimated at 19, with approximately 3 of these vehicles being heavy goods vehicles (HGV) and 16 being 4x4s and construction personnel vehicles. Given the small number of vehicle movements and that any one access point will only be used for two to three months, a significant impact has not been identified at residential properties due to construction traffic noise.
- 1.57 An assessment of the operational noise produced by the OHL found that the OHL is acceptable in terms of continuous audible noise.

## Traffic and Transport

- 1.58 The traffic and transport assessment considered the impacts of the construction of the proposed grid connection on the road network and other road users. The study area for the traffic and

transport assessment has been defined as the public road network in the vicinity of the proposed grid connection that will be used as access routes for construction traffic, namely the A72, A73, A721, B7056, Sunnyside Road, Mousehill Road, West Nempflar Road and B7018.

- 1.59 The assessment was informed by a combination of desk-top study and consultation; no field surveys were undertaken.
- 1.60 Access for construction vehicles will be provided at several points along the proposed grid connection route and will be taken from the local road network. For the OHL works, access points to allow construction of a set number of wood poles to support the cable and temporary construction compounds will be created. Construction vehicles are anticipated to access the site to deliver equipment or site components either via the M74(T) and A72 or via the A73 from the M8. The vehicles will then use local roads to reach each construction access point as required. Due to the number of access points dispersing construction traffic, low construction traffic volumes and existing capacity on the local road network, no significant impacts associated with construction of the OHL are predicted.
- 1.61 The underground cable section of the proposed grid connection will be constructed under the carriageway of the A73, Sunnyside Road, A72 and B7018 and this has the potential to cause delay to road users during construction.
- 1.62 Whilst the impact of construction of the proposed grid connection is not considered to be significant, a temporary Traffic Management Plan will be required to ensure that the operation of each road is maintained whilst the works are ongoing. This traffic management is likely to take the form of single lane operation controlled by temporary traffic signals. The A73 is likely to be most affected by this impact as the underground cable will run underneath the carriageway for approximately 2km in a southbound direction. As a result, this section of the A73 may be affected by construction traffic for up to 12 weeks, based on an anticipated programme of 30m of cable-laying per day. No cumulative impacts are predicted.

## Land Use

- 1.63 The land use assessment considered how the proposed grid connection will interact with the existing land use, comprising mineral extraction, forestry, agriculture and recreational activities.
- 1.64 The key issues relating to minerals were identified as hydrogeology and contamination of mine water and the potential for mineral extraction. Ground water levels in the area of the proposed grid connection mostly lie below the proposed construction depths of the proposed grid connection. Therefore, given this, and the proposed good practice measures that will be implemented during construction, pollution of groundwater, including any mine water, is considered unlikely. Five areas within the study area have been classified as being underlain by minerals of a type which may have potential for extraction in the future. However, these are not considered to be economically viable at the current time, or likely to be economically viable in the near future. A field survey inspection was undertaken in August 2012 and a number of disused mine shafts and drift mines (six in total) were identified in close proximity to the proposed grid connection route. The proposed grid connection has been rerouted to provide a minimum distance of 10m from the mine entry locations.
- 1.65 The proposed grid connection is located within an area of mainly open ground, interspersed with areas of commercial and broadleaf woodland. The routeing process aimed to avoid routeing through woodland areas where possible. However, due to the presence of large blocks or strips of woodland within the area, this has not been possible along the entire route and some woodland felling is required to accommodate the OHL and underground cable. For technical and safety reasons, a corridor of 25m either side of the OHL and 10m above the underground cable needs to be kept free of trees, therefore approximately 12.45 hectares of woodland is required to be felled. The majority of the felled trees will be removed using a combination of mulching and traditional forestry harvesting, where the timber will be extracted and removed to a local saw mill.
- 1.66 Some of the land through which the proposed grid connection passes is currently used for agricultural activities comprising crop production and grazing. This was taken into account during the routeing stages of the project; when areas of land were identified by landowners as being of



value for crop production, the identification of the route and subsequent locations of poles within these fields sought to minimise loss of productive land where possible. Due to the relatively limited agricultural value of the majority of the land within which the grid connection is proposed, the design of the route to minimise loss of productive land, and the overall small amount of land permanently lost to the development, i.e. 5.51 hectares (ha), the impact of the proposed grid connection on agricultural land use is not considered to be a key issue.

- 1.67 In relation to recreational activity, the proposed grid connection crosses three public Rights of Way including the Clyde Walkway. There are no formal recreational activities which would be affected by the proposed grid connection; however, recreational fishing takes place on Springfield Reservoir and the Clyde Valley caravan and camping site is located in Kirkfieldbank. Based on the information available, the area through which the proposed grid connection will pass is not widely used for recreational activities and those informal recreational activities that do take place nearby are unlikely to experience significant impacts as a result of construction or operation of the proposed grid connection.

## Electric and Magnetic Fields

- 1.68 The Government sets guidelines for exposure to electric and magnetic fields (EMFs) in the UK on advice from the Health Protection Agency (HPA). Whilst there are no statutory regulations in the UK that limit the exposure of people to power frequency electric or magnetic fields, it is the policy of ScottishPower and the UK electricity industry to follow these independent exposure guidelines.
- 1.69 Based on these national guidelines, calculations were undertaken for both electric and magnetic field levels for the proposed OHL. The assessment found that the maximum electric field that could be produced directly underneath the proposed OHL during operation will be 533 Vm<sup>-1</sup> (volts per metre) and the maximum magnetic field will be 13.72µT (microteslas). These EMFs are less than the Government reference levels of 5000Vm<sup>-1</sup> for electric fields and 100UT for magnetic fields; therefore, the proposed grid connection therefore complies with Government policy for magnetic fields.

## Summary

- 1.70 The EIA of the proposed grid connection has been carried out in accordance with regulatory requirements and guidance on good practice.
- 1.71 The overall aim of the design **strategy was to create a 'technically feasible and economically viable route' for the proposed grid connection which met the technical requirements of the electricity network and caused the least disturbance to the environment.** The proposed grid connection route was selected following a number of routeing and design iterations taking into account technical constraints, consultation feedback and environmental characteristics.
- 1.72 Overall, the ES shows that, given the iterative design process, and with the committed good practice measures and proposed mitigation in place, most potential environmental impacts associated with the construction and operation of the proposed grid connection can be avoided or minimised. Therefore, in terms of the EIA Regulations, it is considered that the proposed grid connection will not have significant adverse impacts on the environment with the exception of a limited number of landscape and ecological impacts. Mitigation measures have been proposed to avoid any significant ecological impacts. The avoidance and reduction of landscape and visual impacts has been achieved predominantly through the routeing and design of the proposed grid connection and the reinstatement proposals post construction; no significant impacts are predicted once the proposed grid connection is operational.

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<sup>i</sup> LUC, (2011), '*Black Law Windfarm Extension Routeing Consultation Report*', Available [online] at: [http://www.spenergynetworks.co.uk/serving\\_our\\_customers/consultation\\_black\\_law.asp?NavID=1&SubNavID=3&SubSubNavID=3](http://www.spenergynetworks.co.uk/serving_our_customers/consultation_black_law.asp?NavID=1&SubNavID=3&SubSubNavID=3), Last accessed on: 25/10/2012





Site Location

- ◆ Black Law Windfarm Extension - Phase 1
- Overhead Line
- Underground Cable
- Linnmill Substation

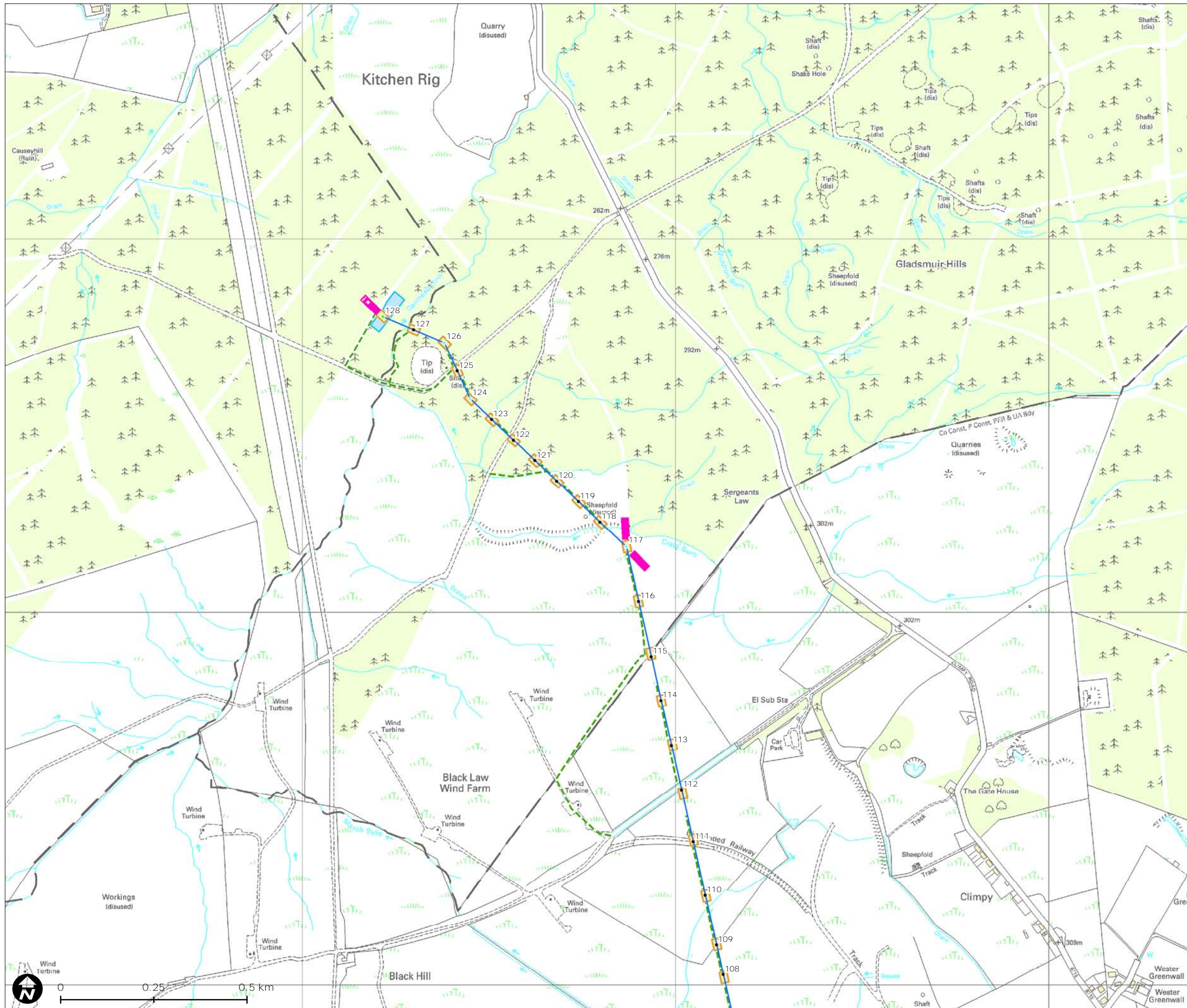


Figure 1

Map Scale @ A3: 1:150,000

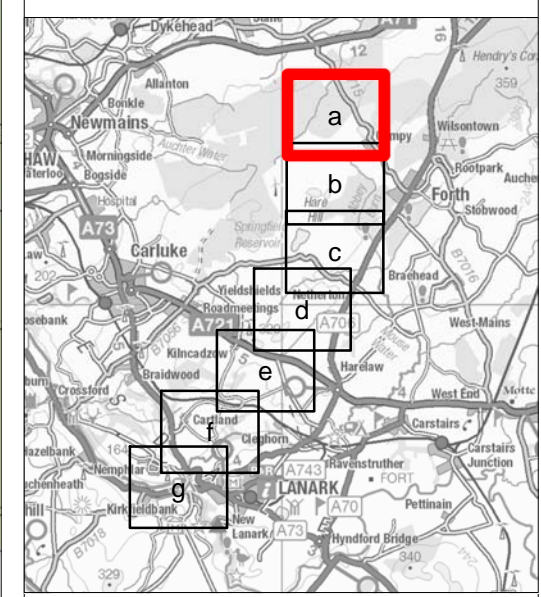






**Proposed Grid Connection**

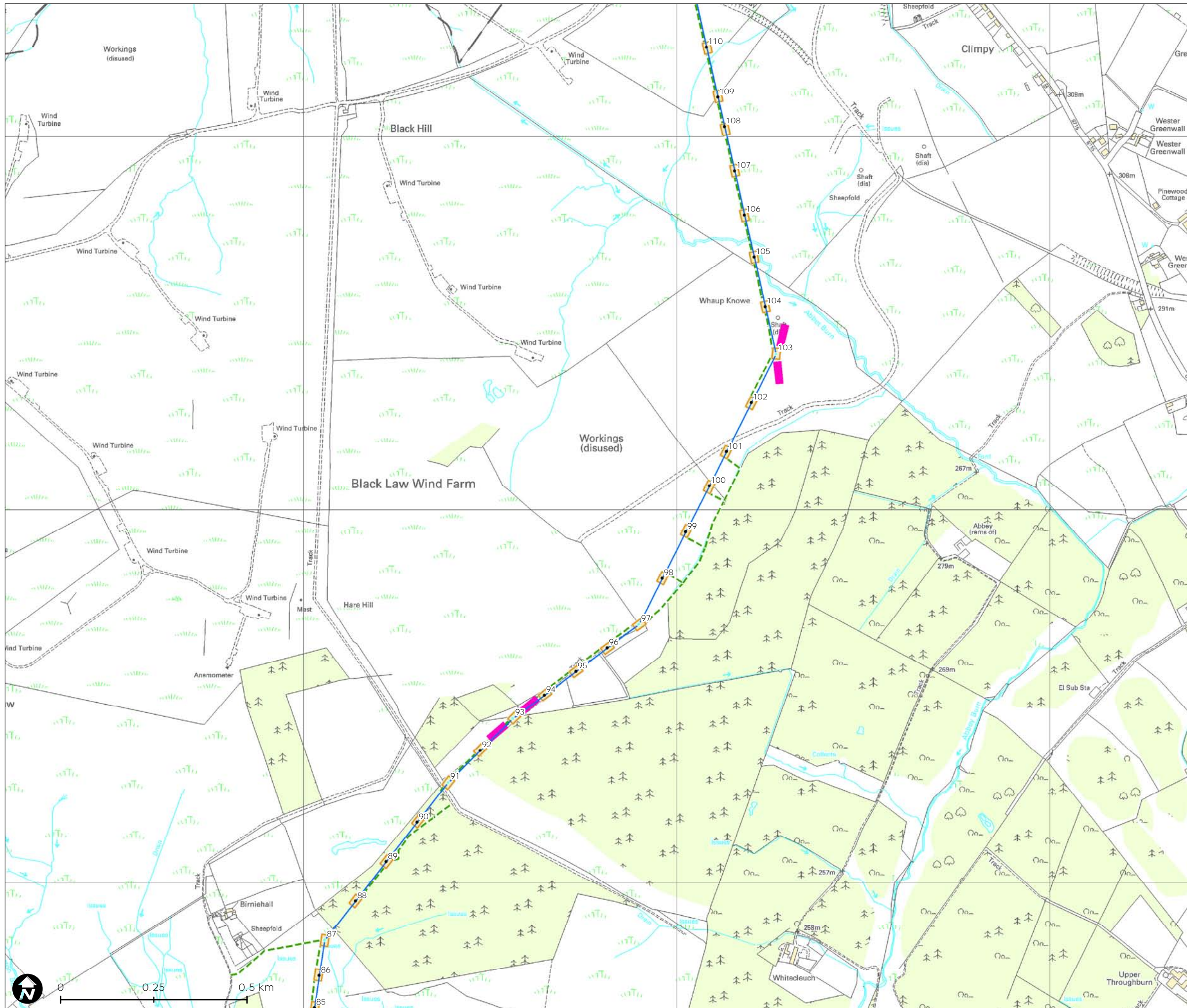
- Black Law Windfarm Extension Substation
- Overhead Line
- Wood Pole
- Angle Wood Pole
- Terminal Wood Pole
- Temporary Access Track
- Temporary Working Area
- Temporary Pulling area



**Figure 2a**  
Map Scale @ A3: 1: 10,000







**SP TRANSMISSION**  
**Black Law Grid Connection**

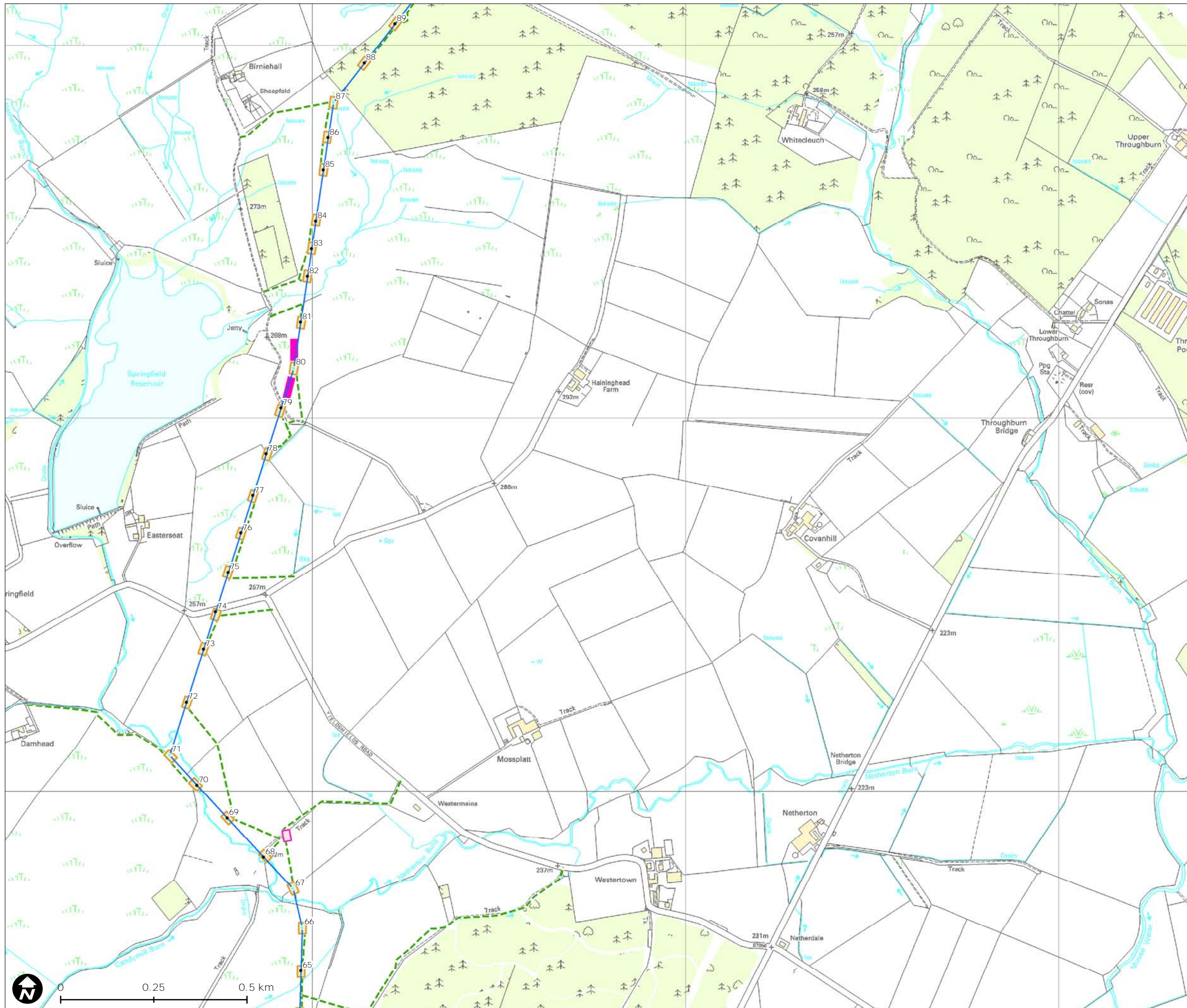
**Proposed Grid Connection**

- Overhead Line
- Wood Pole
- Angle Wood Pole
- - - Temporary Access Track
- Temporary Working Area
- Temporary Pulling area

**Figure 2b**  
 Map Scale @ A3: 1:10,000

**LUC**





**SP TRANSMISSION**  
**Black Law Grid Connection**

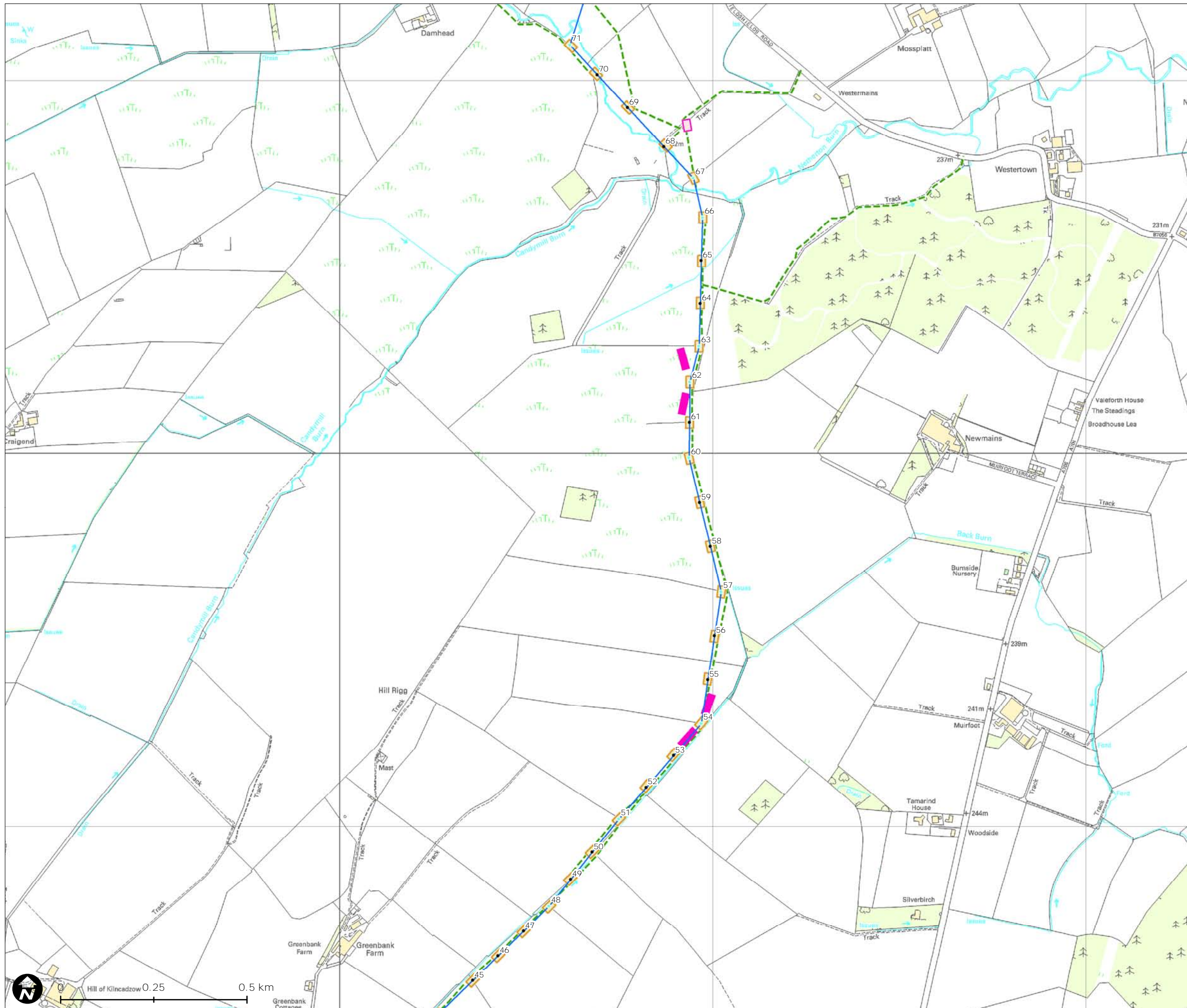
**Proposed Grid Connection**

- Overhead Line
- Wood Pole
- Angle Wood Pole
- - - Temporary Access Track
- Temporary Construction Compound
- Temporary Working Area
- Temporary Pulling area

**Figure 2c**  
 Map Scale @ A3: 1:10,000

**LUC**





**SP TRANSMISSION**  
**Black Law Grid Connection**

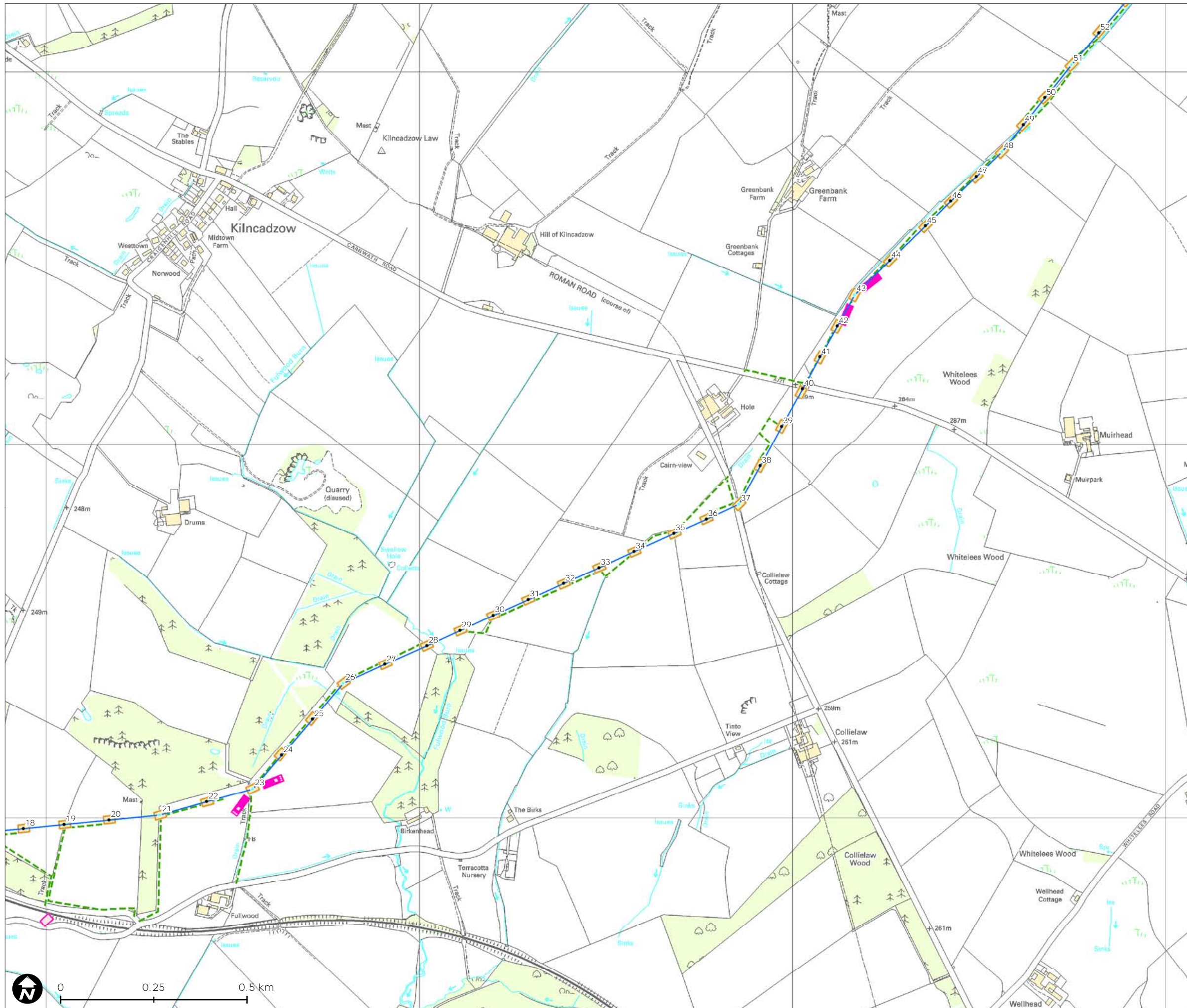
**Proposed Grid Connection**

- Overhead Line
- Wood Pole
- Angle Wood Pole
- Temporary Access Track
- Temporary Construction Compound
- Temporary Working Area
- Temporary Pulling area

**Figure 2d**  
 Map Scale @ A3: 1:10,000

**LUC**





**SP TRANSMISSION**  
**Black Law Grid Connection**

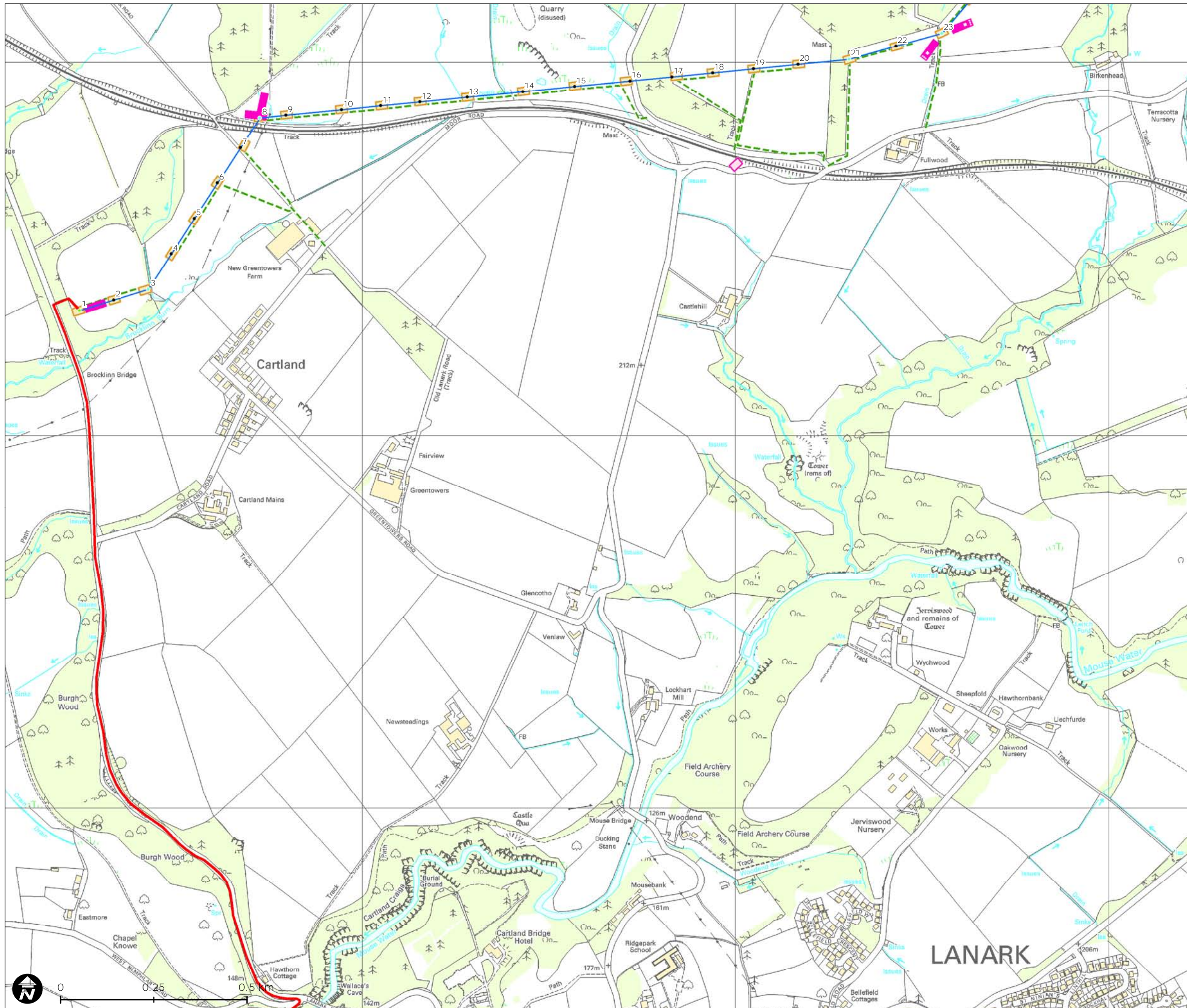
**Proposed Grid Connection**

- Overhead Line
- Wood Pole
- Angle Wood Pole
- - - Temporary Access Track
- Temporary Construction Compound
- Temporary Working Area
- Temporary Pulling area

**Figure 2e**  
 Map Scale @ A3: 1:10,000

**LUC**





**Proposed Grid Connection**

- Overhead Line
- Wood Pole
- Angle Wood Pole
- Terminal Wood Pole
- Underground Cable
- Temporary Access Track
- Temporary Construction Compound
- Temporary Working Area
- Temporary Pulling area

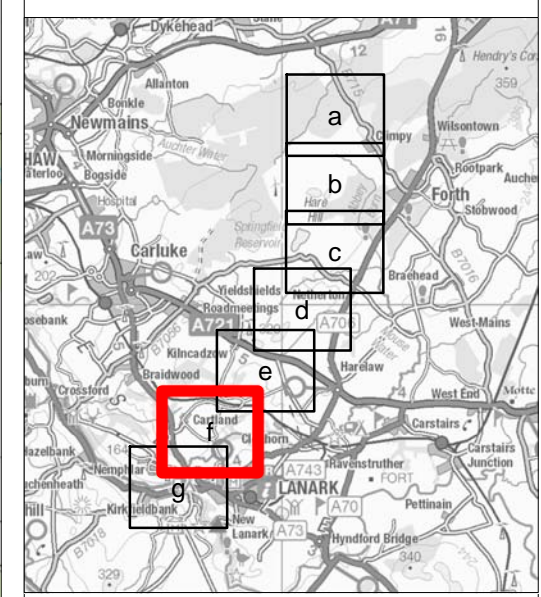
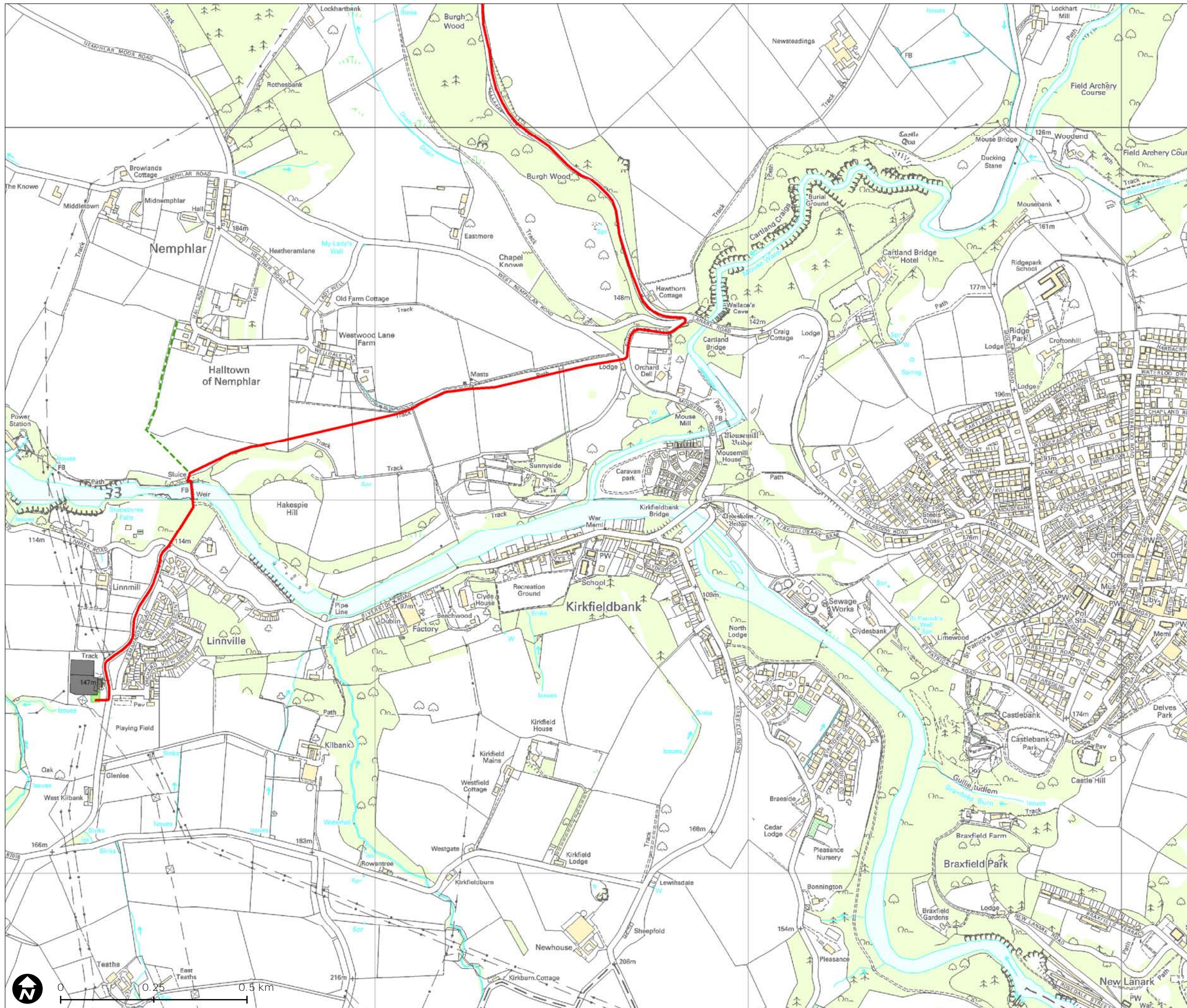


Figure 2f  
 Map Scale @ A3: 1: 10,000

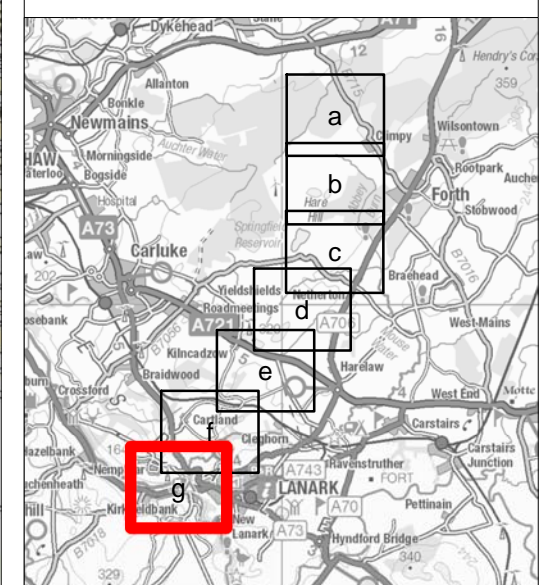






**Proposed Grid Connection**

- Underground Cable
- - - Temporary Access Track
- Existing Linnmill Substation
- Linnmill Substation Extension



**Figure 2g**  
Map Scale @ A3: 1:10,000

