

# Kincardine North Substation

*Environmental Impact Assessment Report*

*Volume 1. Non Technical Summary*

*November 2025*



**Prepared for:**

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**Availability of this EIA Report and Making Representations**

This EIAR and all supporting documentation for the planning application will be available on the Fife Council website <https://planning.fife.gov.uk/online/>.

Hard copies of the EIAR are available for viewing at Kincardine Library 2 Keith St, Kincardine, Alloa FK10 4ND

Representations regarding the application can be made using the online planning system at <https://planning.fife.gov.uk/online/>.

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# 1. Introduction

## 1.1 Introduction

SP Transmission has submitted a planning application for planning permission under the Town and Country Planning (Scotland) Act 1997 for a new 400 kilovolt (kV) substation, referred to as Kincardine North Substation (KINN) or the Proposed Development. The planning application is accompanied by an Environmental Impact Assessment Report (EIAR) which describes the identification and assessment of the likely significant environmental effects of KINN. This document forms Volume 1 of the EIAR, the Non-Technical Summary (NTS). It provides a summary of Volume 2 of the EIAR, the Main Report and is intended to provide interested parties with an understanding of:

- The Proposed Development including information about its location, design and construction.
- The area within which the Proposed Development is located and the aspects of the environment which could be affected by it.
- The mitigation measures which have been incorporated into the design, construction and operation of the Proposed Development.
- The likely significant environmental effects of the Proposed Development which could occur as a result of its design, construction and operation.

## 1.2 The Proposed Development

### **Kincardine North Substation**

The Proposed Development comprises a new 400kV substation as well as associated access roads (including internal roads), drainage and landscaping (including ecological enhancement). It will help to reinforce and increase the capacity of the electricity transmission network. It is located on the western boundary of Fife at Kilbagie and extends into Clackmannanshire where it meets the A876. The location of the Proposed Development is illustrated in Figure 1.1. A description of the Proposed Development is set out in section 2 of this NTS.

### **The Applicant**

SP Energy Networks (SPEN) is the trading name for Scottish Power Energy Networks Holdings Limited. SPEN owns and operates the electricity transmission and distribution networks in central and southern Scotland through its wholly-owned subsidiaries SP Transmission plc and SP Distribution plc. These businesses are 'asset-owner companies' holding the regulated assets and Electricity Transmission and Distribution Licenses. SP Transmission plc is the Transmission Licence holder under the Electricity Act 1989.

As the holder of a transmission licence under the Electricity Act 1989, SP Transmission is subject to a number of statutory duties and licence obligations. These include requirements "to develop and maintain an efficient, coordinated and economical system of electricity transmission" and "to facilitate competition in the supply and generation of electricity". This

requires SP Transmission to provide for new electricity generators such as wind farm developers wishing to connect to the transmission system in its licence area; to make its transmission system available for these purposes and to ensure that the transmission system is fit for purpose through appropriate reinforcements to accommodate the contracted capacity.

In addition, in formulating proposals for electricity transmission infrastructure, SP Transmission is subject to duties under Schedule 9 of the Electricity Act 1989 that it: *“(a) shall have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest; and, (b) shall do what [it] reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects.”*

The planning application for KINN has been prepared and made by SP Transmission taking account of their statutory duties and licence obligations.

### 1.3 About EIA

#### **Overview of the EIA Process**

EIA is the process of identifying, evaluating and mitigating the likely significant environmental effects of a proposed development such as those potentially occurring as a result of the construction and operation of the Proposed Development. Through the early identification and evaluation of the likely significant environmental effects of a proposed development, EIA enables appropriate mitigation (that is measures to prevent, avoid, reduce or offset significant adverse effects) to be identified and incorporated into the proposed development’s design, or commitments to be made to environmentally sensitive construction methods and practices.

The EIA of Proposed Development has been undertaken in parallel with the development of its design thereby maximising opportunities to mitigate likely significant effects as they have been identified. This approach ensures mitigation is embedded in the design of the substation and forms an integral component of it.

The results of the EIA also ensure that decision makers, in this instance Fife Council and Clackmannanshire Council, as well as statutory consultees and other interested parties including local communities, are aware of the development’s likely environmental effects and whether these may be significant or not so that they may be considered in the determination of an application for planning permission.

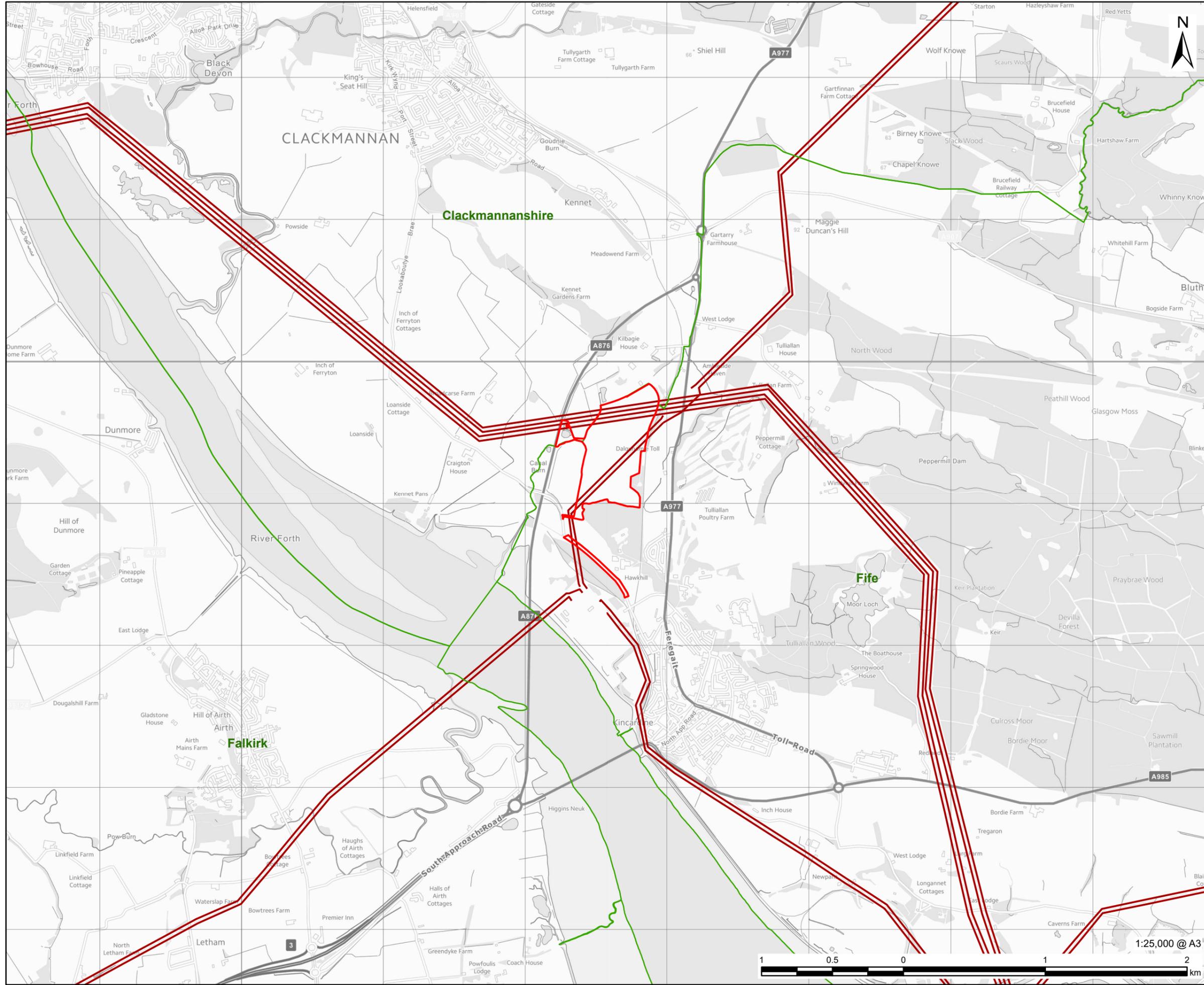
A significant adverse effect is not necessarily one that would make the Proposed Development unacceptable, nor is a significant beneficial effect necessarily one that would make it acceptable. The purpose of identifying the significant effects (adverse and beneficial) is to ensure that all parties, in particular decision makers, are aware of the environmental effects (in particular those effects which are likely to be significant) of the Proposed Development and consider these alongside other material considerations in determining the planning application.

### **Requirement for EIA**

The relevant EIA legislation with regard to applications for planning permission under the Town and Country Planning (Scotland) Act 1997 are the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (the EIA Regulations). The EIA Regulations include two schedules of development; Schedule 1 lists development for which EIA is mandatory and Schedule 2 lists development for which EIA may be required if it is likely to have significant effects on the environment by virtue of factors such as its nature, size or location.

KINN is not development of a type identified in Schedule 1 of the EIA Regulations and therefore EIA is not a mandatory requirement. In relation to Schedule 2, KINN does not fall under the descriptions of development in 'Category 3 Energy Industry' but could broadly be interpreted as an industrial estate development under 'Category 10 Infrastructure Projects' with substations having some similar characteristics to industrial estate developments. In such instances the requirement for EIA can be determined through submission of a screening opinion request to the relevant local planning authorities. Circular 1/2017 Environmental Impact Assessment Regulations advises that "*the basic test of the need for EIA in a particular case is the likelihood of significant effects on the environment.*" Therefore, development being outside the criteria set out in Schedule 1 or 2 does not preclude significant effects arising, particularly where the development is in an environmentally sensitive location.

Considering both SP Transmission's statutory duties as a transmission licence holder under the Electricity Act 1989 and the guidance contained in Circular 1/2017, SP Transmission considered it appropriate to undertake a proportionate level of environmental assessment and have therefore undertaken this EIA on a voluntary basis.



**PROJECT**

Kincardine North Substation

**CLIENT**

SP Energy Networks

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**LEGEND**

- Site Boundary
- Local Planning Authority Boundary
- SPT Overhead Transmission Network
- Existing 275kV

**NOTES**

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**ISSUE PURPOSE**

EIA REPORT

**PROJECT NUMBER**

60635450

**FIGURE TITLE**

Location of the Proposed Development

**FIGURE NUMBER**

Figure 1.1

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## 2. The Proposed Development

### 2.1 Location of Kincardine North Substation

The Proposed Development is located on agricultural land approximately 2 kilometres north of Kincardine. The A876 lies to the west of the site and the Stirling-Alloa-Kincardine railway line and A977 to the east. The application boundary is illustrated in Figure 2.1 Site Location Plan and occupies approximately 35.3 hectares (ha) in total. There are two components to the application boundary; the main site which is approximately 34.1ha and within which the substation would be located and a smaller area following Hawkhill Road to the south which is approximately 1.7ha and where temporary road upgrades would be located.

The majority of the site is predominantly flat and low lying with elevations typically between 4.8 and 8.5m AOD. The Canal Burn follows the application boundary in northwestern corner of the site and is crossed by part of the application boundary before it flows under the A876 through a culvert. An unnamed watercourse lies to the south of the site where the application boundary meets existing woodland to the north of Hawkhill Farm. An existing pond lies to the north/northwest of the site and is understood to treat surface water runoff from the A876. Currently the majority of site is used for arable farming with limited vegetation. A narrow band of woodland is present on the eastern margin of the site where it abuts the railway line. A larger area of woodland lies to the south of the application boundary separating the site from Tulliallan Castle and Hawkhill Farm buildings to the south.

Land to the west of the site, between the site and the A876, is the subject of an approved application for a Battery Energy Storage System (BESS), known as the Kincardine Grid Services Complex. Existing overhead lines, known as the XL, ZCN and ZCS routes, currently traverse the site to the north, however, these will be diverted into and connected to the Proposed Development. The application boundary meets Hawkhill Road to the south/southeast of the flyover crossing the A876. There is an existing access to the west of the site from the A876 via a locked field gate as well as from the south of the site via Hawkhill Road. A smaller section of the application boundary to the south parallels Hawkhill Road extending in a southwestern direction for approximately 700m where temporary measures are proposed to manage construction traffic. This section of the site incorporating Hawkhill Road also coincides with a section of National Cycle Network Route 76 and Core Paths R745 and R746.

### 2.2 Description of the Proposed Development

The Proposed Development comprises the construction of a new 400kV substation and associated access roads (including internal roads), drainage and landscaping (including ecological enhancement) and road widening. While the application boundary occupies approximately 35.8ha and comprises the whole field, the actual permanent substation footprint is much smaller occupying approximately 4.97ha. The following sections provide a description of the main components of the Proposed Development. These are also illustrated on Figure 2.2.

## **The Substation**

The substation would be located on a permanent hardstanding platform by using appropriate ground stabilisation methods according to the ground conditions. The platform will be located to the north of the site and orientated in a southwest to northeast direction. The platform will be constructed to a finished ground-level of approximately 8mAOD, no greater than 1-2m above existing ground levels. The substation platform will be located within a secured fenced compound for safety and security purposes. The substation uses Gas Insulated Switchgear (GIS) technology which helps to reduce its overall footprint. This means that the part of the substation housing the switchgear will be located indoors within a building while other electrical equipment including busbars and gantries will be located outdoors within the fenced platform. In addition to the substation, the Proposed Development also includes access roads, drainage and landscape planting including ecological enhancement.

## **Access**

Permanent access to the Proposed Development will be from a new 600m long road which is connected to the existing junction with Hawkhill Road. The permanent road largely follows existing field boundaries between the Proposed Development and the consented BESS site to the west. Additional permanent roads will be constructed outside of the main substation platform to provide access around the site, for example for maintenance of drainage ponds. Additional internal roads will be constructed within the fenced substation platform allowing access to the GIS building and outdoor electrical equipment. Provision for car parking has been made within the substation platform.

An access road will be constructed from the A876 access and routed east to the substation platform. This will be utilised for the delivery of abnormal loads only. This will require an existing culvert crossing a ditch which drains south from the existing pond to the Canal Burn to be strengthened and potentially widened as well as require a new culvert crossing of the Canal Burn. It will be left in-situ in for emergency access and egress or in the event access is required from the A876 for larger scale maintenance. It would not be used for construction related activities.

## **Drainage**

Surface water runoff from the hardstanding areas of the site will be conveyed via drainage ditches to SUDS ponds (to the north and south of the site) where the water will be attenuated, before discharging at a controlled rate to nearest watercourses; the Canal Burn to the north of the site and an unnamed watercourse to the south of the site. Access tracks will first discharge to swales adjacent to the roads, before discharging to the SUDS ponds. A bunded oil containment system will be installed to collect potential fuel leaks from within the substation platform.

## **Ground Improvement Works**

Subject to further ground investigation, potential ground improvement works including localised grouting to infill and stabilise historic mine workings within the application boundary may be required. The full extent of ground improvement works is subject to further detailed design.

## **Landscape Planting**

Proposed landscape planting includes tree and shrub planting on the site boundary as well as grassland reinstatement outside of the substation platform and other hardstanding areas. Proposed tree planting includes some planting on the western side of the site between the approved Kincardine Grid Services complex and the proposed substation, on the northern boundary towards Kilbagie and on the southern boundary supplementing the existing woodland between Hawkhill Farm and the Proposed Development. Some tree planting is also proposed on the eastern boundary increasing the depth of existing planting which separates the site from the railway line.

## **Construction of the Proposed Development**

### Overview of Construction

The construction of the Proposed Development will follow a well-established sequence of activities including the following main activities:

- Pre-construction surveys
- Site establishment and enabling works including establishment of access
- Earthworks, ground improvement works, piling works and drainage
- Formation of the substation platform and other civil works
- Construction of the substation building
- Installation of electrical plant and equipment
- Connection works within the substation
- Commissioning activities
- Removal of temporary construction facilities
- Reinstatement and landscaping

### Working Hours

Subject to planning permission and land rights, construction of the Proposed Development will commence in 2026. The overall construction programme is 4-5 years. In general construction works will take place between 0700 - 1900 (Monday – Friday) and 0800 – 1700 (Saturday). No works are anticipated on Sundays or Bank Holidays, however, should this be required Fife and Clackmannanshire Councils would be notified in advance. Some works may be required outside of core working hours including:

- Works which by their nature may need to be undertaken out of hours to minimise disruption to the local community such as delivery of Supergrid transformers (SGTs).
- Start up and close down activities one hour either side of the core working hours to enable efficient mobilisation of construction activities.
- The completion of operations commenced during the core working hours which cannot be stopped for safety or efficiency reasons, for example concrete pours.
- Plant testing or commissioning; these are unlikely to involve high numbers of operatives or use of heavy plant or machinery.

### Construction Management Plans

During construction works will be undertaken in accordance with a Construction Environmental Management Plan) and a Construction Traffic Management Plan (CTMP).

The Construction Environmental Management Plan will contain details of working practices and mitigation measures to be implemented during construction to avoid and reduce impacts. It will be based on industry good practice and the specific mitigation measures contained in the Schedule of Mitigation set out in Chapter 13 of Volume 2 of the EIAR. This will include measures to protect water resources, prevent pollution, handle soil, manage noise and protect ecological features.

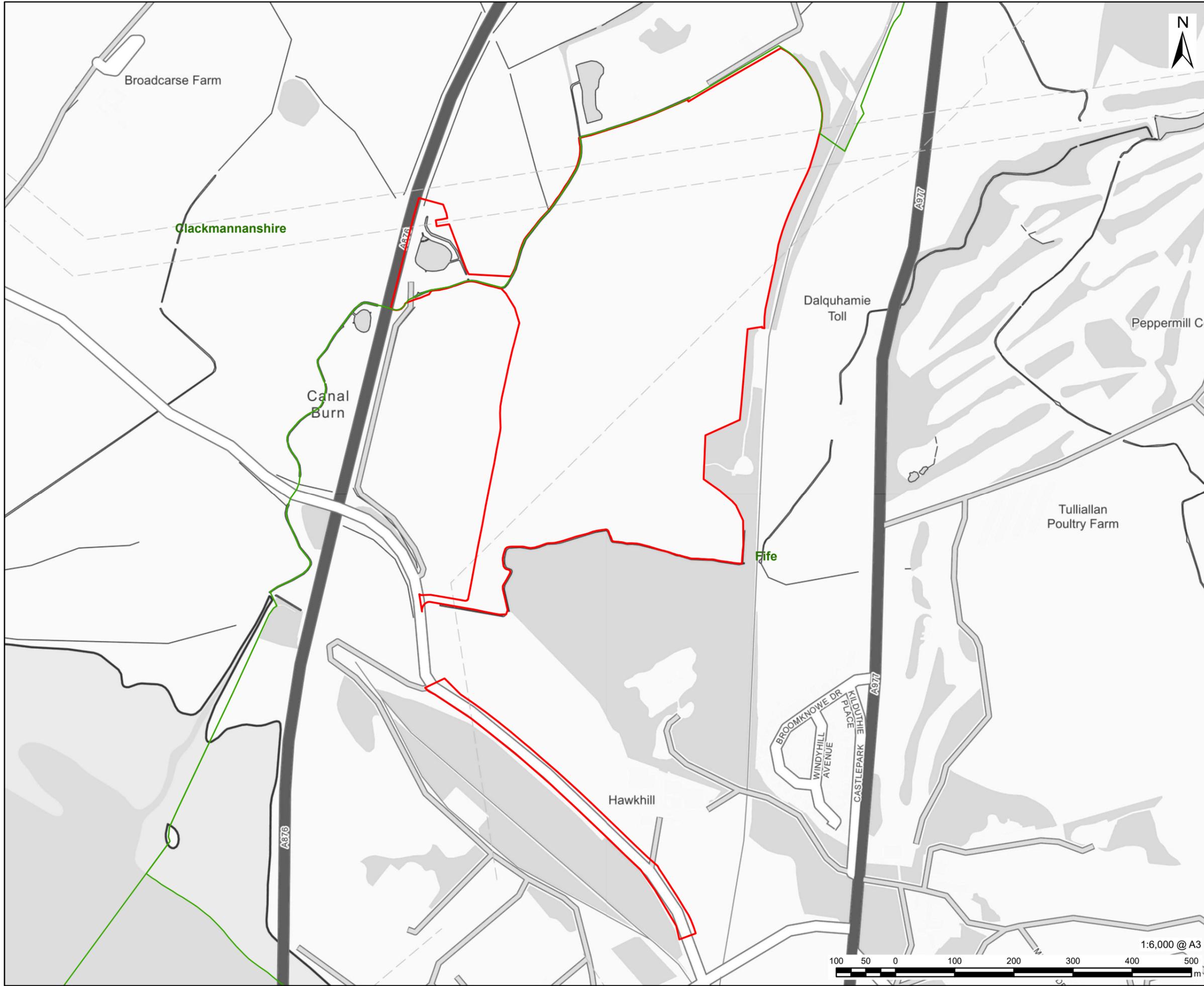
The Construction Traffic Management Plan will contain details of construction access and egress routes, construction traffic routeing to minimise impacts on sensitive locations as well as measures to protect the public highway such as wheel washing facilities.

### **Operation of the Proposed Development**

Following completion of commissioning, the Proposed Development will operate continuously throughout the year as part of the electricity transmission system. During ordinary operation the substation will be unmanned as it will be operated remotely. Mandatory inspection and maintenance will take place regularly during its lifetime. Staff numbers carrying out planned inspection and maintenance will vary from individuals to small teams undertaking inspections or routine maintenance, however, should more extensive unplanned works be required this would involve more staff.

### **Overhead line and Underground Cable Works**

The existing overhead lines, known as the XL, ZCN and ZCS routes, which traverse the site, will be uprated from 275 to 400kV and diverted and connected to the Proposed Development. In addition to these, a 275kV underground cable will be installed between the proposed Kincardine North Substation and existing Kincardine Substation. The overhead line works are subject to separate consent applications under section 37 of the Electricity Act 1989 while the underground cable is permitted development under the Town and Country Planning (General Permitted Development) (Scotland) Order 1992 (GPDO) and does not require consent.



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**LEGEND**

- Site Boundary
- Local Planning Authority Boundary

**NOTES**

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**ISSUE PURPOSE**

EIA REPORT

**PROJECT NUMBER**

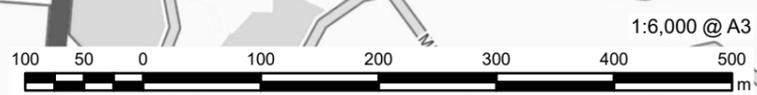
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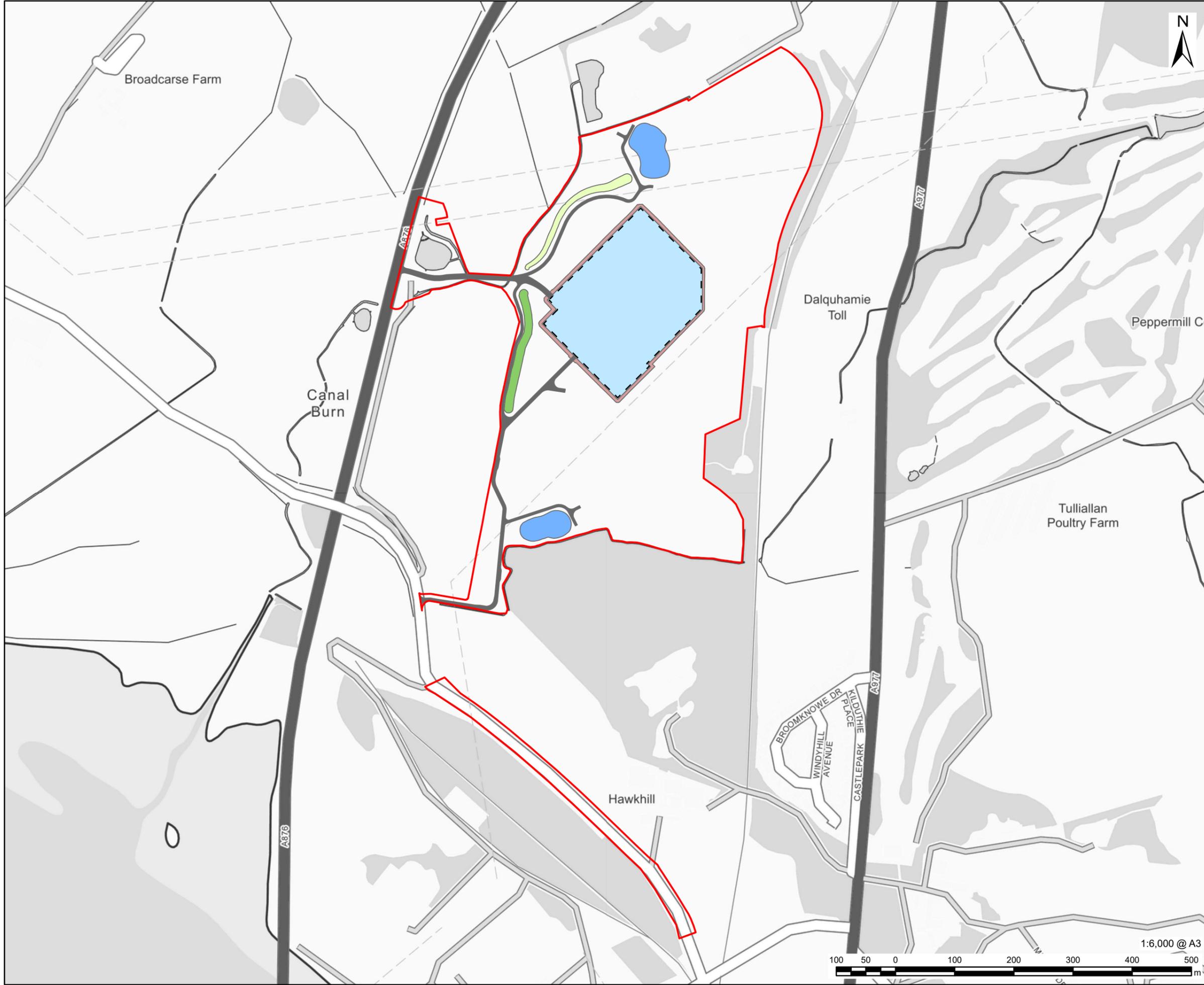
Site Location

**FIGURE NUMBER**

Figure 2.1



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- LEGEND**
- Site Boundary
  - Fenceline
  - Access Track
  - SUDS
  - Screening Bund
  - Substation Platform
  - Swale
  - Earthworks

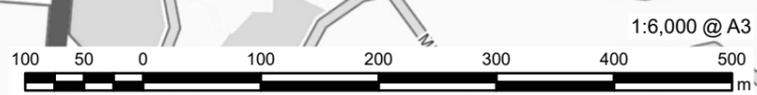
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**FIGURE TITLE**  
Site Layout

**FIGURE NUMBER**  
Figure 2.2



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## 3. Results of the Environmental Impact Assessment

### 3.1 Scope of the EIA

As an initial step in the EIA process a scoping study was undertaken to identify what environmental aspects the EIA of Kincardine North Substation should consider, taking account of the sensitivity of the area and potential for likely significant effects. As part of this exercise a Scoping Opinion request was submitted to Fife Council and Clackmannanshire Council seeking their formal Opinion regarding the scope of the EIA. The scope of the EIA taking account of their Scoping Opinions is summarised in the table below.

Aspects scoped in	Aspects scoped out
Ecology	Trees and Woodland
Landscape and Visual Amenity	Water Environment
Cultural Heritage and Archaeology	Ground Conditions (Soils and Geology)
Traffic and Transport (construction only)	Traffic and Transport (operation only)
Noise	Land Use, Tourism and Recreation
-	Major Accidents and Disasters
-	Air Quality
-	Climate Change
	Human Health

### 3.2 Results of the EIA

#### Ecology

The ecology assessment considered the potential effects of the Proposed Development on habitats and protected species as well as sites designated for ecological purposes. It was informed by a combination of desk study as well as site surveys to identify the habitats which are present within the site and surrounding area and the protected species which may be using it.

The Firth of Forth Special Protection Area (SPA) and Ramsar site which is designated for its bird interests is the nearest statutory designation to the Proposed Development which is afforded legal protection due to the ecological interests it supports (in this case a range of bird species). While there will be no direct impacts on the designated site the EIA also considered the potential to impact its qualifying bird species. These are the specific types of birds the designated sites were set up to protect. This concluded that the Proposed Development would not result in likely significant effects on the Firth of Forth SPA as a result of disturbance to qualifying bird species during construction or from the loss of supporting habitats for qualifying bird species.

Habitat surveys confirmed that the majority of the site comprises agricultural land with low ecological value, however, it did note the marginal areas such as the pond within the site and woodland on the site boundary has some ecological value. The majority of the built elements of the Proposed Development is located on agricultural land with limited impacts on woodland. The assessment identified the potential to impact reed bed habitats on the margins of the pond, subject to the final design of the access point from the A876.

Desk and field surveys for protected species indicated that a range of species could be using habitats within and around the Proposed Development including bats, badgers, otters, pine marten and red squirrel. In most instances the main works are located away from the habitats that these species are using, however, some additional mitigation is proposed to ensure construction undertaken carefully to minimise disturbance.

The assessment concluded that with the proposed mitigation no likely significant adverse effects on ecology would occur as a result of the construction and operation of the Proposed Development. Mitigation measures include preconstruction surveys, pollution prevention and biosecurity measures, employment of an environmental/ecological clerk of works (ECoW) during construction as well as measures embedded in the design including watercourse crossing design to allow passage of fish and mammals and use of native species in landscape planting proposals. The assessment also identified some beneficial effects would occur as a result of the approach to the design of landscape planting and drainage with opportunities to create new habitats and strengthen existing ones, however, these are not significant.

### **Landscape and Visual Amenity**

The landscape and visual amenity assessment considered the potential effects of the Proposed Development on the surrounding landscape character as well as on visual amenity. It was informed by desk study as well as site visits to the site of the Proposed Development and the wider area.

The landscape assessment considered the effect of the Proposed Development on landscape character. While the Proposed Development would extend the influence of electrical infrastructure in the area it is not considered to result in likely significant effects.

The visual assessment considered impacts on views and visual amenity from eight locations around the Proposed Development. These locations were identified in consultation with Fife and Clackmannanshire Councils and are considered to be representative of key views experienced by people that live, work or travel within the vicinity of the Proposed Development.

As part of the landscape and visual amenity assessment, a landscape planting plan has been developed which includes planting to strengthen and deepen existing woodland planting to the east and south of the Proposed Development as well as some planting to the west. This has been integrated with consideration of ecological benefits to enhance and strengthen habitats.

**The assessment concluded that the Proposed Development would not result in significant effects on landscape, however some significant effects on visual amenity were identified from representative viewpoints to the west of the Proposed Development from the A876, National Cycle Route 76, the core path between Kennet and Kennetpans, and as well as in views from the north at Maggie Duncan's Hill. As landscape planting matures these effects will reduce so that they will be significant in the long term. Cultural Heritage and Archaeology**

The cultural heritage and archaeology assessment considered the potential effects of the Proposed Development on archaeological and heritage resources which collectively includes designated assets in the form of scheduled monuments, listed buildings and non-designated assets recorded in the Canmore database. The assessment also considered the potential for previously unrecorded archaeology to be present and be impacted by the Proposed Development.

The Proposed Development is sited away from designated heritage and archaeological assets, however, consideration has been given to the potential for impacts on the setting of a number of designated assets. This comprised Kennetpans Distillery and Tulliallan Castle to the south of the Proposed, both of which are scheduled monuments, Tulliallan Garden and Designed Landscape to the east of the Proposed Development and listed buildings at Kilbagie to the north of the Proposed Development. As a result of a combination of factors including the distance between the Proposed Development and designated assets, the relatively low height of the substation and intervening vegetation no significant setting effects were identified.

Consideration was also given to the archaeological potential of site and the possibility of uncovering unknown archaeological features. While the potential of the site is considered to be low, a mitigation strategy including evaluation trenching in the location of the substation platform is proposed. The results of evaluation trenching, for example the discovery of archaeological interests, as well as consultation with Fife and Clackmannanshire Councils' archaeologists would inform any future mitigation requirements.

The assessment concluded that with the proposed mitigation no likely significant effects on cultural heritage or archaeological resources would occur as a result of the construction and operation of the Proposed Development.

#### **Traffic and Transport (construction only)**

The traffic and transport assessment considered the potential impacts of construction traffic on factors comprising driver delay, road safety and community impacts on the public road network. Once operational, the Proposed Development would not generate significant traffic as it can be operated remotely. While there would be some traffic associated with regular inspections and maintenance, it would not result in likely significant effects and therefore operational traffic was scoped out of the assessment.

The assessment considered the road network in the vicinity of the Proposed Development and assessed the impact of forecast construction traffic volumes against existing traffic volumes. The latter was established through a combination of existing data as well as undertaking traffic counts on key roads that could be used by construction traffic. By applying peak construction traffic flows during the busiest period of construction, this highlighted where local roads would experience an increase in traffic. The most significant

increase was identified on Hawkhill Road to the south of the Proposed Development, however, the increase is relative to the existing traffic flows.

With the exception of abnormal loads which will be required to deliver supergrid transformers via the A876, all construction access to the Proposed Development will be via Hawkhill Road. In addition to traffic management measures which would be formalised as part of a Construction Traffic Management Plan, additional mitigation is proposed on Hawkhill Road. This includes providing temporary passing places to allow the movement of traffic and the installation of a temporary segregated path to the north of the road to enable continued use of the National Cycleway route and core path which follow Hawkhill Road and reduce potential conflicts with people.

The assessment concluded that with the proposed mitigation no likely significant effects on traffic and transport would occur as a result of the construction of the Proposed Development.

### **Noise**

The noise assessment considered the potential effects of noise generated by construction and operation of the Proposed Development. This was informed by site surveys to measure existing background noise at sensitive locations nearest to the Proposed Development.

The nearest noise sensitive receptors (NSRs) are located to the east of the Proposed Development between the Stirling-Alloa-Kincardine railway and A977. Background noise measurements were undertaken at the nearest NSRs over a five day period to establish an understanding of background noise levels during the day and night. This confirmed that background noise levels are consistent with a rural area that is generally free from continuous road traffic, commercial or other industrial-related sounds and provided a baseline against which to assess noise impacts.

Construction noise was assessed qualitatively considering the nature of construction activities and type of plant which could be utilised. Construction noise is expected to vary over the construction period with initial earthworks and piling likely to generate the highest noise levels. However, the assessment concluded that a combination of the distance to NSRs from the main construction area as well as the implementation of standard construction mitigation measures would prevent likely significant noise effects.

Noise modelling was undertaken to inform an assessment of operational noise. This considered equipment within the Proposed Development which the potential to generate noise including transformers, shunt reactors and a back diesel generator. The assessment concluded that the ordinary operation of the substation would not result in likely significant effects, however the use of the standby or backup generator has the potential to result in significant effects. It will not be operated frequently or continuously and there are opportunities to further reduce noise it produces should it be required, for example the use of acoustic hoods.

The assessment concluded that, generally, noise resulting from the construction and operation of the Proposed Development would not be significant but did highlight the potential for some short term significant adverse effects could occur when a backup generator is used on site. The backup generator is there to maintain power supply in the event of failure and would therefore not be used during ordinary operation.

### **Matters Scoped Out of the EIA**

As noted in section 3.1 a number of matters were scoped out of the EIA, however, information relating to these is included in the EIA Report for completeness and summarised below:

#### Trees and Woodland

There are also no ancient or notable trees on the Ancient Tree Inventory within or immediately adjacent to the Proposed Development. The majority of the Site is comprised of agricultural land with existing trees or woodland along the field boundaries. With the exception of removal of vegetation at the proposed A876 access point, no tree removal is proposed. No significant effects on trees or woodland are likely as a result of the Proposed Development.

#### Water Environment

There are a small number of surface water features within or adjacent to the Site. This includes part of the Canal Burn which follows part of the application boundary in the north/northeast of the Site flowing northeast to southwest, a small settlement pond adjacent to the A876 access point which drains into the Canal Burn via a ditch and an unnamed watercourse which forms the southern extent of the application boundary flowing east to west towards the Hawkhill Road access point. Appropriate mitigation is embedded in the design and construction of the Proposed Development, as presented in the Construction Environmental Management Plan, including measures to manage and treat surface water runoff, therefore no significant effects are likely on the water environment.

#### Ground Conditions (Soils and Geology)

The underlying solid geology is comprised of the Scottish Coal Measures Group which includes sandstone, siltstone and mudstone. Superficial deposits consist of raised tidal flat depots which include silt and clay. There are no records of any peat deposits present on the site. The Site is currently agricultural land and is considered unlikely to be contaminated, however, Coal Authority records identify the site as lying within a Development High Risk Area which relates to historic coal mine workings. Ground investigations have been undertaken for the main platform to evaluate ground risks and inform the design of the Proposed Development including any specific design requirements with regard to previous mining activity, for example grouting. No significant effects on ground conditions are likely to occur.

#### Land Use, Tourism and Recreation

The majority of the Site is currently used for agriculture growing a range of crops. The national-scale Land Capability for Agriculture Map identifies the Site as class 3.2 which is land capable of average production though high yields of barley, oats and grass can be obtained. This is outside of the definition of prime agricultural land which is class 3.1 and above. While approximately 32ha of agricultural land will be permanently lost to the Proposed Development, there are extensive areas of class 3.2 land throughout Fife and Clackmannanshire and in this context the loss is considered to be minimal and therefore not significant.

There are no tourism or recreational resources within the Site, however, Tulliallan Golf Club lies around 360m to the east while National Cycle Network 76 (NCN76) and a Core Path follows the route of the Hawkhill Road to the south of the Proposed Development. Given distance and intervening vegetation and development, significant effects on the Golf Club or

users of it are considered unlikely. With regard to Hawkhill Road and users of the NCN/Core Path, the application boundary includes a smaller area running parallel to the road which would enable the installation of a temporary path which would segregate users from any construction traffic using Hawkhill Road. As a result no significant effects on users of the NCN/Core Path are likely.

A caravan and glamping site lies approximately 1km to the west of the Proposed Development. Potential impacts on the glamping site would relate to impacts on amenity of visitors or which might deter visitors (for example noise or visual effects). Typically, the distance between the glamping site and the Proposed Development is such that it reduces potential adverse effects; in particular the distance means that there will be no significant noise effects. With regard to visual amenity, the Proposed Development includes planting proposals on its western boundary to reduce impacts in views from the west and integrate the Proposed Development into the Site. Significant visual effects including from viewpoints to the west of the Proposed Development are identified in construction and year 1 of operation but these will reduce as landscape planting matures such that they will be minor adverse and not significant in the long term. Noise and visual effects are not considered likely to impact on the amenity of users of glamping site nor would they deter visitors to the site such that they would significantly affect the business.

#### Major Accidents and Disasters

Consideration has been given to the vulnerability of the Proposed Development to a major accident or disaster, as well as the potential for the Proposed Development to cause a major accident. With the exception of flood risk, which is considered within a separate Flood Risk Assessment that confirms the Proposed Development is not at risk of flooding, the Proposed Development is not located in an area in which natural disasters or extreme weather events such as earthquakes or wildfires are likely to impact it. The substation includes appropriate security measures including security fencing, lighting and cameras to reduce the risk of interference. As a result the Proposed Development is not considered to be vulnerable to major accidents or disasters and unlikely to result in significant environmental effects. The Proposed Development is not considered likely to be a cause of a major accident. The substation is designed in accordance with relevant standards and guidelines to ensure it can be safely operated and therefore is unlikely to be a cause of a major accident. No significant effects are likely to occur because of major accidents or disasters.

#### Air Quality

The Proposed Development is not located in or close to an Air Quality Management Area and air quality is generally considered to be good. The nature of the Proposed Development is such that it does not result in emissions to air that are likely to reduce air quality. While there will be an increase in traffic as well as potential generation of dust during construction this is limited to relatively short periods and will be mitigated through good construction practices as set out in the Schedule of Mitigation. The Proposed Development is not considered likely to result in significant effects on air quality.

#### Climate Change

The Proposed Development is not considered likely to result in significant effects on climate change. By helping to increase the capacity of the electricity network and enable the

increased connection of renewable energy, the Proposed Development is intended to help to mitigate the effects of climate change. With regard to climate resilience and potential impacts of climate change on the Proposed Development, the main risk of climate induced effects relates to flood risk which is considered in the Flood Risk Assessment that confirms the Proposed Development is not at risk of flooding.

#### Human Health

Potential impacts on human health resulting from construction activities, such as noise and dust have been assessed separately and mitigation is proposed in the Schedule of Mitigation including measures to reduce construction noise and control or suppress dust generation. With regard to Electric and Magnetic Fields (EMF), the Proposed Development is designed to comply with exposure limits which are set by the Government on advice from public health bodies. The exposure limits for EMFs are derived from the International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines, published in 1994 and 1998 respectively and recently updated in March 2020. Electricity transmission substations, such as the Proposed Development, do not produce very large fields themselves (generally less than a microtesla). No significant effects on human health are likely to occur as a result of the Proposed Development.

## 4. Summary and Next Steps

### 4.1 Summary of EIA Results

The EIA of the Proposed Development has identified and assessed the likely significant effects which would result from its construction and operation. Through careful siting and including mitigation within the design and construction of the Proposed Development, the majority of likely significant environmental effects have been prevented, avoided or reduced. While some significant effects have been identified these are limited to effects on visual amenity. These have been mitigated as far as possible through the inclusion of landscape planting within the design of the Proposed Development including extensive planting, however, due to the open nature of the landscape and views into the site some significant effects will remain. The table summarises the results of the EIA for those aspects scoped into it.

Environmental Aspect	Construction Effects	Operational Effects
Ecology	No likely significant effects	No likely significant effects
Landscape	No likely significant effects	No likely significant effects
Visual Amenity	Likely significant effects	Likely significant effects*
Cultural Heritage	No likely significant effects	No likely significant effects
Traffic and Transport	No likely significant effects	n/a - scoped out
Noise and Vibration	No likely significant effects	No likely significant effects**

\* Some significant visual effects in year 1 of operation reducing as landscape planting matures and reduces impacts

\*\* Some short duration significant noise effects could occur in night-time periods when the standby generator is in use subject to final design and mitigation.

### 4.2 Next Steps

The findings of the EIA will be considered by Fife and Clackmannanshire Councils as part of the decision to grant or refuse planning permission for the Proposed Development. As described within this Non-Technical Summary one of the key aims of the EIA is to ensure that the likely significant environmental effects of the Proposed Development are known and understood so that these may be considered alongside other factors before deciding whether or not to grant planning permission.

In considering the planning application, Fife and Clackmannanshire Councils will consult with a range of organisations including Nature Scot, Historic Environment Scotland and the Scottish Environment Protection Agency (SEPA) as well as invite comments from the local community.

Should planning permission be granted, construction of the Proposed Development would commence in 2026.

