



**SP ENERGY
NETWORKS**

The Kendoon to Tongland Reinforcement Project:

Consultation Round Three: Consultation Document

October 2017



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Kendoon to Tongland Reinforcement Project

Consultation Round Three: Consultation Document

Prepared by LUC
October 2017

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Preface

This Consultation Document has been prepared on behalf of ScottishPower Energy Networks and relates to proposals to reinforce the 132kV electricity transmission network between Kendoon and Tongland, in the Dumfries and Galloway Region.

The reinforcement is referred to as 'the Kendoon to Tongland 132kV Reinforcement Project' (the KTR Project).

This Consultation Document presents the methodology and findings related to the identification of an alignment for the overhead lines and associated infrastructure, and is available to download free of charge from www.spendgsr.co.uk

Digital copies of this Consultation Document are available upon request. Hard copies may also be obtained, but may be subject to a reasonable charge to cover printing and postage. For digital or hard copies please contact SPEN on:

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From 20th November 2017 until the close of the consultation period on 26th January 2018, this Consultation Document will also be available for viewing at the following information points. Opening hours may be subject to change. Please phone before making a special trip.

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1 Introduction

Purpose of this Report

- 1.1 This document has been prepared by LUC on behalf of ScottishPower Energy Networks (SPEN)¹, and relates to the Kendoon to Tongland 132 kilovolt (kV) Reinforcement (KTR) Project (hereafter the 'KTR Project'). The document explains the background to the KTR Project and outlines the work that has been undertaken to date, culminating in the identification of an alignment for the overhead lines and associated infrastructure.
- 1.2 This document also sets out the process for the consultation which will be undertaken in relation to the alignment of the overhead line which has been undertaken since the last consultation (consultation round two) in Autumn 2016. This consultation is designed to gather feedback from key stakeholders, landowners and the public to inform the subsequent design and environmental impact assessment (EIA) stages.
- 1.3 The KTR Project originally comprised an integral part of the larger Dumfries & Galloway Strategic Reinforcement (DGSR) Project. The outputs from the early routeing and consultation stages of the DGSR Project have influenced the KTR Project. This document should therefore be read in conjunction with the following:
 - *DGSR Project: Routeing and Consultation Document* (May 2015)
 - *DGSR Project: Summary of Feedback from 2015 Consultation* (July 2016)
 - *Kendoon to Tongland 132kV Reinforcement Project: Routeing and Consultation Document* (October 2016)
 - *Kendoon to Tongland 132kV Reinforcement Project: Summary of Feedback from Second Round of Consultation* (March 2017)
 - *Kendoon to Tongland Reinforcement Project: Environmental Impact Assessment - Scoping Report* (April 2017)
 - *Kendoon to Tongland Reinforcement Project: Scoping Opinion from Scottish Ministers* (October 2017)
- 1.4 Electronic versions of these reports are available at www.spendgsr.co.uk.

Background to Project

- 1.5 In Summer 2015, SPEN carried out a three month stakeholder consultation on the original DGSR Project (consultation round one), which included proposals for:
 - a new high voltage overhead line (OHL) of up to 400kV from Auchencrosh, in South Ayrshire, through Dumfries and Galloway, to Harker, near Carlisle;
 - two new 132kV overhead lines from Kendoon to Glenlee and from Glenlee to Tongland; and
 - four new high voltage substations at Auchencrosh, Newton Stewart, Glenlee and Dumfries.
- 1.6 In parallel with the consultation in 2015, SPEN also worked with National Grid, in its role as GB Transmission System Operator, to carry out a thorough cost-benefit analysis (CBA) of the DGSR Project. This was to make sure that the transmission network in Dumfries and Galloway was developed in the most efficient and economical way.

¹ SPEN operates and maintains the electricity transmission and distribution networks in central and southern Scotland on behalf of the license holders SP Transmission plc (SPT) and SP Distribution plc (SPD). The references below to SPEN in the context of statutory and licence duties and the application for section 37 consent below should be read as applying to SP Transmission plc.

- 1.7 The CBA investigated options ranging from the full 400kV Auchencrosh to Harker proposal to a reduced scheme based on the modernisation of existing 132kV infrastructure, and the provision of some additional capacity on the system.
- 1.8 The results concluded that the 400kV Auchencrosh to Harker proposal did not deliver enough benefit for electricity consumers in Great Britain relative to the cost of the project at the time. The outcome of this work was the identification of a recommended solution, significantly reduced in scope and scale and which partially meets the original project drivers. It was therefore recommended that a 'reduced scheme', which is integral to and forms part of the original project, should be progressed at present.
- 1.9 This reduced scheme involves the modernisation and increase in capacity of the existing 132kV overhead lines between Kendoon and Glenlee and from Glenlee to Tongland (the KTR Project), as outlined below.
- 1.10 Following the decision to progress with the reduced KTR Project, routing work was undertaken, which culminated in the identification of preferred routes for the overhead lines. This process is outlined in *Kendoon to Tongland 132kV Reinforcement Project: Routeing and Consultation Document* (October 2016). The preferred routes were then consulted on between October and December 2016 (consultation round two), and a summary of the consultation feedback presented in the *Kendoon to Tongland 132kV Reinforcement Project: Summary of Feedback from Second Round of Consultation* (March 2017).
- 1.11 The responses received from the consultation process were considered alongside the routing work which was carried out, to enable SPEN to decide on the 'proposed' route to be progressed to the Scoping stage of the EIA process. The *Kendoon to Tongland Reinforcement Project: Environmental Impact Assessment - Scoping Report* was produced in April 2017 and submitted to the Scottish Ministers with a request for a Scoping Opinion in May 2017.
- 1.12 At this stage, the proposed route was subjected to a more detailed technical and environmental review to identify an alignment for the overhead lines, including tower/pole positioning. This emerging alignment for the overhead line design, including all associated infrastructure e.g. temporary access tracks and working areas, is the main focus of this round of pre-application consultation (consultation round three).

Overview of Components of the KTR Project

- 1.13 The KTR Project is shown on **Figure 1.1** and consists of proposals for:
 - a new 132kV double circuit steel tower overhead line, of approximately 2.9km in length, between Polquhanity (approximately 3km north of the existing Kendoon substation) and the existing Kendoon substation;
 - a new 132kV double circuit steel tower overhead line, of approximately 7.7km in length, between the existing Kendoon substation and the existing Glenlee substation;
 - a new 132kV single circuit wood pole overhead line, of approximately 2.6km in length, between Carsfad and Kendoon;
 - a new 132kV single circuit wood pole overhead line, of approximately 1.6km in length, between Earlstoun and Glenlee;
 - a new 132kV double circuit overhead line deviation of the existing BG route, at Glenlee substation approximately 1km in length; and
 - a new 132kV double circuit steel tower overhead line, of approximately 32.5km in length, between Glenlee and Tongland.
 - the removal of the existing 132kV overhead lines between Polquhanity, Kendoon, Carsfad, Earlstoun, Glenlee and Tongland ('N' and 'R' routes). This will involve the decommissioning of around 43km of existing overhead line infrastructure.

- 1.14 Once the KTR Project is completed another separate 132kV overhead line between Tongland and Dumfries ('S' route) will no longer be required. Although not part of the KTR Project, SPEN plan to remove this following commissioning of the KTR project.
- 1.15 In addition, to support the wider KTR Project, an extension (of approximately 140m x 70m (including earthworks and landscape planting areas) is required to the existing 132kV Glenlee substation, to accommodate the new switchgear associated with the replacement connections to Kendoon and Tongland.
- 1.16 Although the substation extension is part of the Kendoon to Tongland Reinforcement (KTR) Project, because the substation works need to be completed in advance of the proposed overhead lines being constructed, SPEN will be making a separate planning application for the substation extension to Dumfries and Galloway Council in early 2018. The planning application will be accompanied by an environmental report covering all relevant issues, such as landscape and visual impacts, construction noise and traffic and transport. The extension to the Glenlee substation will also be considered within the cumulative assessment as part of the EIA for the KTR Project.

SPEN's Statutory and Licence Duties

- 1.17 As a transmission licence holder for southern Scotland, SPEN is required under Section 9(2) of the Electricity Act 1989 to:
- develop and maintain an efficient, co-ordinated and economical system of electricity transmission; and
 - facilitate competition in the supply and generation of electricity.
- 1.18 SPEN is required in terms of its statutory and licence obligations to provide for new electricity generators wishing to connect to the transmission system in its licence area. SPEN is also obliged to make its transmission system available for these purposes and to ensure that the system is fit for purpose through appropriate reinforcements to accommodate the contracted capacity.
- 1.19 Schedule 9 of the Electricity Act 1989 imposes a further statutory duty on SPEN to take account of the following factors in formulating proposals for the installation of overhead transmission lines:
- "(a) to 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) to do what it reasonably can to mitigate any effects which the proposals would have on the natural beauty of the countryside or any such flora, fauna, features, sites, buildings or objects."*
- 1.20 SPEN has a 'Schedule 9 Statement' which sets out how it will meet the duty placed upon it under Schedule 9. The Statement also refers to the application of best practice methods to assess the environmental impacts of proposals and to identify appropriate mitigation measures.
- 1.21 As a result of the above, SPEN is required to identify electrical connections that meet the technical requirements of the electricity system, which are economically viable, and cause, on balance, the least disturbance to the environment and the people who live, work and enjoy recreation within it.

The Development and Consenting Process

- 1.22 The project comprises three key phases:
- Phase One: Overhead Line Routeing.
 - Phase Two: Environmental Impact Assessment.
 - Phase Three: Application for Consent.

Phase One: Line Routeing

- 1.23 Phase one comprises a review of environmental, technical and economic considerations and the application of established step-by-step routeing principles to identify 'preferred' routes for the required 132kV overhead lines.
- 1.24 SPEN is committed to ongoing consultation with interested parties, including statutory and non-statutory consultees and local communities. Whilst there is no statutory requirement to consult during the early routeing stages, SPEN nonetheless considers it good practice to introduce consultation at this stage. Two rounds of consultation were undertaken by SPEN during phase one (consultation round 1 and 2).
- 1.25 This routeing phase was completed in early 2017 and the 'proposed' routes progressed to the EIA stage.

Phase Two: Environmental Impact Assessment

- 1.26 Phase two comprises an Environmental Impact Assessment (EIA) of the 'proposed' routes. This is required under The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, given the nature and scale of the KTR Project. The objective of the EIA process is to avoid, reduce and where possible, offset likely significant impacts on the environment through the iterative design process. The findings of the environmental baseline surveys inform the proposed alignment of the overhead lines including towers/poles, working areas and accesses, alongside the technical design input.
- 1.27 At this stage a further round of consultation, consultation round 3, is undertaken upon which consultees are invited to provide feedback on the proposed alignment of the overhead lines. The feedback from the consultation alongside further environmental surveys and technical surveys, inform modifications to the alignment to freeze the design. . The alignment is then subjected to an assessment of effects, culminating in the production of an Environmental Impact Assessment Report (EIA-R).

Phase Three: Application for Consent

- 1.28 Following completion of the EIA Report, SPEN will apply to Scottish Ministers for consent under Section 37 of the Electricity Act 1989, to install, and keep installed, the proposed lines and for the removal of the 'N' and 'R' route overhead lines. At the same time, SPEN will apply for deemed planning permission for the lines and associated works, under Section 57(2) of the Town and Country Planning (Scotland) Act 1997.

Stakeholder Engagement

- 1.29 Stakeholder engagement, including public involvement, is an important component of the UK planning and consenting system. Legislation and government guidance aim to ensure that the public, local communities, statutory and other consultees and interested parties have an opportunity to have their views taken into account throughout the planning process.
- 1.30 SPEN attaches great importance to the effect that its work may have on the environment and on local communities. In seeking to achieve 'least disturbance', SPEN is keen to engage with key stakeholders including local communities and others who may have an interest in the project. This engagement process begins at the early stages of development of a project, and continues into construction once consent has been granted.
- 1.31 SPEN's approach to stakeholder engagement for major electrical infrastructure projects is outlined in Chapter 5 of the document 'Major Infrastructure Projects: Approach to Routeing and Environmental Impact Assessment' (available to download from www.spendgsr.co.uk). SPEN aims to ensure effective, inclusive and meaningful engagement with local communities, statutory consultees, stakeholders and interested parties through four key engagement stages:
 - (i) pre-project notification and engagement;
 - (ii) information gathering to inform the routeing stage;

(iii) obtaining feedback on emerging route options; and

(iv) the Environmental Impact Assessment (EIA) stage.











- 1.32 In addition, and as noted above, SPEN as holder of a transmission licence, has a duty under Section 38 and Schedule 9 of, the Electricity Act 1989, when putting forward proposals for new electricity lines and other transmission development, to have regard to the effect of work on communities, in addition to the desirability of the preservation of amenity, the natural environment, cultural heritage, landscape and visual quality.

Structure of the Report

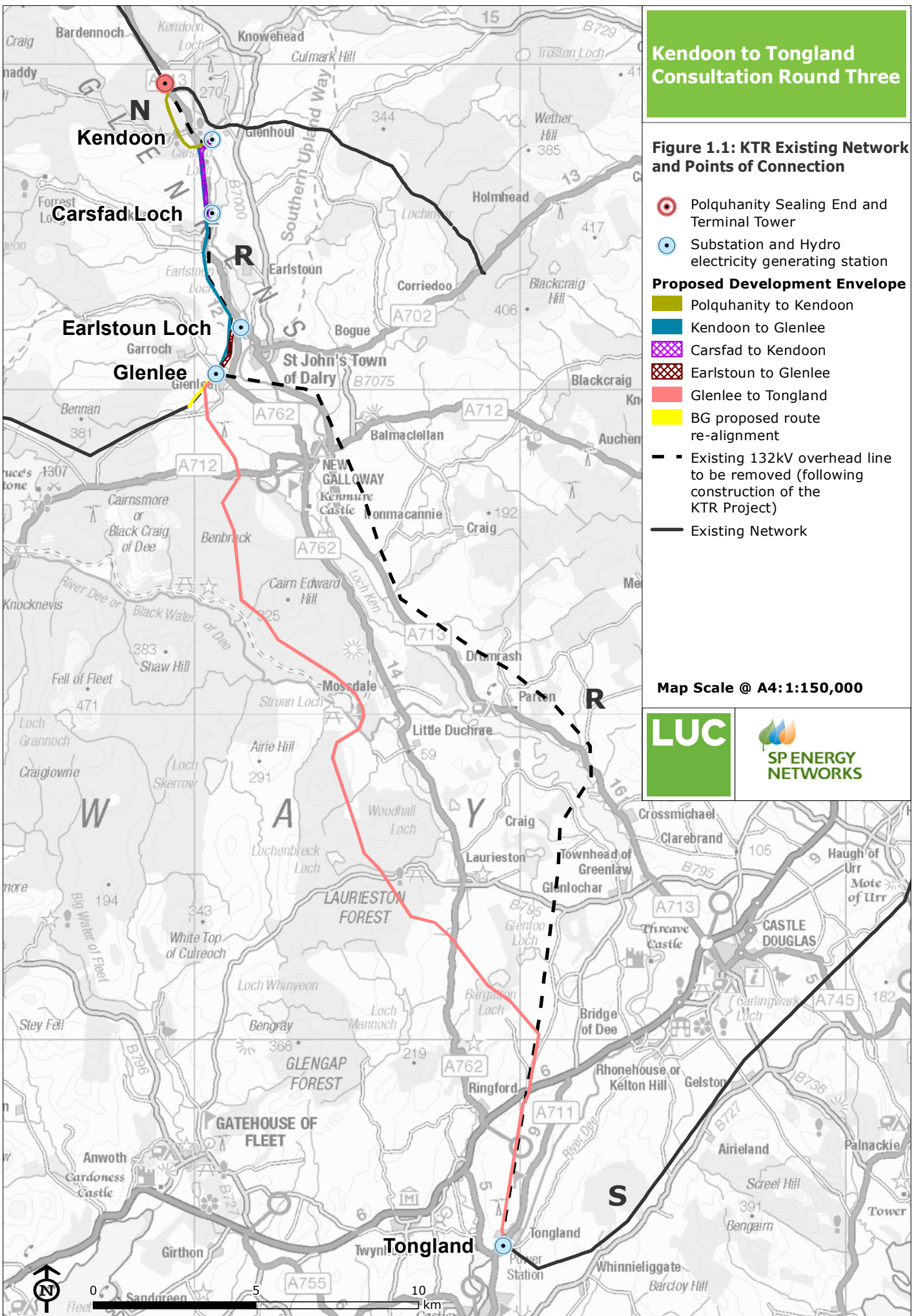
- 1.33 The remainder of this report is structured as follows:
- Chapter 2: KTR Project Description
 - Chapter 3: Identification of Alignment for Overhead Lines
 - Chapter 4: The Consultation Process and Next Steps

Kendoon to Tongland Consultation Round Three

Figure 1.1: KTR Existing Network and Points of Connection

-  Polquhany Sealing End and Terminal Tower
-  Substation and Hydro electricity generating station
- Proposed Development Envelope**
 -  Polquhany to Kendoon
 -  Kendoon to Glenlee
 -  Carsfad to Kendoon
 -  Earlston to Glenlee
 -  Glenlee to Tongland
 -  BG proposed route re-alignment
-  Existing 132kV overhead line to be removed (following construction of the KTR Project)
-  Existing Network

Map Scale @ A4: 1:150,000



2 KTR Project Description

Introduction

- 2.1 This chapter provides a brief description of the connection and development requirements for the KTR Project to enable SPEN to rationalise the electricity network through the removal of existing overhead transmission lines within the Dumfries and Galloway area. Further details on this are provided below.
- 2.2 **Figure 1.1** shows the location of the existing 132kV network, including the points of connection outlined below and the existing network which will be removed as a result of the KTR Project, all as outlined below.

Connection Requirements

- 2.3 The 132kV overhead lines will be supported by a mixture of double and single circuits supported on steel towers and wood poles respectively. The KTR Project will replace the existing network which is mostly supported on steel towers with three arms and a standard height of 20m. The exact height of each tower/pole is determined by the safety clearances required between the wires and ground obstacles such as roads and watercourses. An overview of each component of the KTR Project is provided below.

Polquhanity to Kendoon

- 2.4 A new 132kV double circuit overhead line is required between Polquhanity, situated approximately 3km north of the existing Kendoon substation, connecting to the existing Kendoon substation. This proposed overhead line will connect to a new consented line which is currently being constructed (in 2017) from Polquhanity to the existing New Cumnock substation, 3km north-east of Dalmellington. The proposed overhead line will be supported on L7 lattice steel towers, which have six cross-arms (three on each side) with a standard design height of 27m. A photo/graphic showing an existing L7 tower in the landscape is provided as **Figure 2.1a**.
- 2.5 An extension to the Kendoon substation may also be required and this will be confirmed following initial ground investigations to inform the foundation design for the terminal tower. Ongoing consultation with the Kendoon community will take place once further details are known.

Kendoon to Glenlee

- 2.6 A new 132kV double circuit overhead line is required between the existing Kendoon substation and the existing Glenlee substation. The overhead line will be supported on L7 lattice steel towers, which have six cross-arms (three on each side) with a standard design height of 27m. Based on our current design, there are 37 towers between Polquhanity and Glenlee ranging in height from 23m to 39m with an average height of 31m. A photo/graphic showing an existing L7 tower in the landscape is provided as **Figure 2.1a**.

Glenlee to Tongland

- 2.7 A new 132kV double circuit overhead line is required between the existing Glenlee substation and the existing Tongland substation. The overhead line will be supported on L4 lattice steel towers, which have six cross-arms (three on each side) with a standard design height of 26m. Based on our current design, there are 123 towers on this route ranging in height from 24m to 35m, with an average height of 29m. A photo/graphic showing an existing L4 tower in the landscape is provided as **Figure 2.1a**.

- 2.8 An extension to the existing Glenlee substation will be required to accommodate new switchgear associated with the replacement connections to Kendoon and to Tongland² substations.

Carsfad and Earlstoun Connections

- 2.9 A new 132kV single circuit overhead line is required between the hydroelectric power station at Carsfad and the existing substation at Kendoon. The overhead line will be supported on a 'trident' design wood pole with a standard design height of 15m.
- 2.10 A new 132kV single circuit overhead line is required between the hydroelectric power station at Earlstoun and the existing substation at Glenlee. The overhead line will be supported on a 'trident' design wood pole with a standard design height of 15m. A short section of underground cable will be required to connect into the Glenlee substation. A photo/graphic showing an existing trident wood pole in the landscape is provided as **Figure 2.1b**.

Removal of Existing Overhead Lines

- 2.11 The new overhead line components of the KTR Project enable the decommissioning and removal of approximately 43km of existing 132kV overhead lines comprising:
- the removal of approximately 2km of existing 132kV steel tower overhead line from Polquhanity to Kendoon ('N' route);
 - the removal of approximately 8km of existing 132kV steel tower overhead line between Kendoon, Carsfad, Earlstoun and Glenlee ('R' route);
 - the removal of approximately 33km of existing 132kV steel tower overhead line between Glenlee and Tongland ('R' route).
- 2.12 There is also approximately 44km of existing 132kV steel tower overhead line between Tongland and Dumfries known as 'S' route (see **Figure 1.1**), which is at the end of its operational life. Following completion of the KTR project, the existing 'S' route will be removed. The removal of this route does not form part of the KTR Project.

Overhead Line Infrastructure

- 2.13 With an overhead line, conductors are suspended at a specified height above ground and supported by wooden poles or steel lattice towers, spaced at intervals. Conductors can be made either of aluminium or steel strands. Most overhead lines at 132 kV and above carry two 3-phase circuits, with one circuit strung on each side of a tower. An earth wire may be required to provide lightning protection. Single circuit lines are used on occasion, and at 132kV, these lines can be supported on wooden poles.
- 2.14 Conductors are strung from insulators attached to the lower cross-arms or pole steel work and prevent the electric current from crossing to the tower or pole body.

Steel Tower Types

- 2.15 Steel lattice towers can be used to carry conductors at 132kV and above. These are mainly fabricated from hot dipped galvanised mild and high yield steel. The steelwork is assembled using galvanised high yield steel bolts with nuts and locking devices.
- 2.16 The proposed overhead lines will comprise a number of tower types:
- Suspension or Line: where the tower forms part of a straight line section.
 - Tension or Angle: where there is a horizontal or vertical deviation in line direction of a specified number of degrees achieved through the use of three main types of angle tower at either 30 degrees, 60 degrees and 90 degrees.

² As outlined in Chapter 1 a planning application for the Glenlee Substation extension will be progressed in advance of, and separately from, the KTR Project, though it will also form part of the KTR Project EIA.

- Terminal: where the overhead line terminates into a substation or on to an underground cable section via a separate cable sealing end compound or platform.

Steel Tower Heights and Span Lengths

- 2.17 The distance between tower supports will vary depending on topography and altitude to ensure adherence with minimum safety clearances. The average span length for a 132kV overhead line is considered to be between 250m and 350m. Span lengths for the proposed overhead lines have been determined through a detailed design process.
- 2.18 For each tower type there are a number of permutations of heights to allow for ground clearance and to ensure minimum statutory ground clearances are achieved at mid span. The maximum and minimum tower heights of the proposed overhead line have been determined through the detailed design process.

Steel Tower Finishes

- 2.19 Steel towers are generally painted grey. It is not possible to camouflage towers to account for all times of day or all seasons. However, the colour of towers can only be recognised from a short distance. Beyond this distance, the colour is not distinguishable and appears as grades of light and dark. Where towers are viewed against the sky, colour cannot be relied upon to diminish visibility, since the lighting characteristics of the sky vary greatly. Towers will turn a dull grey colour after approximately 18 months, depending on local environmental conditions.

Wood Pole Types

- 2.20 Wood poles can be used for single circuit lines operating at 132kV. Wood poles are fabricated from pressure impregnated softwood, treated with a preservative to prevent damage to structural integrity.
- 2.21 There are three types of pole:
- Intermediate: where the pole forms part of a straight line section.
 - Angle: there is one type of angle pole which can support changes in direction up to a maximum of 75 degrees. All angle structures will require to be back stayed.
 - Terminal: where the overhead line terminates into a substation or on to an underground cable section via a cable sealing end.

Wood Pole Heights and Span Lengths

- 2.22 Span lengths between poles generally average between 80m and 100m however can increase to approximately 120m. The standard height of poles varies from 14m to 16m.

Wood Pole Treatment

- 2.23 New wood poles are dark brown in colour and weather over the years to a light grey.

Underground Cables

- 2.24 In underground cables, the conductors are encased with insulated material and buried in a backfilled trench of suitable depth and width. The number of cables, depth and width of trench depends on the circuit rating and voltage which can substantially vary the width of trench required. All would be dependent on the installation method, environmental issues, ground conditions and access requirements during the construction period. For example, two 132kV circuits run together, each with two cables/phase, would require a trench greater than 2.4m wide (possibly up to 5m wide) with an adjacent working area of up to 3m wide. Where connected to an overhead line, an underground cable may also involve the formation of a fenced compound for the siting of terminal supports and sealing end compounds above ground.

Construction Process

- 2.25 The construction of overhead lines requires additional temporary infrastructure such as temporary accesses to tower/pole locations and to cable trenches and construction compounds to store materials. All have limited maintenance requirements and all are subject to well-established procedures for dismantling/decommissioning. Photos of construction of an overhead line are shown on **Figure 2.2**.

Overhead Lines

- 2.26 Overhead line construction, maintenance and decommissioning usually follow a standard sequence of activities. The cumulative total duration of construction activity at any single tower site is approximately two weeks for tower foundations, one to two weeks for tower construction, and up to four weeks for conductor erection and stringing depending on the size of the tower and the number of the conductors to be strung. These periods are spread over approximately four months, with periods of inactivity between, or longer if construction difficulties are experienced elsewhere along the line or ground conditions prevent normal progress. The construction period for wood pole lines is normally less than for tower lines.
- 2.27 Prior to construction of the overhead line, temporary accesses will be constructed, as necessary, along with any associated laydown /storage areas for construction. Any trees which may impact on statutory safety clearances will require removal or to be crowned. Whilst the routeing process seeks to avoid the need to fell broadleaved woodland, where this cannot be avoided SPEN will always seek to crown the tree rather than felling to maintain the necessary clearances. Following commissioning of the overhead line, all equipment and temporary access of construction areas will be removed with the land being reinstated to the satisfaction of the landowner.
- 2.28 The majority of overhead line components are maintenance free, although periodic painting of the tower steelwork may be required and components are regularly inspected for corrosion, wear and deterioration. There is also an ongoing requirement to ensure that any trees within the wayleave corridor do not impact on safety clearances.

Underground Cables

- 2.29 Open cut trenching is the most frequently used construction method for cable installation. However, in crossing under watercourses or motorways for example, a trenchless technique such as directional drilling may be used. Works at each section commonly consist of the construction of a haul road, the excavation of the cable trench by mechanical excavators, cable laying, the backfilling of the trench with sand and native material and surface reinstatement. A typical cable installation rate is up to 160m per week, depending on the terrain and conditions. A temporary construction compound is also required and again this is generally located where appropriate.
- 2.30 Annual maintenance checks on foot are commonly required during operation. The cable route will also be kept clear of all but low growing vegetation. In the unlikely event that there is a fault along the cable, the area around the fault is excavated and the fault repaired or a new section of cable inserted as a replacement. If lines are decommissioned, cables can either be left in situ or carefully excavated and removed.

Proposed Felling

- 2.31 Felling of forestry areas will be required to construct the overhead lines with the required statutory safety clearances for safe construction and maintenance of the overhead lines, which must be maintained at all times. A clearance wayleave corridor of 80m, comprising 40m either side of the centre line of the overhead lines, will be required.
- 2.32 The felling proposals will be developed by the EIA team, including forestry specialists and landscape architects, in consultation with the relevant landowners and forest managers, and in accordance with good practice, may require felling to a windfirm edge in areas of commercial forestry (outwith the 80m corridor). The proposals will take account of the Forestry Commission Scotland's (FCS) statutory remit to deliver forestry management for multiple benefits, including timber production, and will reflect FCS's design guidelines.

- 2.33 Opportunities for re-planting of lower growing species, which will not encroach on statutory safety clearances, within the wayleave corridor will be investigated as part of the EIA process and will be incorporated into the felling design plans where appropriate, in consultation with the relevant forestry managers.

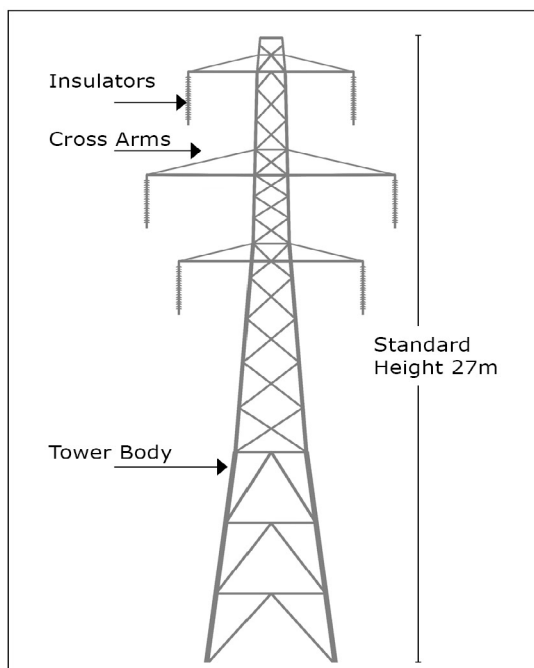
Access

- 2.34 The overall design objective for the temporary construction access tracks has been to avoid and / or reduce any potential impacts upon natural and cultural heritage assets, while causing the least disturbance to current land use, and land management practices. Temporary accesses to all pole and tower locations will therefore be taken from the existing main road network wherever feasible, with the use of selected unclassified roads also likely to be required. The use of existing tracks and watercourse crossings will be maximised, with the upgrading of these where necessary.
- 2.35 The initial preference when taking temporary access is to use low ground pressure vehicles and plant. However, depending on plant requirement and local ground conditions, temporary tracks, capable of supporting heavy plant safely, may need to be constructed. These tracks will be formed primarily of stone. Where access is required to be taken through any sensitive areas identified during the EIA process, other less intrusive methods such as temporary steel matting, or timber roadways may be employed.
- 2.36 All temporary tracks will be removed after commissioning with land being restored to its former condition.

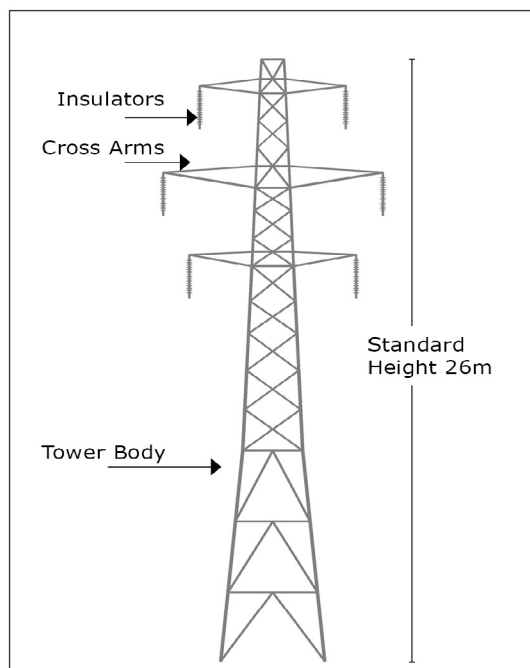
Temporary Working/Construction Compound Areas

- 2.37 Temporary working areas will be required for the duration of the construction works. Temporary vehicular access is required to every tower/pole site for foundation excavation, concrete delivery and crane access to erect towers. At tower sites, an approximate working area of 50m x 50m will be required however, at selected towers, this may extend further to accommodate areas for conductor (wire) pulling. Wood pole sites have a working area of approximately 30m x 30m and could also extend to accommodate conductor pulling if required. In some cases the shape or size of the working area will be determined by nearby environmental or land use constraints, identified during the EIA process / prior to construction. Each working area will be taped off to delineate the area for environmental protection reasons.
- 2.38 Following the completion of the construction works, the temporary working areas will be reinstated and restored to former conditions.
- 2.39 Temporary construction compounds will be required for the storage of materials, the siting of staff offices, parking spaces and welfare facilities.
- 2.40 It is likely that the temporary compounds will be located in proximity to the existing road network, where water, sewage and electricity supplies can be readily accommodated. However sites for the temporary compounds will be selected by the appointed contractor, and cannot be identified at this stage. The selection of sites will be informed by the appraisal of site options, taking into account any identified environmental constraints.
- 2.41 Construction compounds will be lit during normal working hours as required. In addition, for site security reasons, the compounds will be fitted with electrical sensors to activate the compound outwith working hours, should movement be detected.
- 2.42 Each construction compound will be fenced off during the construction process and will be restored fully once the corresponding phase of construction is complete, and the connection is commissioned.

Figure 2.1a: Steel Tower Types

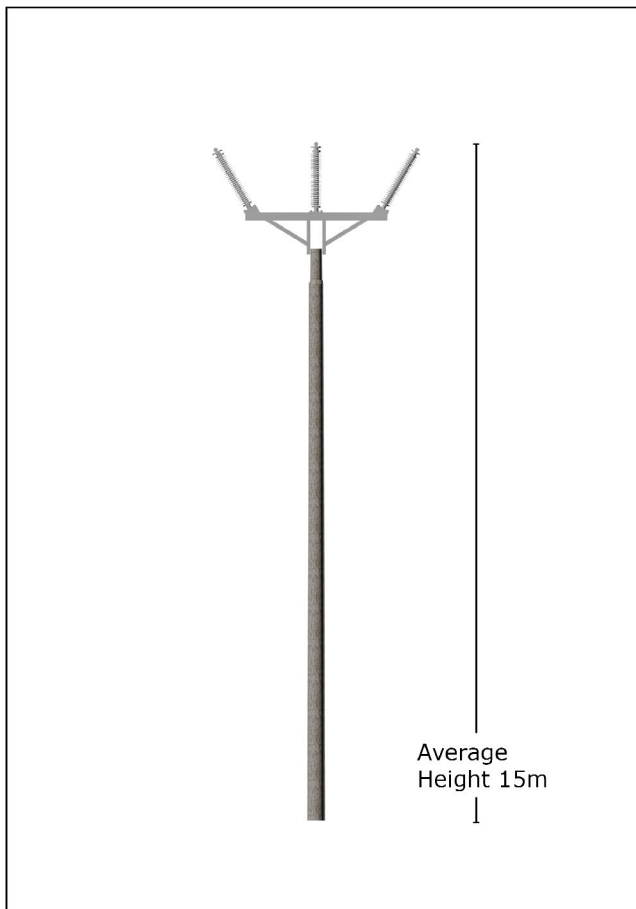


Component parts of 132kV Steel Lattice Tower L7:
Polquhanity to Kendoon, and Kendoon to Glenlee.



Component parts of 132kV Steel Lattice Tower L4:
Glenlee to Tongland

Figure 2.1b: Wood Pole Type



132kV 'Trident' design Wood Pole
Carsfad to Kendoon and Earlstoun to Glenlee



**Figure 2.2: Indicative
Construction Activity**



Protective scaffolding across public road during conductor pulling



Construction of access track



Construction of steel towers



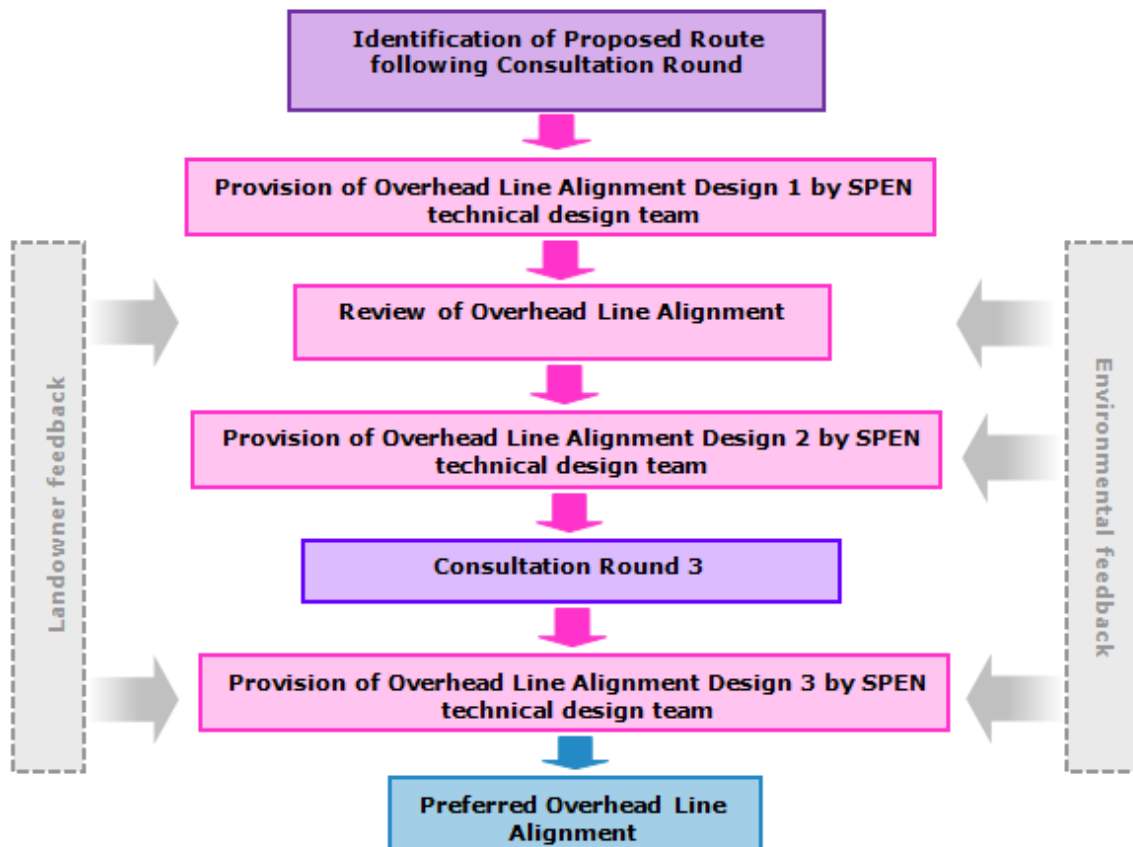
Typical Working Area

3 Identification of Alignment for Overhead Lines

Introduction

- 3.1 Following the identification of a proposed 200m route for each of the KTR Project overhead line sections (between Polquhanity to Kendoon, Kendoon to Glenlee, Glenlee to Tongland, and also Carsfad to Kendoon and Earlstoun to Glenlee), work was then progressed to identify the most appropriate alignment for the overhead lines.
- 3.2 This design process was led by the SPEN overhead line design team informed by the emerging findings of the environmental surveys, emerging feedback from consultees via the scoping process and landowner feedback. The process for identification of the alignment is outlined in **Figure 3.1** below.
- 3.3 An initial alignment (Design 1) was developed by SPEN's overhead line design team reflecting technical parameters and taking account of environmental information where known at this initial stage.
- 3.4 This initial alignment of the overhead line (Design 1) was subsequently subjected to a review by the environmental specialist teams, informed by environmental information gathered during the desk and field surveys as well as feedback from consultees. Where possible, SPEN wayleaves team also contacted landowners to discuss the initial alignment (Design 1) of the overhead line to gather their feedback.
- 3.5 Where tower or pole positions were considered to have a potentially adverse effect on the environment, or an adverse effect on land holdings, a new position was suggested by the environmental and/or SPEN wayleaves team. This feedback was then provided to the SPEN overhead line design team for further consideration and accommodation where possible, (without compromising the technical design requirements) resulting in the production of a modified alignment of the overhead line (Design 2), upon which the third round of consultation is based.
- 3.6 The feedback from this round of consultation will be used to test the alignment and associated infrastructure within the proposed development envelope. In addition, SPEN will continue to work with affected landowners beyond the consultation to ensure their interests and concerns are accommodated in the design wherever possible.
- 3.7 Further details of the technical, environmental and landowner parameters are provided below.

Figure 3.1 Identification of Overhead Line Alignment



Technical Design

- 3.8 The initial alignment of the overhead line, comprising towers/poles, working areas and proposed access tracks, was designed by SPEN's technical design team reflecting technical parameters such as:
- To minimise the number of towers/poles required;
 - To maximise the span lengths between towers/poles;
 - To minimise the number of angle towers/poles;
 - To minimise the length of access tracks.
- 3.9 The design was also informed by the required capacity, the location and orientation of the connection points (substations) and by the proposed route for each section of the network reinforcement. This determined:
- the tower /pole locations, type and span length;
 - the location and design of access tracks and pulling areas;
 - the design of forestry felling.

Initial Scoping Responses

- 3.10 A number of responses to the *Kendoon to Tongland Reinforcement Project: Environmental Impact Assessment - Scoping Report* (April 2017) were received from statutory consultees³ during the initial alignment of the overhead line design stage. The responses received to date further supplemented the environmental feedback on the emerging alignment of the overhead line, for example in relation to consideration of tower heights, potential routes through areas of commercial forestry, and avoidance of archaeological features, including their setting.

Landowner Input

- 3.11 Where possible SPEN, alongside members of the environmental team where required, contacted landowners to discuss the initial alignment of the overhead line (Design 1). This allowed further consideration to be given to the concerns of individual landowners in relation to potential effects on their land use, feedback from these discussions included issues such as the following:
- Where possible infrastructure such as working areas, access tracks, and tower stays are positioned so as to avoid straddling land boundaries.
 - Where possible towers / poles are positioned to minimise the sterilisation of current and proposed use of agricultural and/or forestry land.
 - Existing access tracks were utilised as far as practicable.
 - Field drains were avoided where possible.
 - Private water supplies were avoided.

Environmental Surveys

- 3.12 In parallel with the SPEN / landowners discussions, environmental teams carried out the following environmental surveys within the 200m proposed route option, and relevant topic specific wider survey zones e.g. ornithological surveys, to further inform the alignment of the overhead line design and subsequent EIA. An overview of the surveys carried out to date is provided below.

Landscape and Visual Impact Assessment

- 3.13 Supplementing the desk based work and data collection during the routeing phase, further field work was undertaken to establish the existing baseline conditions, from both publicly accessible and private land (where access was granted) to identify potential landscape receptors, and key views and visual receptors (people) to be considered during the design of the alignment of the overhead line. Information obtained from SPEN following consultation with landowners and local residents as part of the consultation undertaken to date, as well as scoping consultation comments from statutory consultees also informed the scope and focus of field surveys.
- 3.14 The findings of initial field surveys and collation of baseline information were used to inform the review of the alignments designed by SPEN's overhead line design team. The alignment of the overhead lines were reviewed in relation to landscape and visual sensitivities, and potential landscape and visual effects, to determine the most appropriate alignment, as well as the location and height of individual towers/poles (subject to technical limitations of the overhead line design e.g. topography). The landscape and visual review considered key views from residential properties and popular recreational assets (e.g. Stroan Loch and the Raiders Road Forest Drive), views from key transitory routes (e.g. the crossing of the A75) and with consideration of how the alignment of the overhead line is integrated alongside existing landscape features (e.g. forestry) and in relation to underlying landform and topography (e.g. consideration of tower height and elevation).

³ Statutory consultee responses can be read in full in the 'Kendoon to Tongland Reinforcement Project: Scoping Opinion from Scottish Ministers' (October 2017), which is available at www.spendgsr.co.uk.

Forestry

- 3.15 Desk based and field surveys have been undertaken supplemented by consultation with woodland owners/managers to assess existing woodland conditions and review proposals for long term management of woodland blocks (as set out in the relevant Forest Management Plans). This information was used to inform the alignment of the overhead line, to seek to minimise felling of broadleaf woodland, mature conifers (where not scheduled for felling imminently to avoid/minimise windblow) and utilise existing forest edges where possible. The design also seeks to ensure existing and future forest management activities are not compromised.

Geology, Hydrology, Hydrogeology, Water Resources and Peat

- 3.16 A walkover hydrological survey was carried out, supplementing the desk based work and data collection, to establish the existing baseline conditions. This included identifying and documenting watercourses, identification of other water features such as wetlands and springs, ground-truthing private water supply (PWS) data, undertaking an overview assessment of areas identified as floodplain within the SEPA Flood Maps and providing a general overview of landscape and land cover of importance to hydrology.
- 3.17 The findings of the survey work and baseline assessment were then added to the environmental constraints mapping to provide input and feedback into design iterations. These findings resulted in a number of design modifications to the alignment of the overhead line, with a 10m 'buffer' being placed around all watercourses, and all towers / poles and working areas being located outwith this buffer wherever possible. In addition consideration was given to PWS catchments and areas of marsh land.
- 3.18 Peat probing was undertaken systematically along the length of the KTR Project where peat was anticipated (based on the review of British Geological Survey Superficial Geology maps, Soils Scotland Mapping and SHN Carbon and Peatland Mapping), to identify the spatial coverage and depth of peat along the proposed route. More extensive probing was also undertaken at potential tower / pole locations where peat was identified as being present.
- 3.19 The data obtained from the site investigations was used to produce maps of peat depths along the route. Though areas of deep peat were infrequent, towers/poles and associated infrastructure were designed to avoid areas of relatively deep peat where possible.

Biodiversity (ecology and ornithology)

- 3.20 The initial biodiversity field surveys comprised an extended Phase 1 Habitat Survey of the 200m proposed route, plus appropriate buffers (up to 250m along watercourses and out to 50m for all other sections). The survey area was classified and mapped in accordance with Phase 1 Habitat Survey methods. The extended habitat survey included an assessment of suitable habitat for any protected species e.g. otter, water vole and badger, as well as a search for field signs of such species. The findings of the protected species surveys informed the alignment of the overhead line where appropriate.
- 3.21 Desk studies, consultations to date, and a programme of ongoing targeted ornithological field surveys commenced in October 2016. These include surveys for populations where individuals breed, roost or forage at distances of up to 2km from the KTR Project. One full year of surveys has been completed, with targeted species specific surveys being undertaken for a second year, in consultation with SNH. The findings of the ornithological surveys have informed the alignment of the overhead line where relevant, for example through consideration of tower heights within a number of forest areas.

Cultural Heritage

- 3.22 A desk-based assessment and walkover field survey was conducted for the 200m wide proposed route to identify all known cultural heritage assets and inform the design and subsequent assessment of the of the KTR Project. The survey also included visits to key cultural heritage assets which have potential intervisibility with the KTR Project within the wider study area (5km wide), to assess whether the presence of KTR Project would affect their settings.









- 3.23 Following the completion of the cultural heritage survey work, and the mapping of related constraints, a number of towers / poles, working areas and access tracks were relocated, or rerouted where possible to avoid direct effects identified cultural heritage assets.

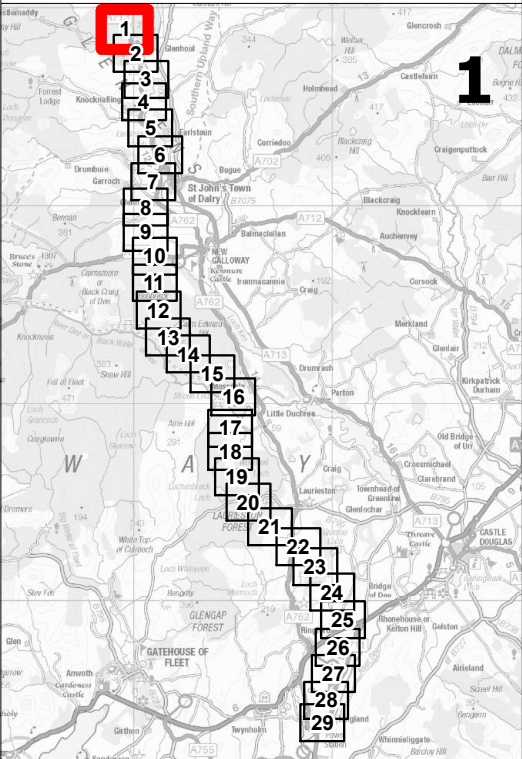
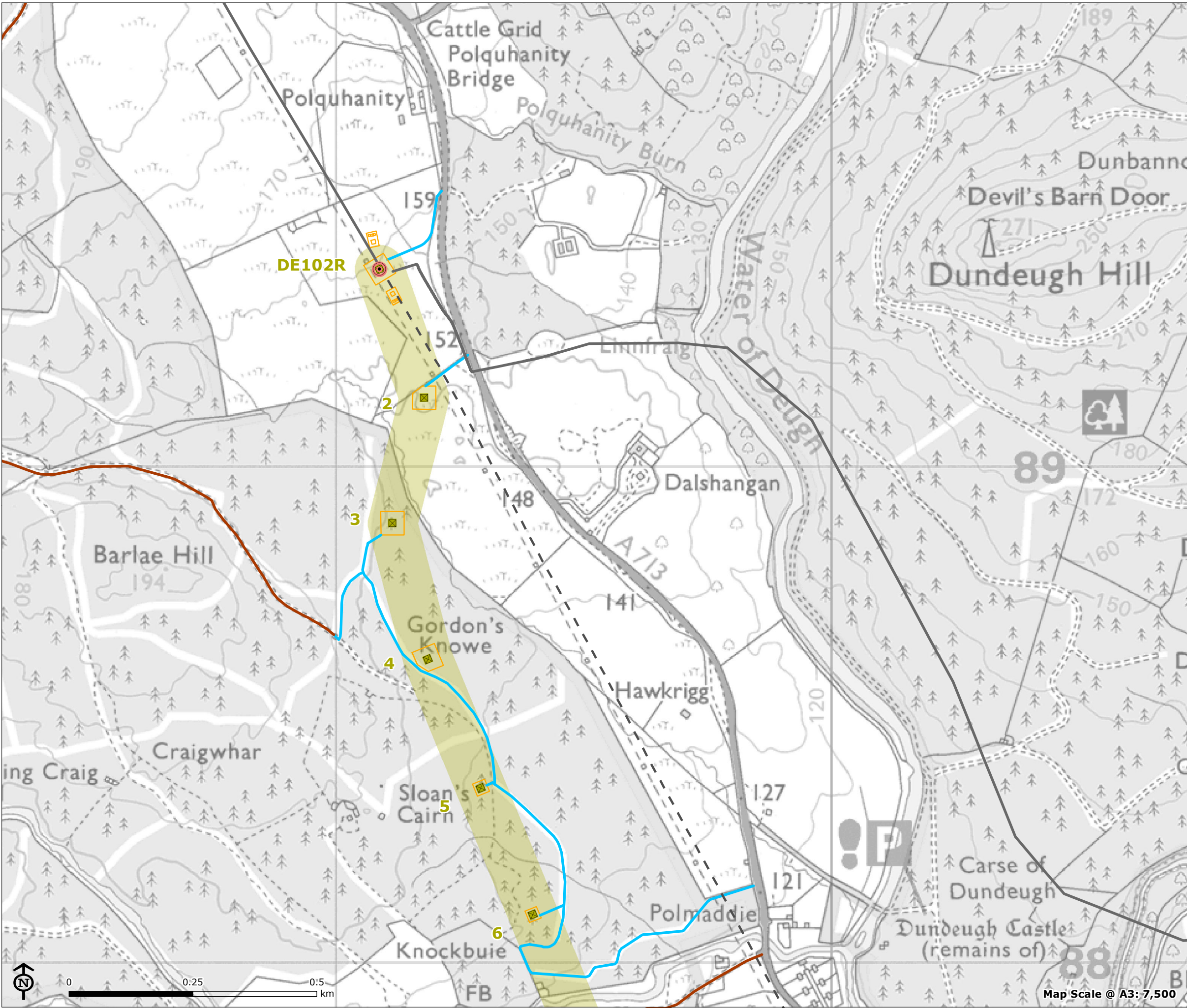
The Alignment of the Overhead Line

- 3.24 The outcome of the design process undertaken to date is the identification of an alignment for the overhead line comprising towers/poles with temporary working areas and accesses. The location/design of these are shown on **Figures 3.2.1-3.2.29** and form the subject of this round of consultation (consultation round three). Further details regarding the consultation process and next steps for the KTR Project are presented in **Chapter 4**.

Kendoon to Tongland Consultation Round Three

**Figure 3.2.1: Proposed Alignment
of the Overhead Line**

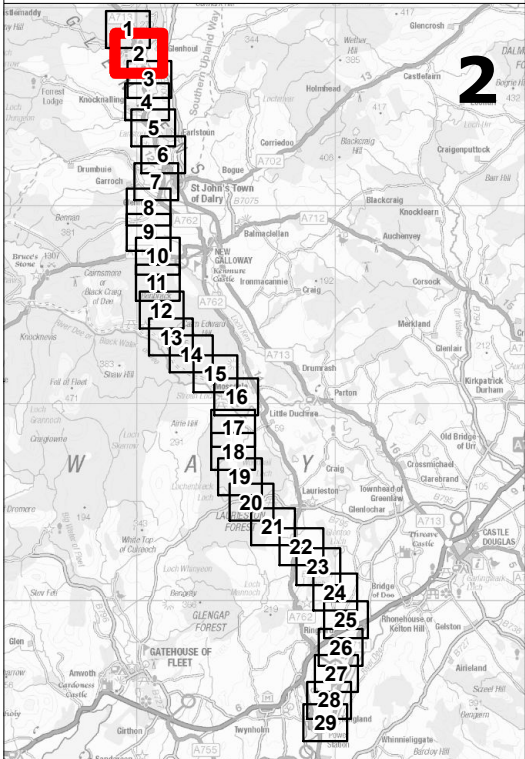
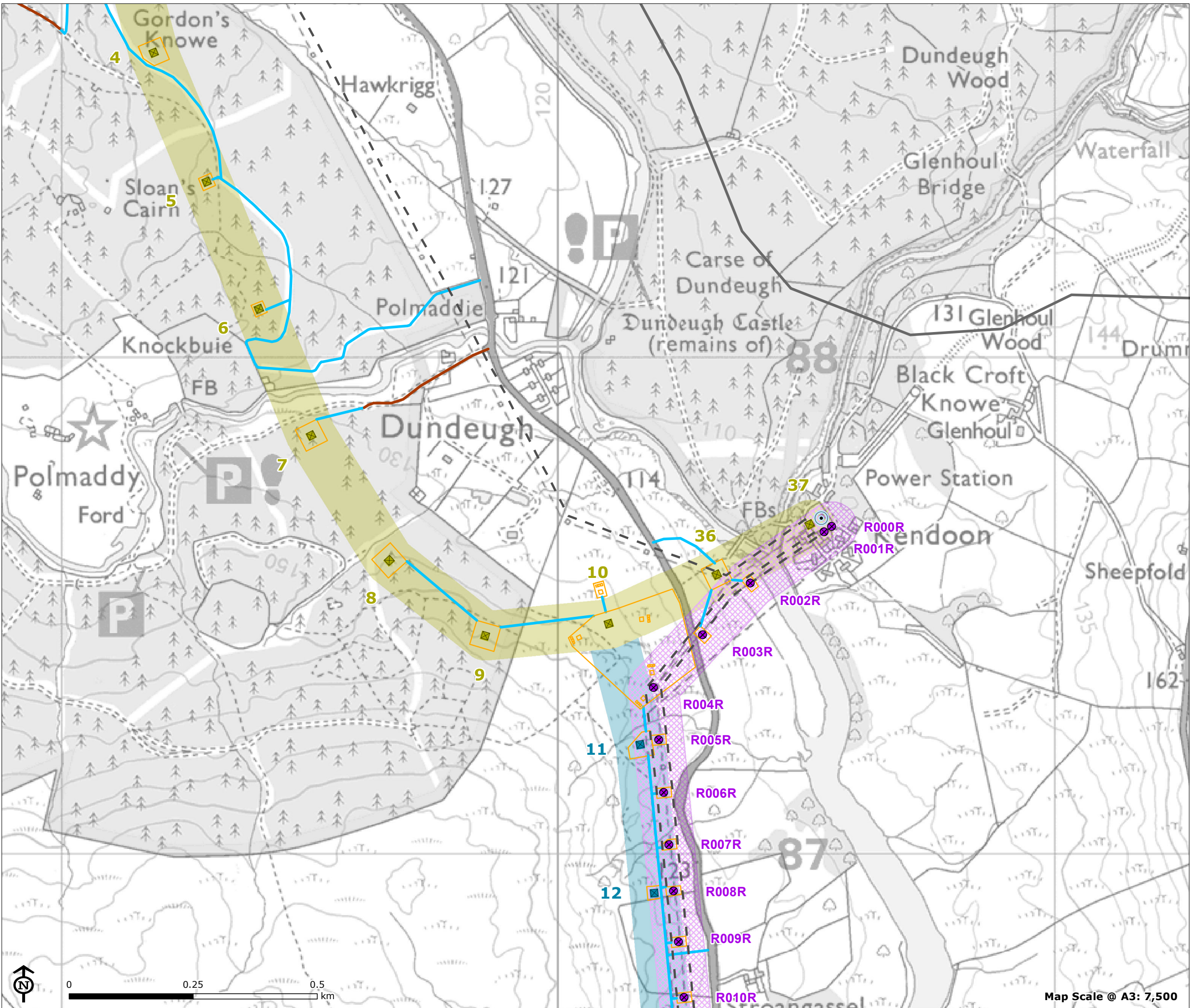
-  Polquhanity sealing end and terminal tower
-  Polquhanity to Kendoon (Steel Lattice Tower)
-  Existing Access
-  New Access
-  Working Area
-  Polquhanity to Kendoon proposed development envelope
-  Existing 132kV overhead line to be removed (following construction of the KTR Project)
-  Existing Network



Kendoon to Tongland
Consultation Round Three

Figure 3.2.2: Proposed Alignment
of the Overhead Line

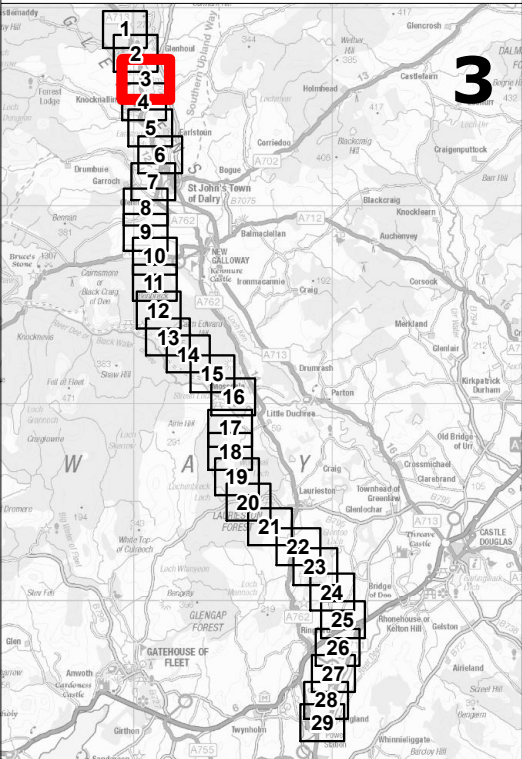
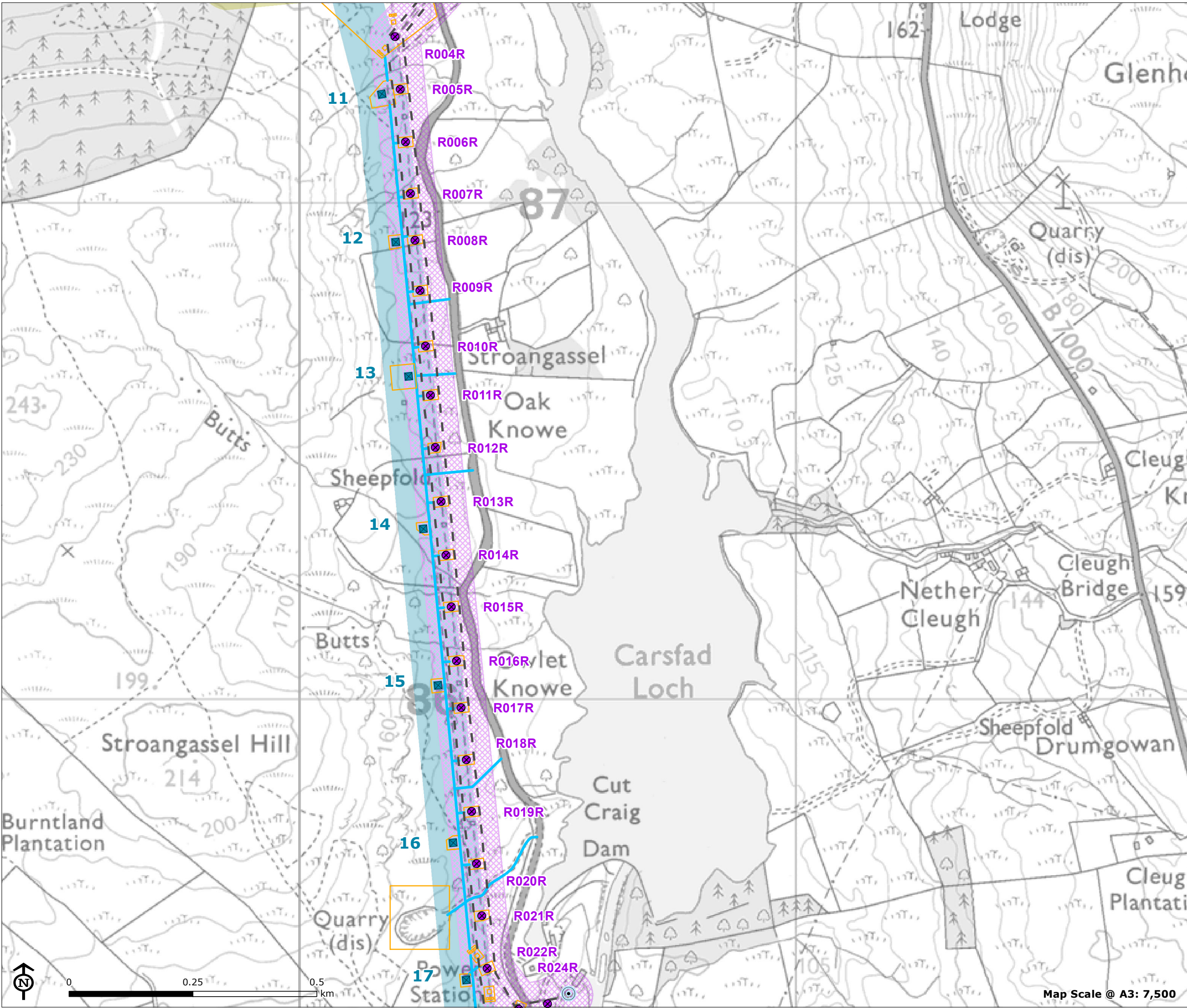
- Substation and hydro electricity generating station
- Polquharity to Kendoon (Steel Lattice Tower)
- Kendoon to Glenlee (Steel Lattice Tower)
- Carsfad to Kendoon (Wood Pole)
- Existing Access
- New Access
- Working Area
- Polquharity to Kendoon proposed development envelope
- Kendoon to Glenlee proposed development envelope
- Carsfad to Kendoon proposed development envelope
- Existing 132kV overhead line to be removed (following construction of the KTR Project)
- Existing Network



Kendoon to Tongland Consultation Round Three

**Figure 3.2.3: Proposed Alignment
of the Overhead Line**

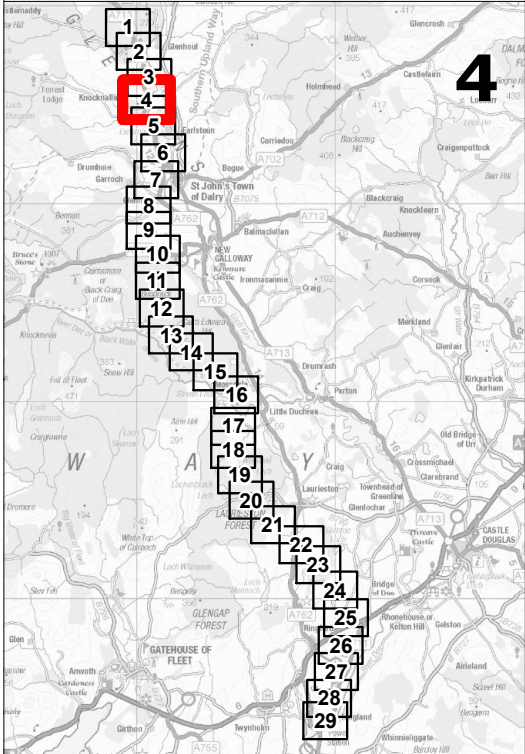
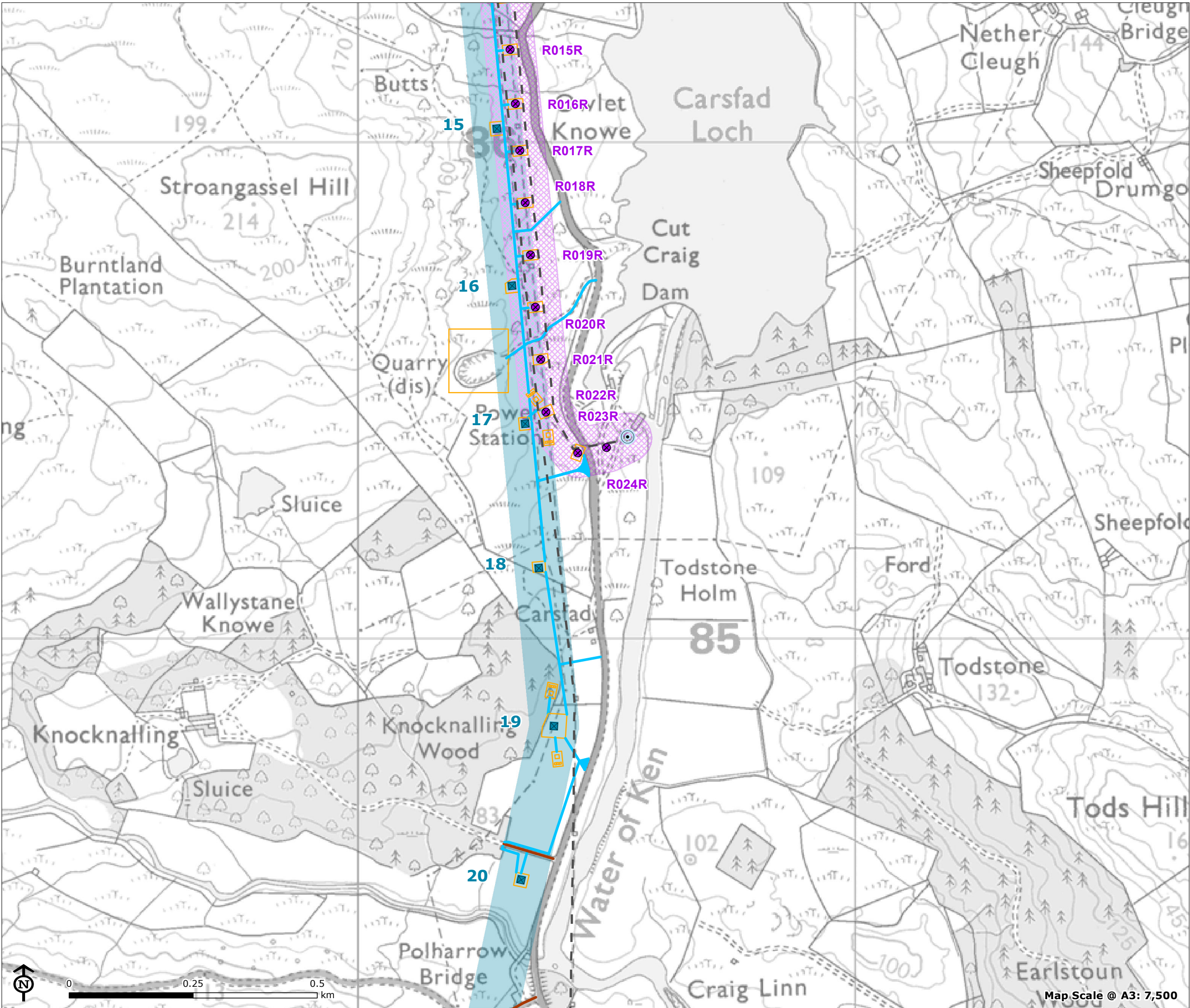
- Substation and hydro electricity generating station
- Kendoon to Glenlee (Steel Lattice Tower)
- Carsfad to Kendoon (Wood Pole)
- Existing Access
- New Access
- Working Area
- Polquhanity to Kendoon proposed development envelope
- Kendoon to Glenlee proposed development envelope
- Carsfad to Kendoon proposed development envelope
- Existing 132kV overhead line to be removed (following construction of the KTR Project)



Kendoon to Tongland
Consultation Round Three







Figure 3.2.4: Proposed Alignment
of the Overhead Line

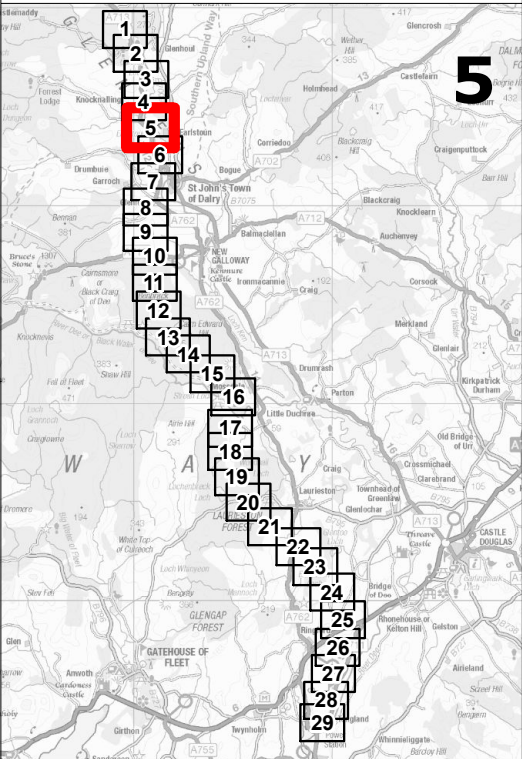
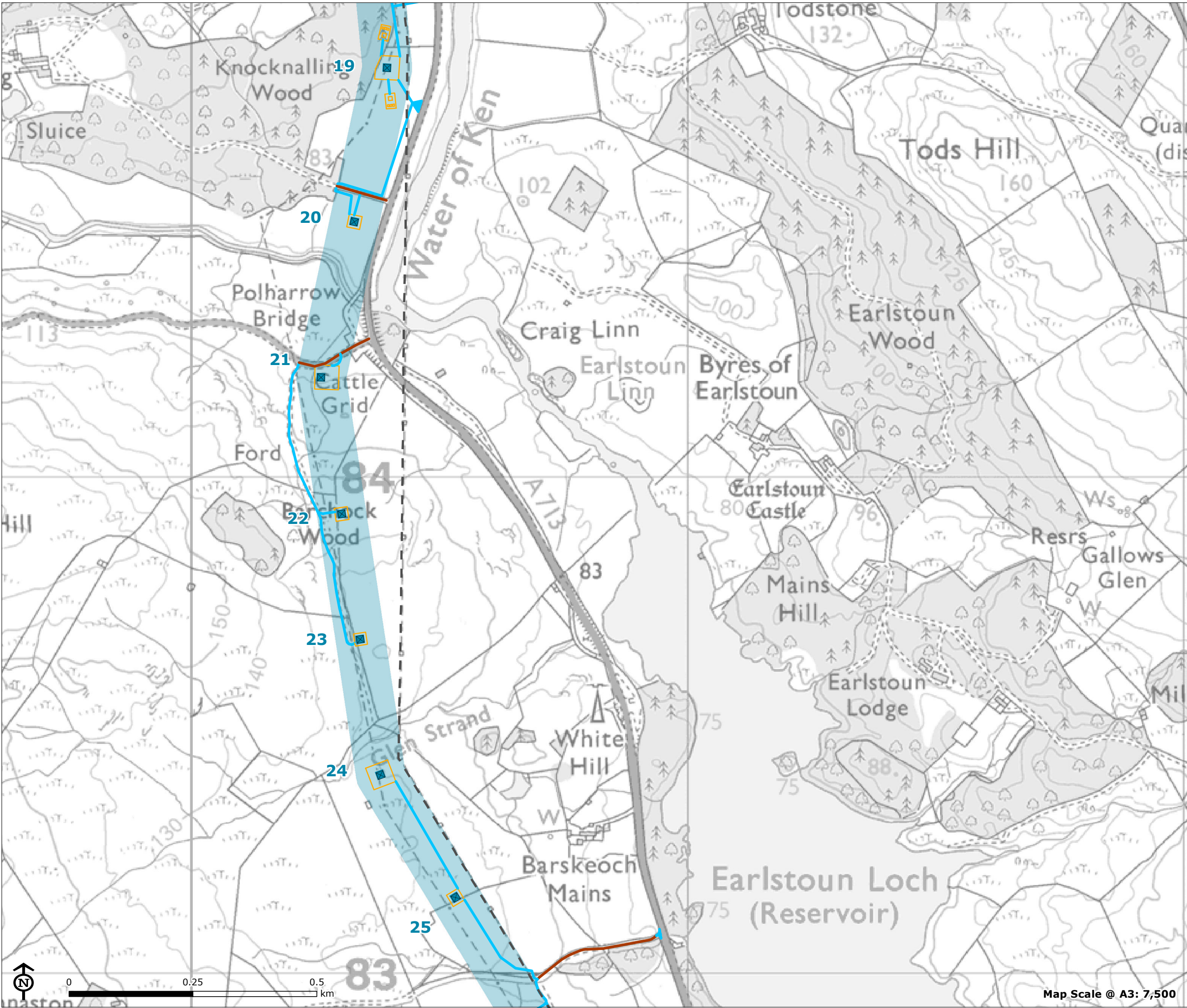
- Substation and hydro electricity generating station
- Kendoon to Glenlee (Steel Lattice Tower)
- Carsfad to Kendoon (Wood Pole)
- Existing Access
- New Access
- Working Area
- Kendoon to Glenlee proposed development envelope
- Carsfad to Kendoon proposed development envelope
- Existing 132kV overhead line to be removed (following construction of the KTR Project)

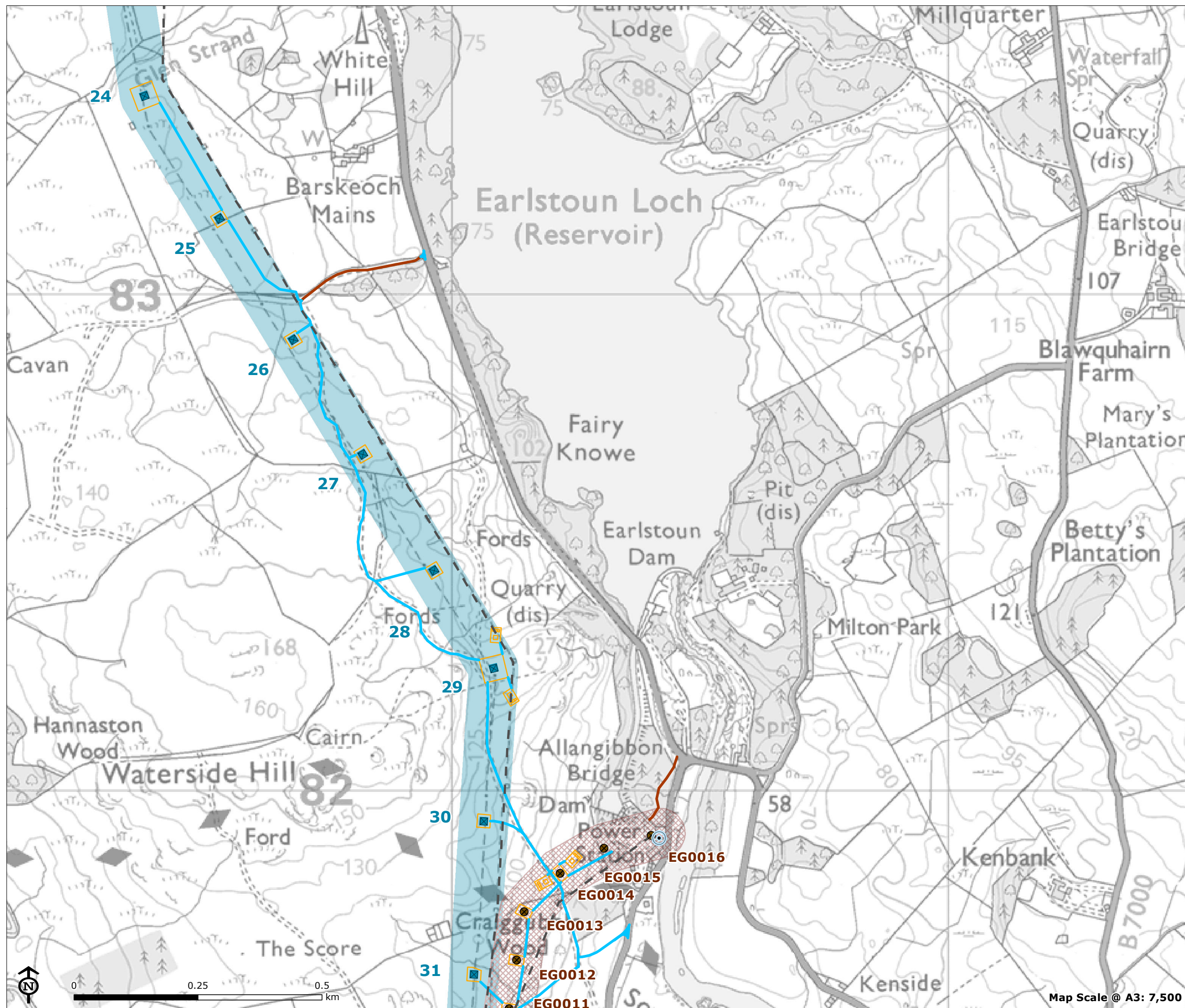


Kendoon to Tongland Consultation Round Three

Figure 3.2.5: Proposed Alignment
of the Overhead Line

-  Kendoon to Glenlee
(Steel Lattice Tower)
-  Existing Access
-  New Access
-  Working Area
-  Kendoon to Glenlee
proposed development envelope
-  Existing 132kV overhead line
to be removed (following
construction of the KTR Project)

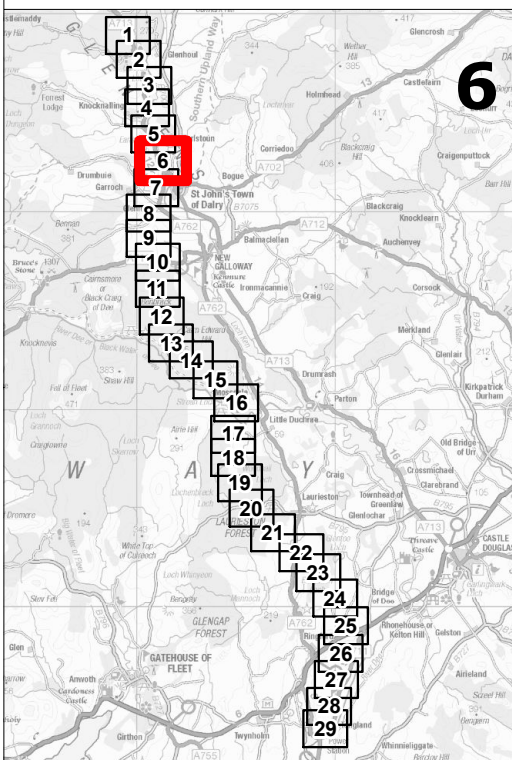




Kendoon to Tongland Consultation Round Three

Figure 3.2.6: Proposed Alignment of the Overhead Line

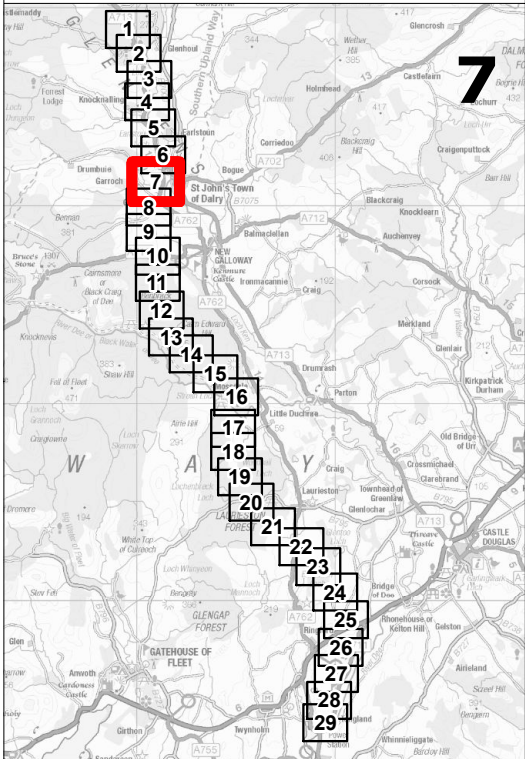
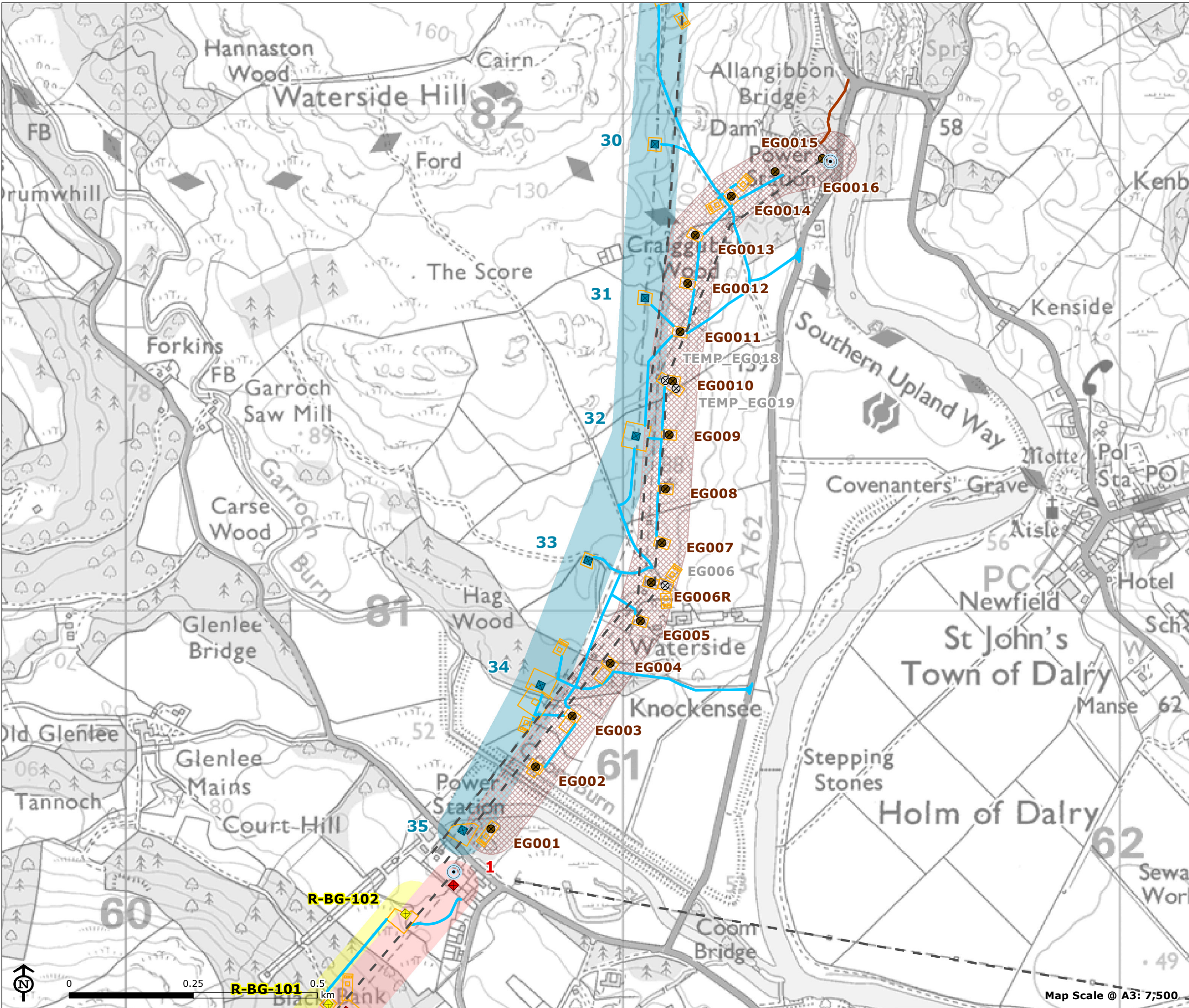
- Substation and hydro electricity generating station
- Kendoon to Glenlee (Steel Lattice Tower)
- Earlstoun to Glenlee (Wood Pole)
- Existing Access
- New Access
- Working Area
- Kendoon to Glenlee proposed development envelope
- Earlstoun to Glenlee proposed development envelope
- Existing 132kV overhead line to be removed (following construction of the KTR Project)

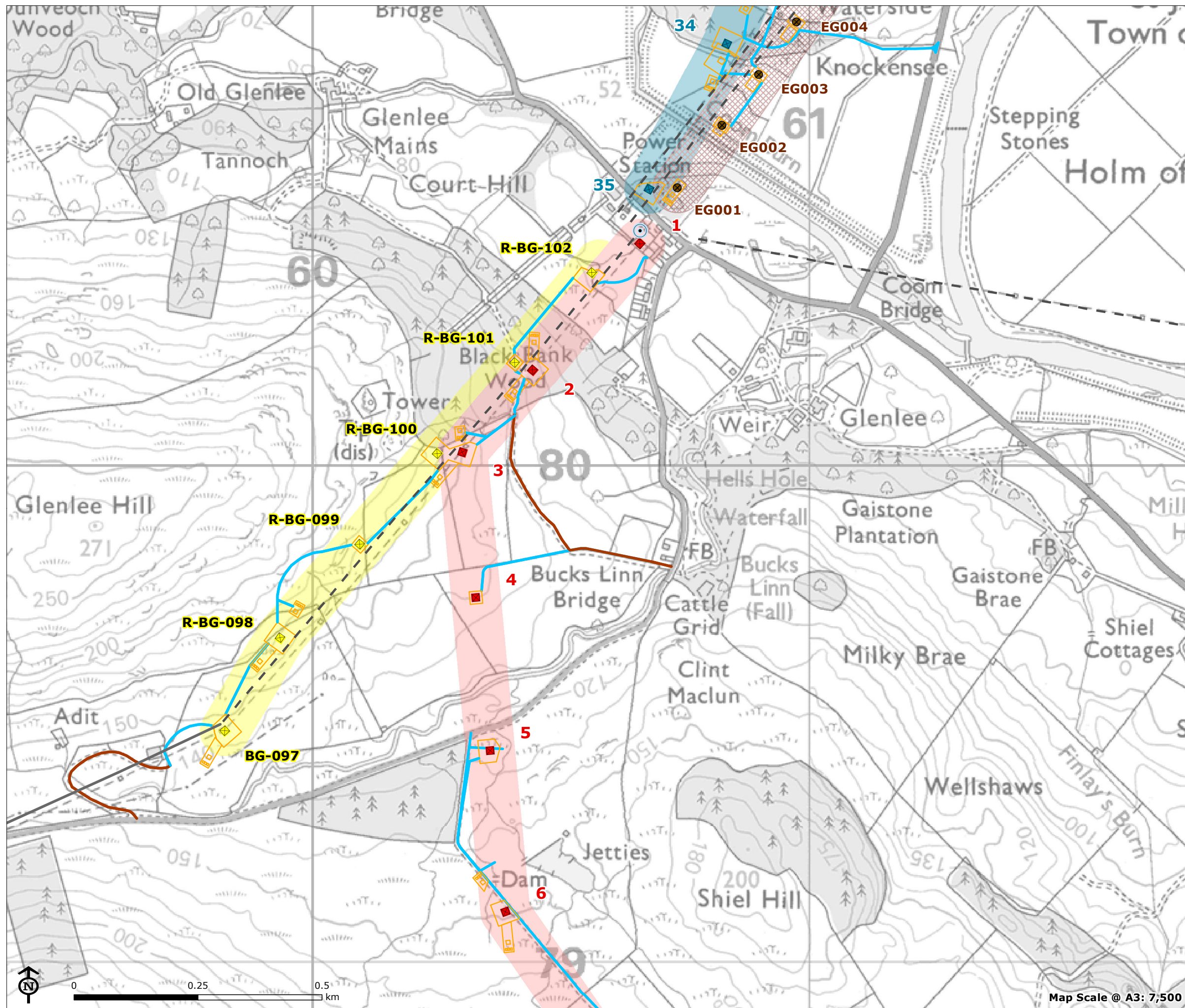


Kendoon to Tongland Consultation Round Three

Figure 3.2.7: Proposed Alignment
of the Overhead Line

- Substation and hydro electricity generating station
- Kendoon to Glenlee (Steel Lattice Tower)
- Glenlee to Tongland (Steel Lattice Tower)
- Earlstoun to Glenlee (Wood Pole)
- Earlstoun to Glenlee (Temporary Wood Pole)
- BG proposed tower re-alignment
- Existing Access
- New Access
- Working Area
- Kendoon to Glenlee proposed development envelope
- Glenlee to Tongland proposed development envelope
- Earlstoun to Glenlee proposed development envelope
- BG proposed route re-alignment
- Existing 132kV overhead line to be removed (following construction of the KTR Project)

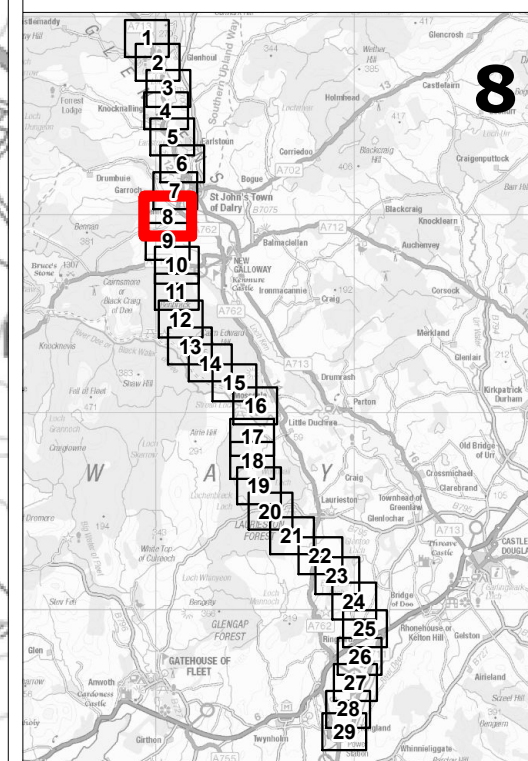




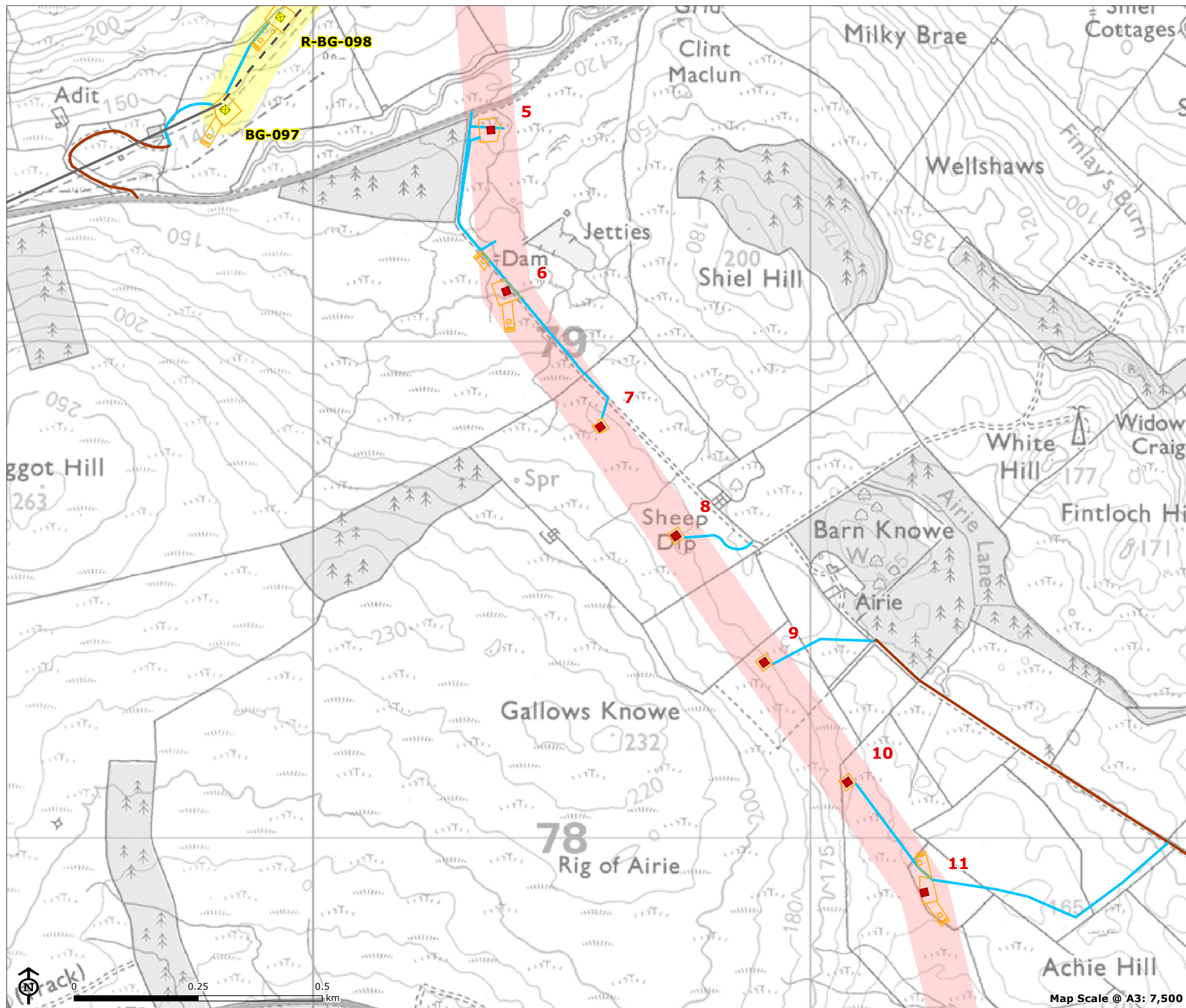
Kendoon to Tongland Consultation Round Three

**Figure 3.2.8: Proposed Alignment
of the Overhead Line**

- Substation and hydro electricity generating station
- Kendoon to Glenlee (Steel Lattice Tower)
- Glenlee to Tongland (Steel Lattice Tower)
- Earlston to Glenlee (Wood Pole)
- BG proposed tower re-alignment
- Existing Access
- New Access
- Working Area
- Kendoon to Glenlee proposed development envelope
- Glenlee to Tongland proposed development envelope
- Earlston to Glenlee proposed development envelope
- BG proposed route re-alignment
- Existing 132kV overhead line to be removed (following construction of the KTR Project)
- Existing Network



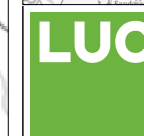
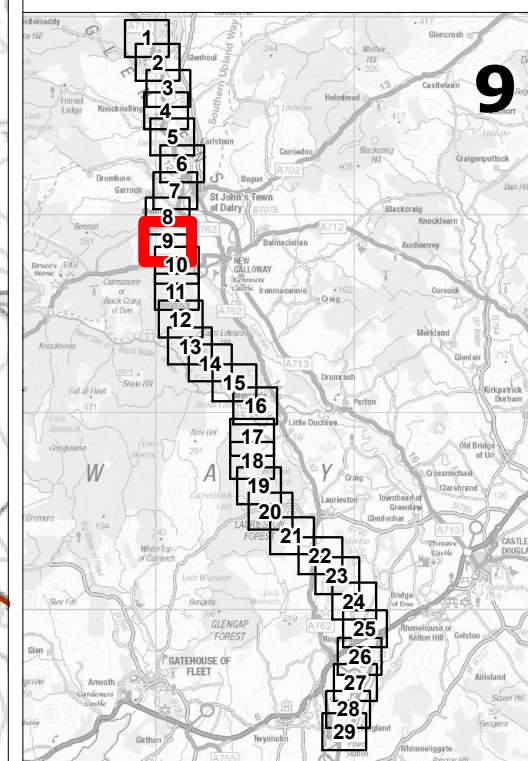
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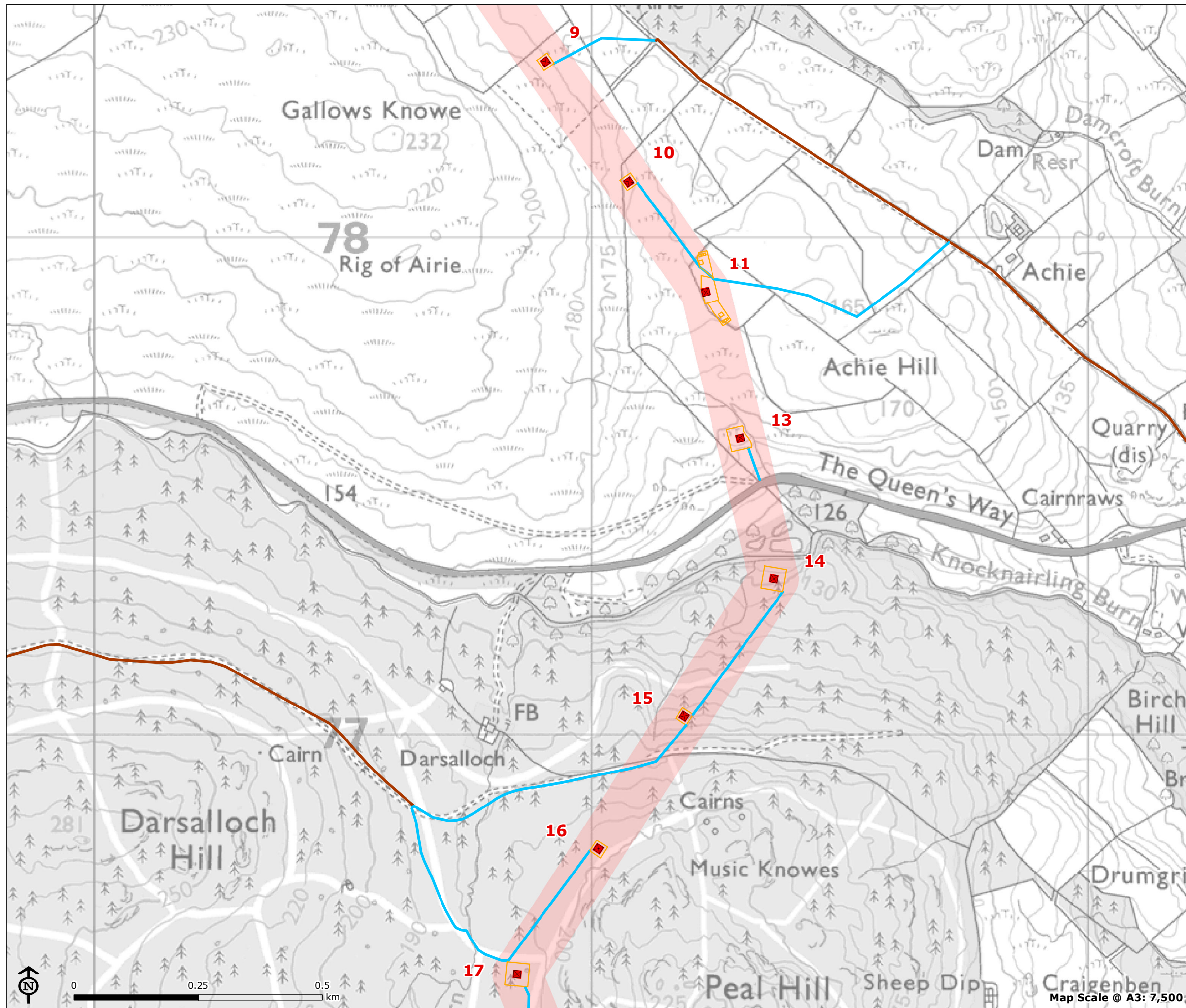


Kendoon to Tongland Consultation Round Three

Figure 3.2.9: Proposed Alignment of the Overhead Line

- Glenlee to Tongland (Steel Lattice Tower)
- ⊠ BG proposed tower re-alignment
- Existing Access
- New Access
- Working Area
- Glenlee to Tongland proposed development envelope
- BG proposed route re-alignment
- - Existing 132kV overhead line to be removed (following construction of the KTR Project)
- Existing Network

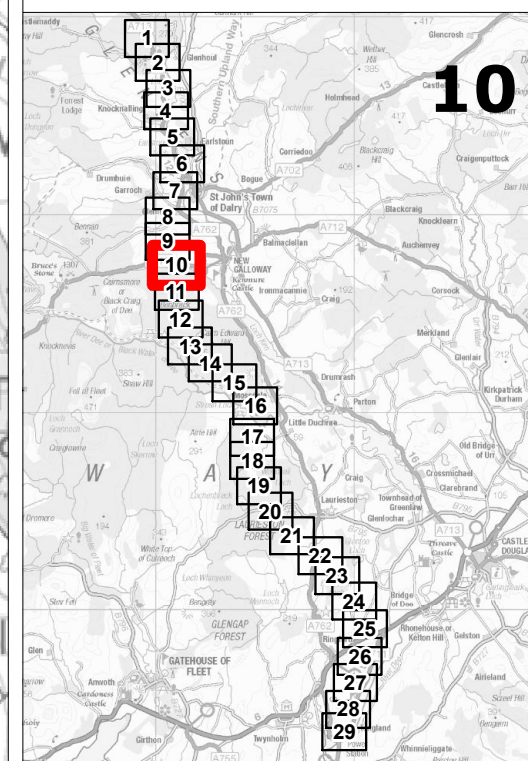


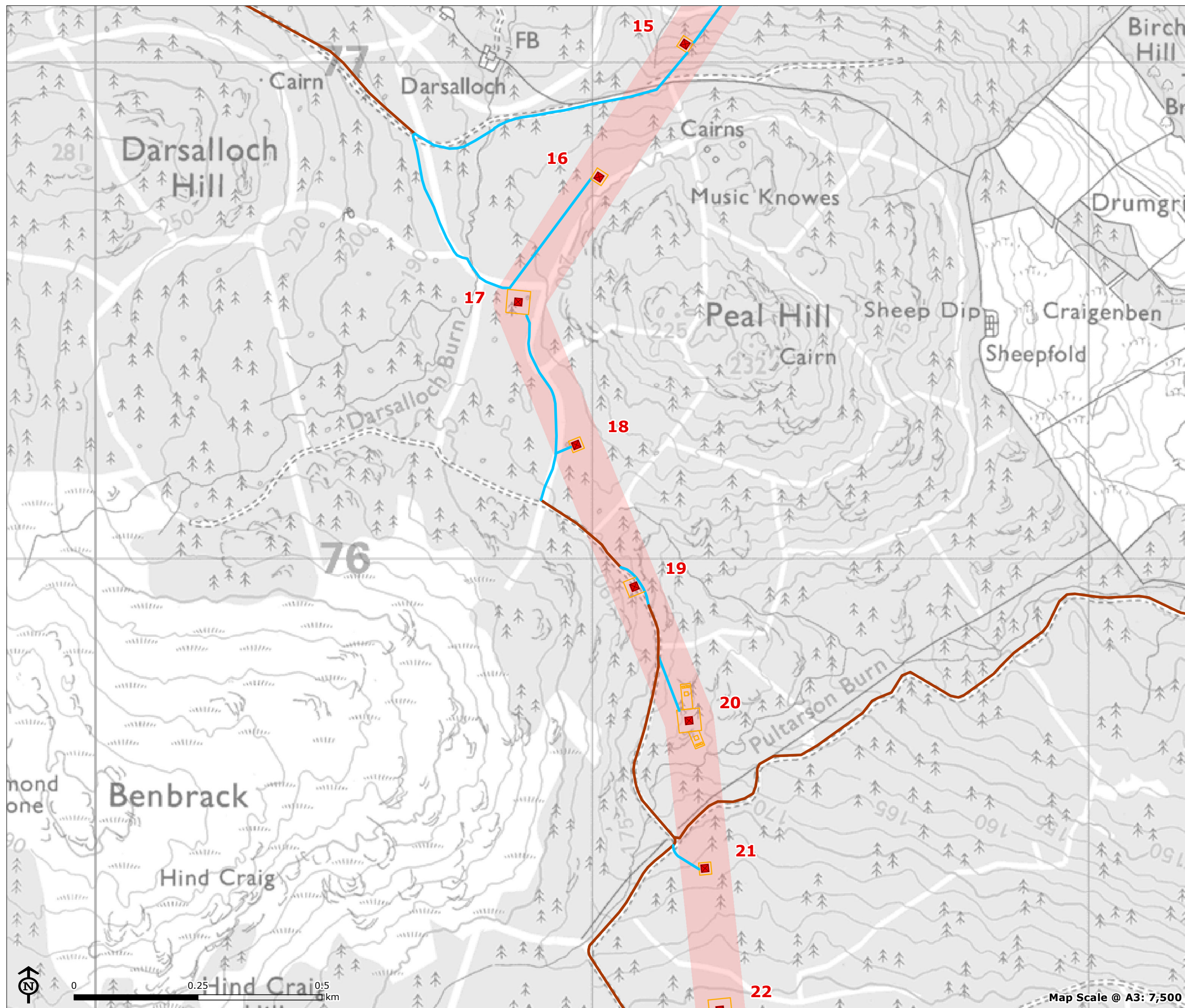


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Figure 3.2.10: Proposed Alignment of the Overhead Line

- Glenlee to Tongland (Steel Lattice Tower)
- Existing Access
- New Access
- Working Area
- Glenlee to Tongland proposed development envelope

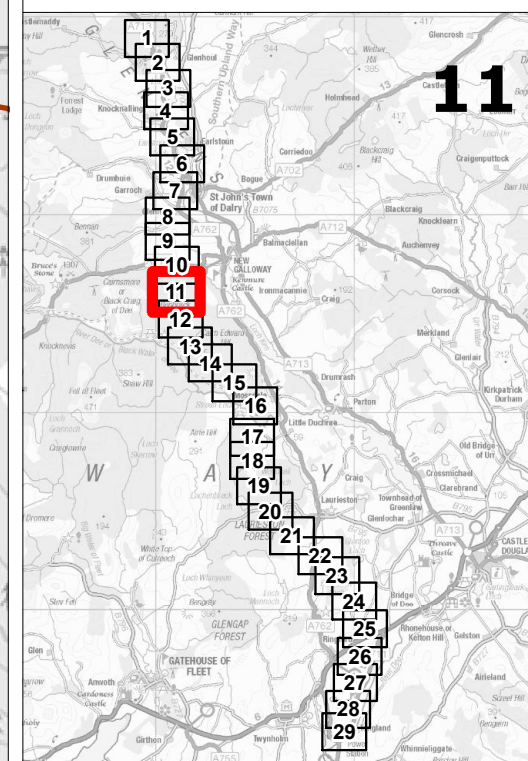


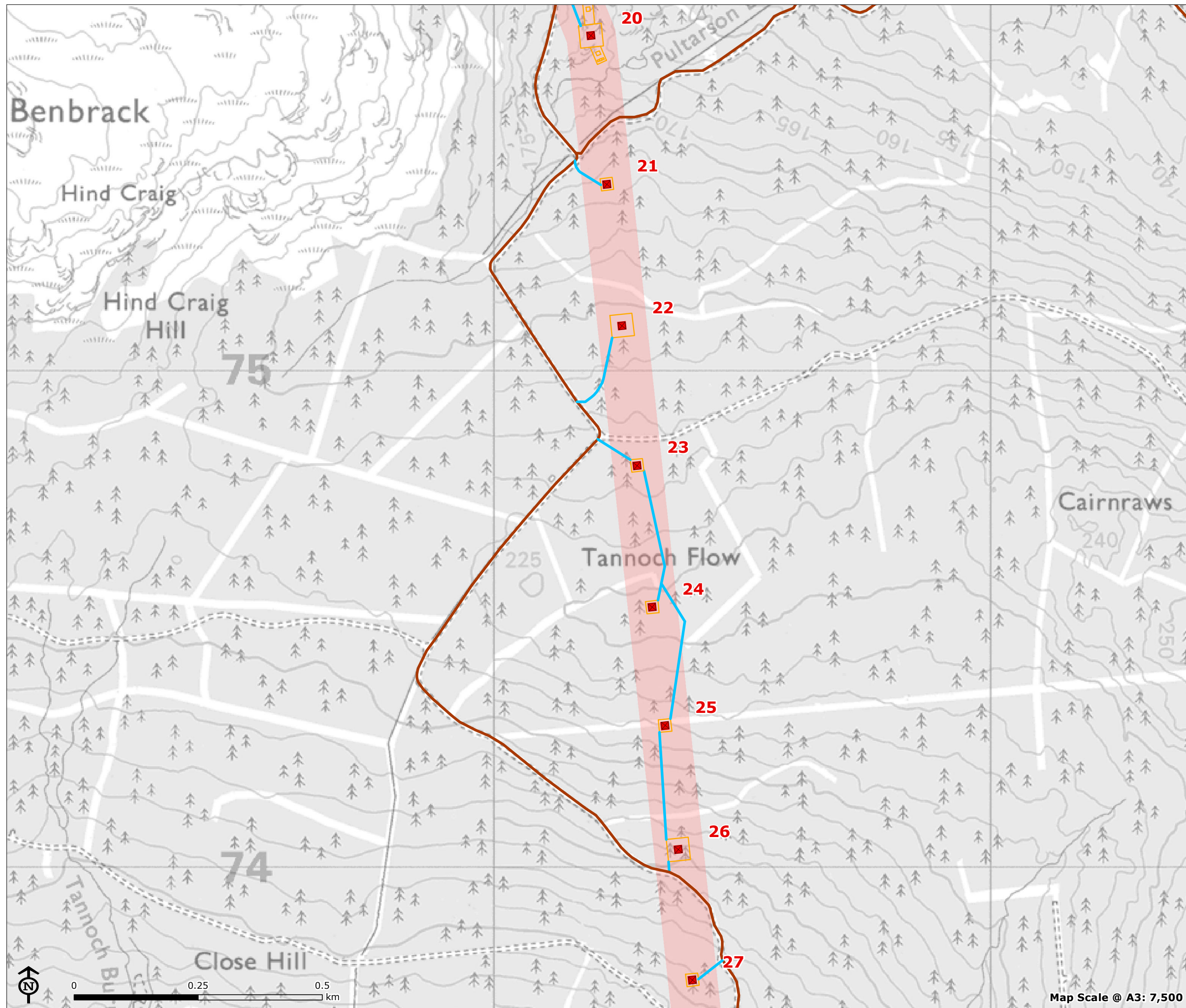


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Figure 3.2.11: Proposed Alignment of the Overhead Line

- Glenlee to Tongland (Steel Lattice Tower)
- Existing Access
- New Access
- Working Area
- Glenlee to Tongland proposed development envelope

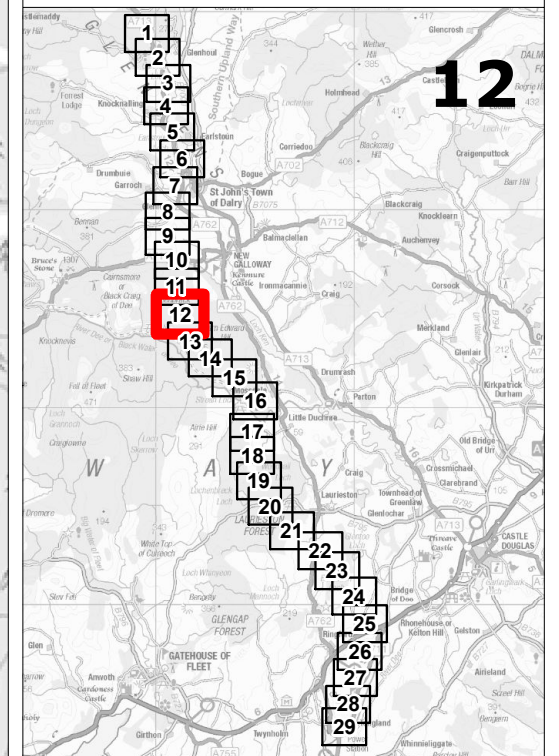




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**Figure 3.2.12: Proposed Alignment
of the Overhead Line**

- Glenlee to Tongland
(Steel Lattice Tower)
- Existing Access
- New Access
- Working Area
- Glenlee to Tongland
proposed development envelope

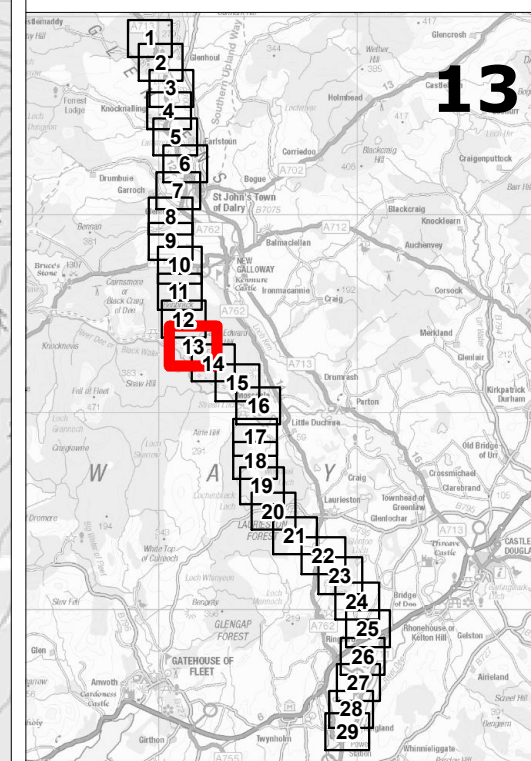




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**Figure 3.2.13: Proposed Alignment
of the Overhead Line**

- Glenlee to Tongland
(Steel Lattice Tower)
- Existing Access
- New Access
- Working Area
- Glenlee to Tongland
proposed development envelope



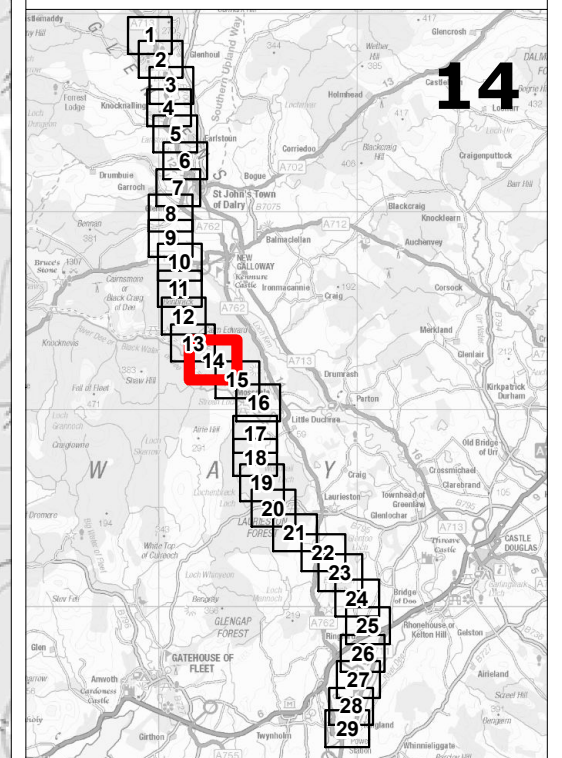
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Kendoon to Tongland Consultation Round Three

**Figure 3.2.14: Proposed Alignment
of the Overhead Line**

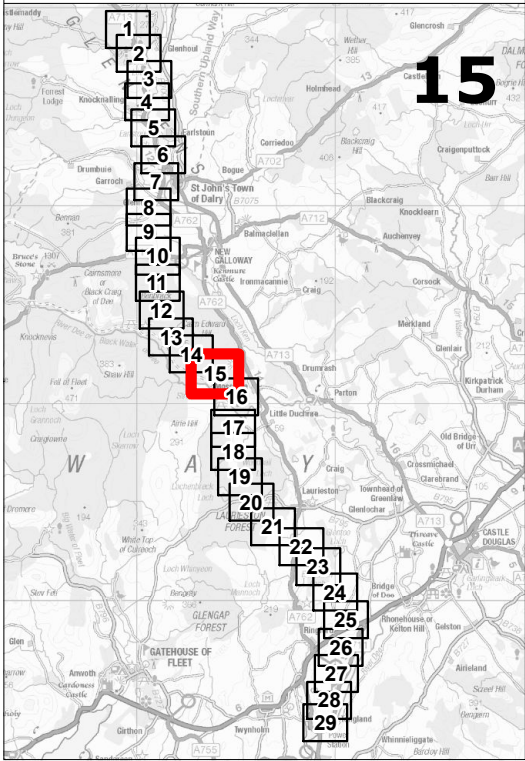
- Glenlee to Tongland
(Steel Lattice Tower)
- Existing Access
- New Access
- Working Area
- Glenlee to Tongland
proposed development envelope

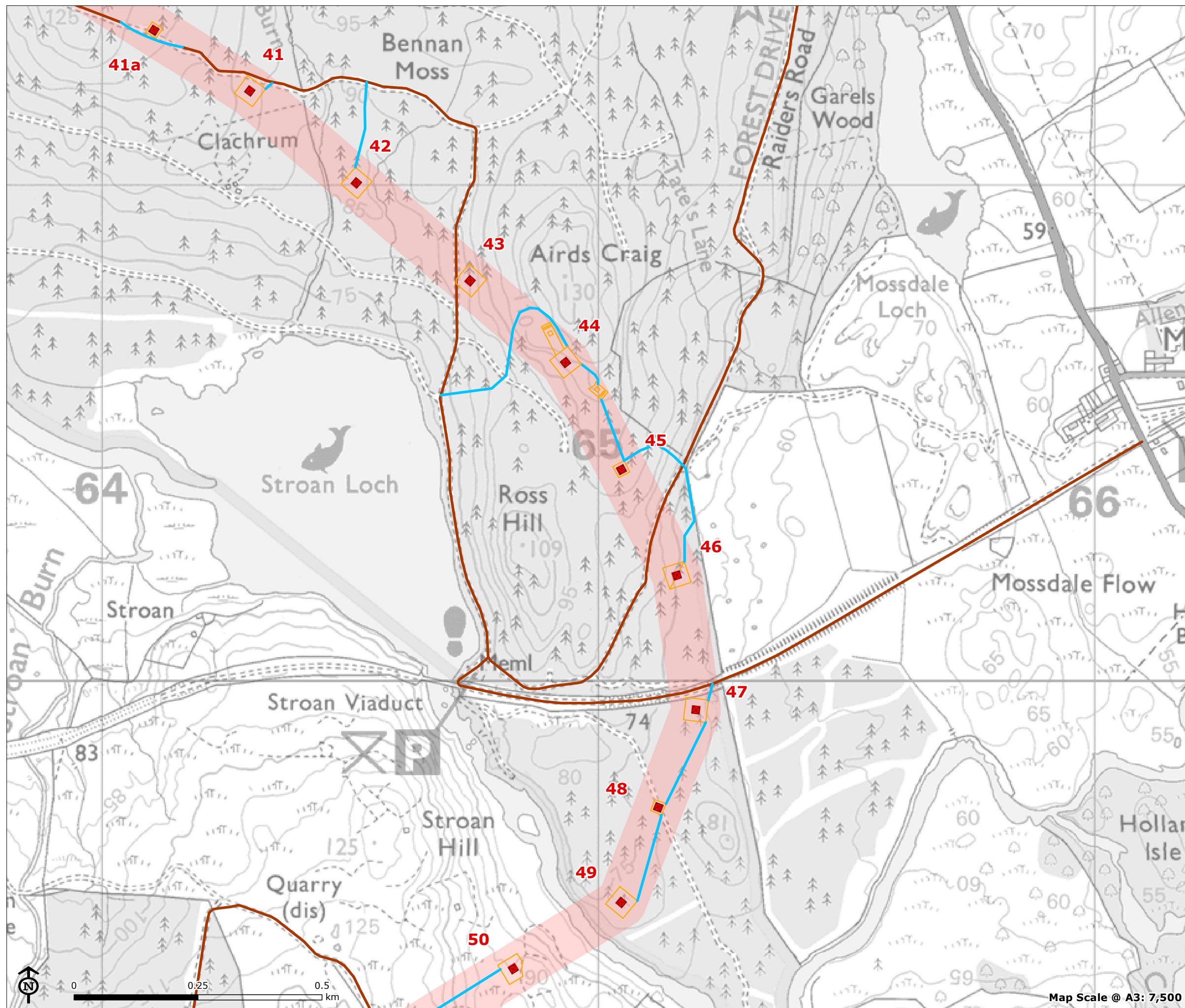


Kendoon to Tongland
Consultation Round Three

Figure 3.2.15: Proposed Alignment
of the Overhead Line

- Glenlee to Tongland
(Steel Lattice Tower)
- Existing Access
- New Access
- Working Area
- Glenlee to Tongland
proposed development envelope

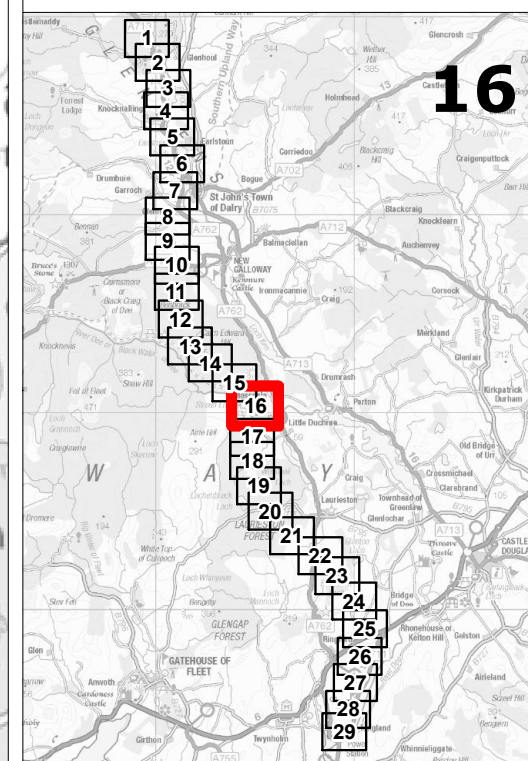




Kendoon to Tongland Consultation Round Three

**Figure 3.2.16: Proposed Alignment
of the Overhead Line**

- Glenlee to Tongland
(Steel Lattice Tower)
- Existing Access
- New Access
- Working Area
- Glenlee to Tongland
proposed development envelope

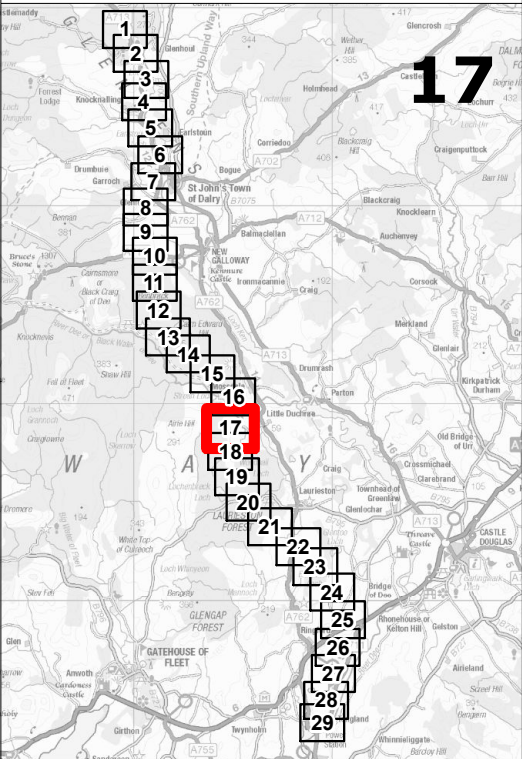
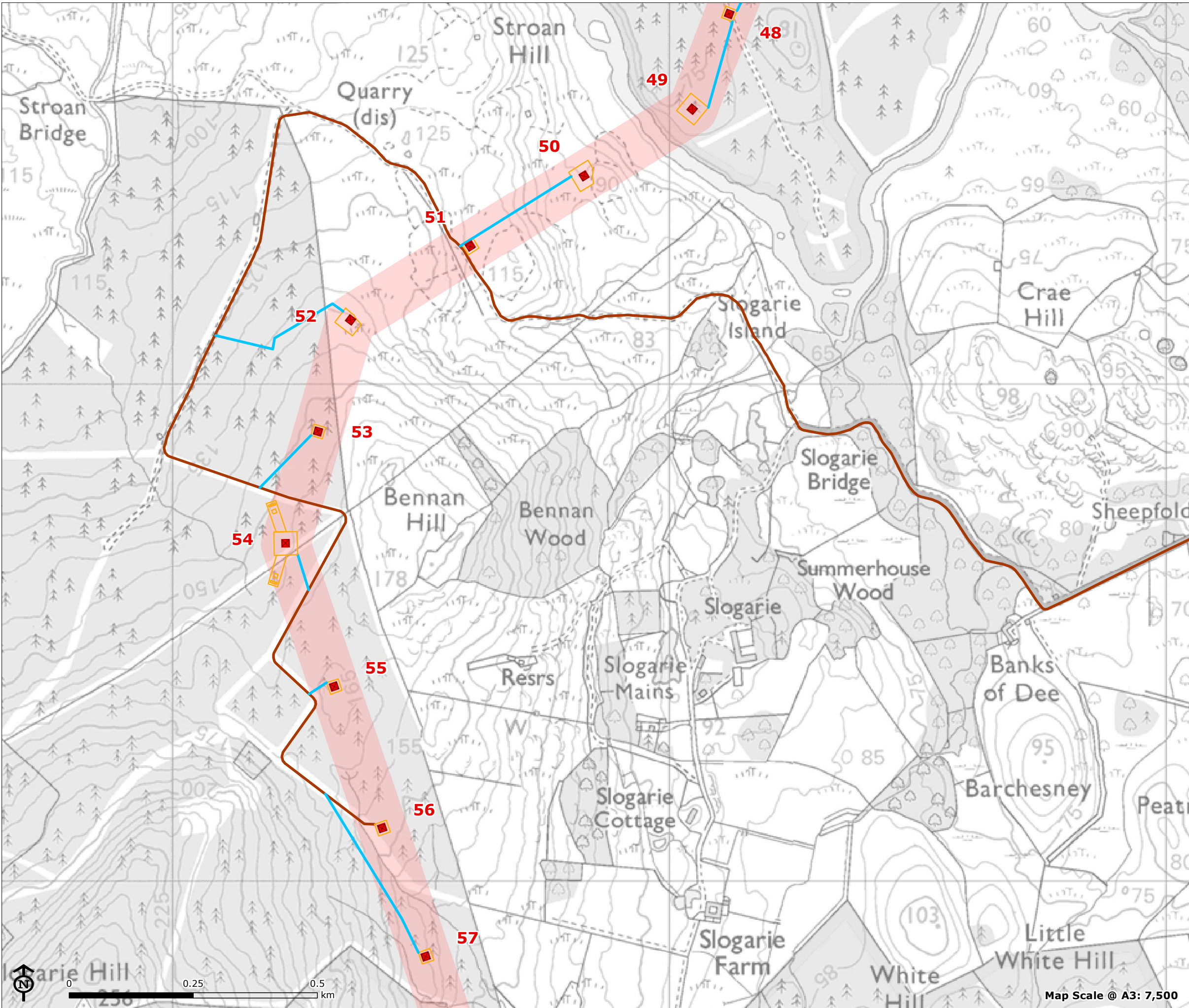


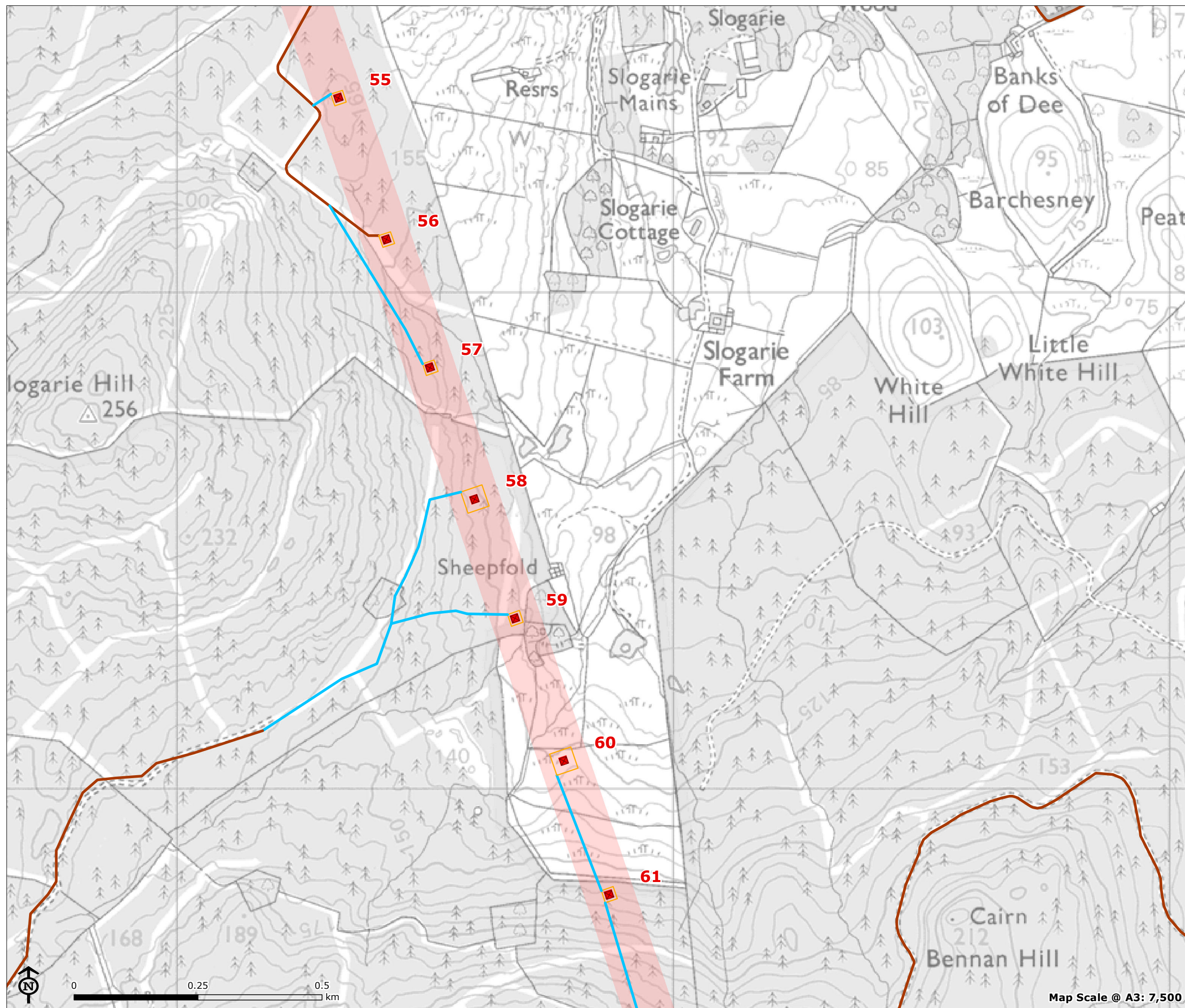
Map Scale @ A3: 7,500

Kendoon to Tongland Consultation Round Three

Figure 3.2.17: Proposed Alignment of the Overhead Line

- Glenlee to Tongland (Steel Lattice Tower)
- Existing Access
- New Access
- Working Area
- Glenlee to Tongland proposed development envelope

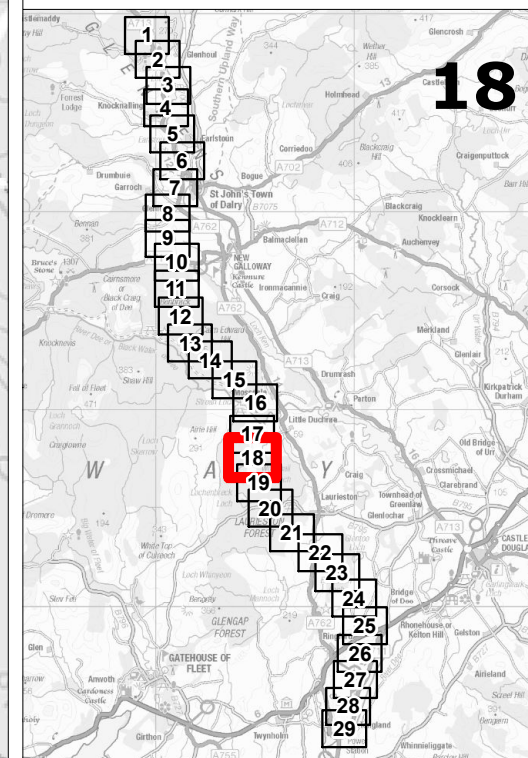


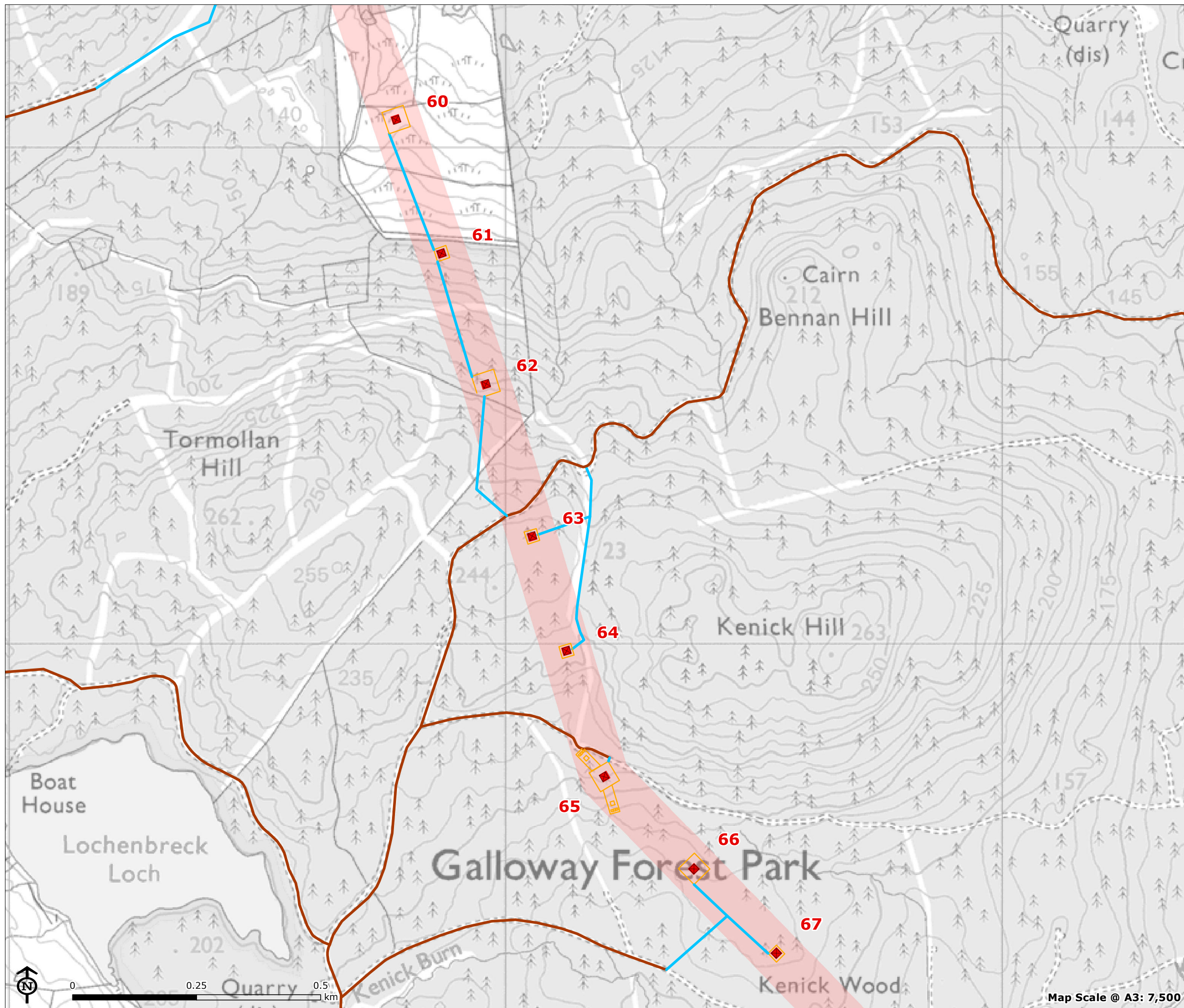


Kendoon to Tongland Consultation Round Three

**Figure 3.2.18: Proposed Alignment
of the Overhead Line**

- Glenlee to Tongland
(Steel Lattice Tower)
- Existing Access
- New Access
- Working Area
- Glenlee to Tongland
proposed development envelope

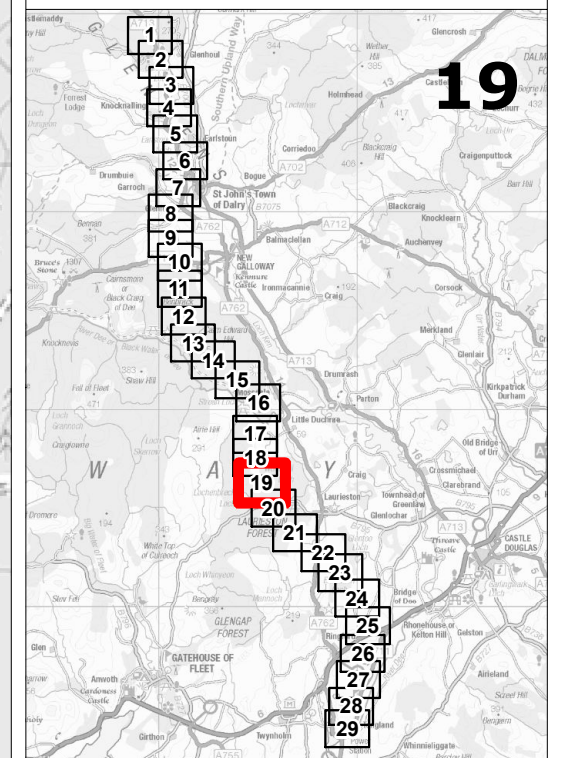


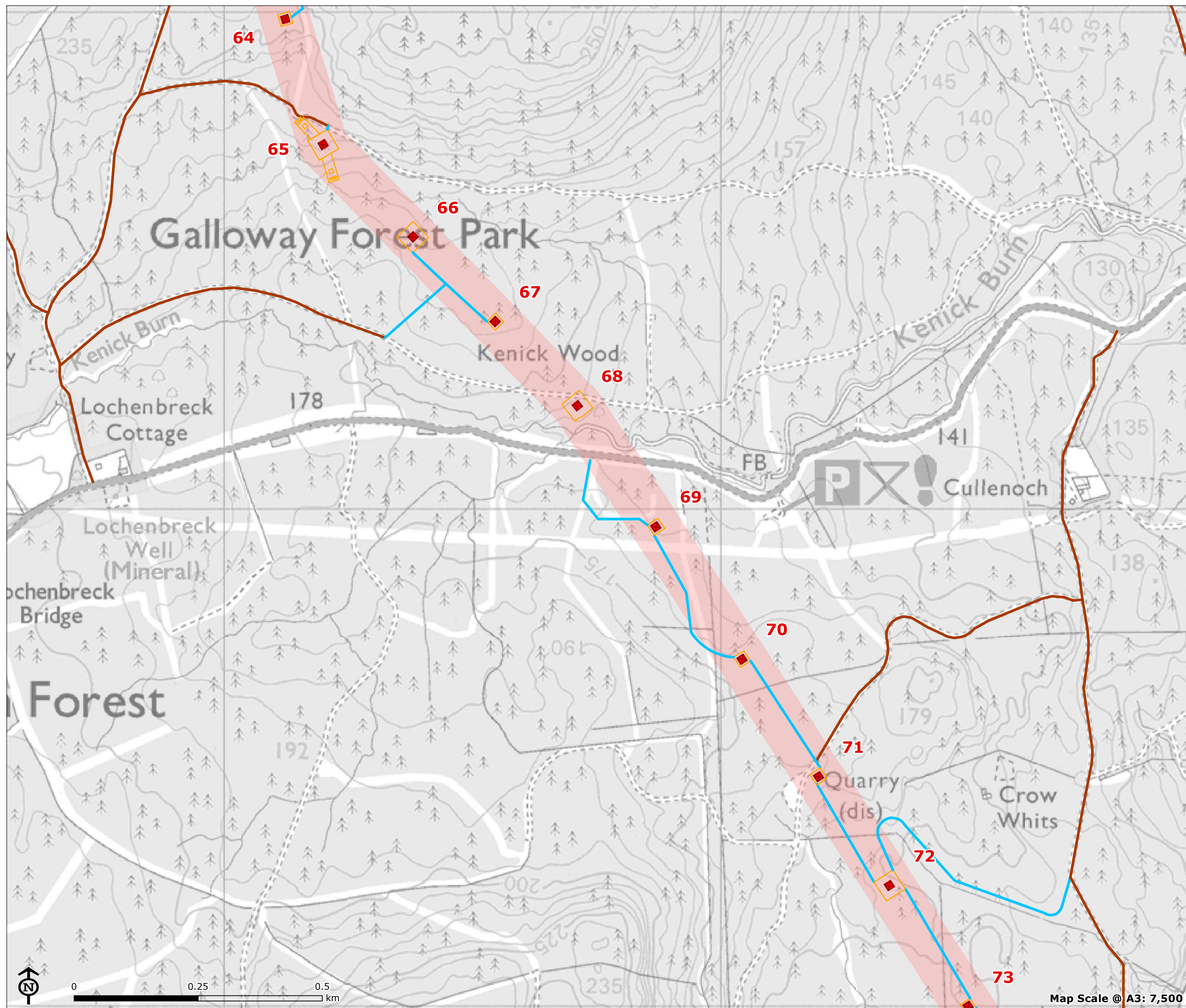


Kendoon to Tongland Consultation Round Three

Figure 3.2.19: Proposed Alignment of the Overhead Line

- Glenlee to Tongland (Steel Lattice Tower)
- Existing Access
- New Access
- Working Area
- Glenlee to Tongland proposed development envelope

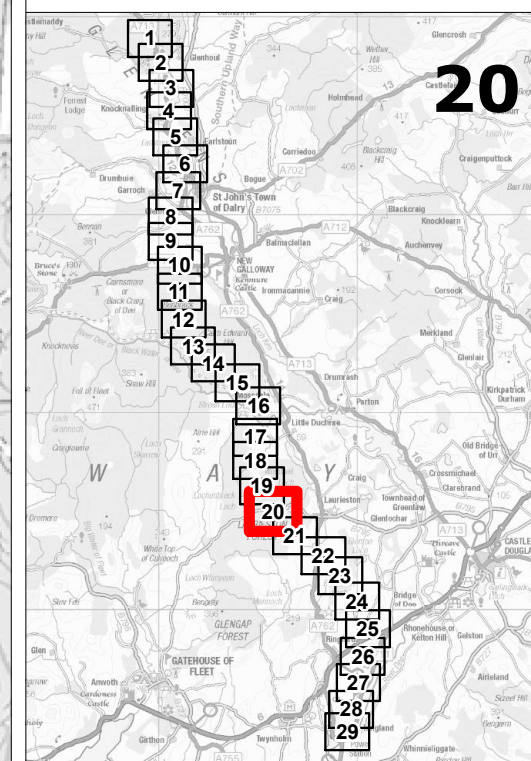


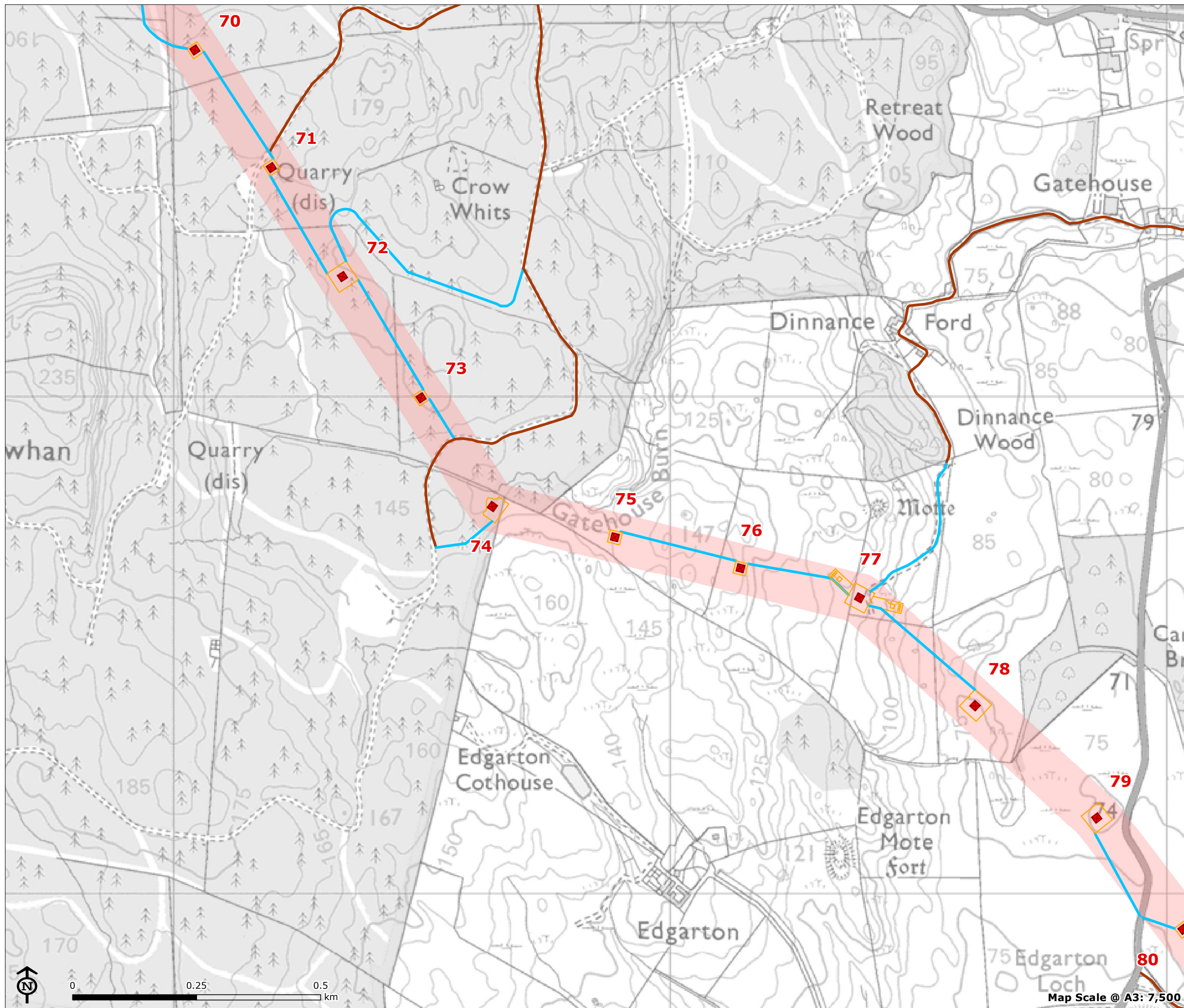


Kendoon to Tongland Consultation Round Three

**Figure 3.2.20: Proposed Alignment
of the Overhead Line**

- Glenlee to Tongland
(Steel Lattice Tower)
- Existing Access
- New Access
- Working Area
- Glenlee to Tongland
proposed development envelope

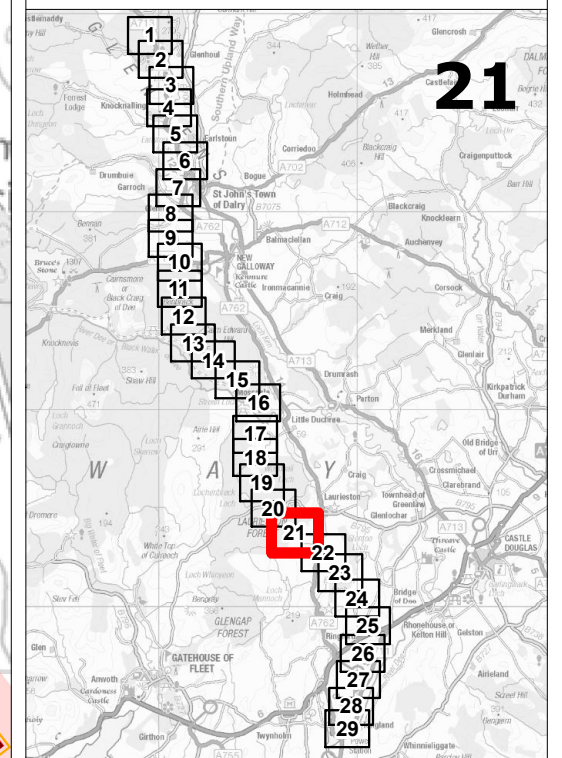


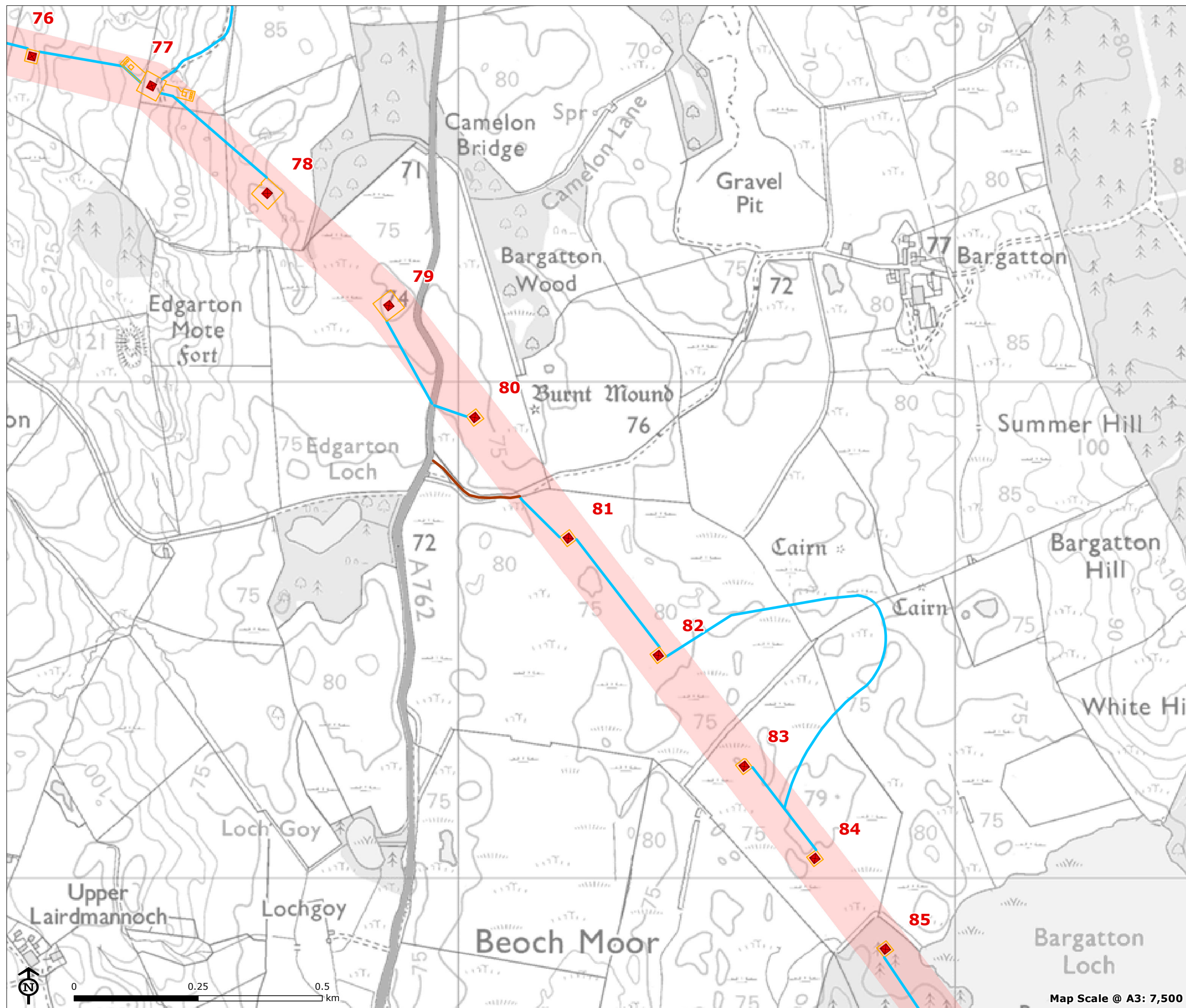


Kendoon to Tongland Consultation Round Three

**Figure 3.2.21: Proposed Alignment
of the Overhead Line**

- Glenlee to Tongland
(Steel Lattice Tower)
- Existing Access
- New Access
- Working Area
- Glenlee to Tongland
proposed development envelope

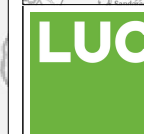
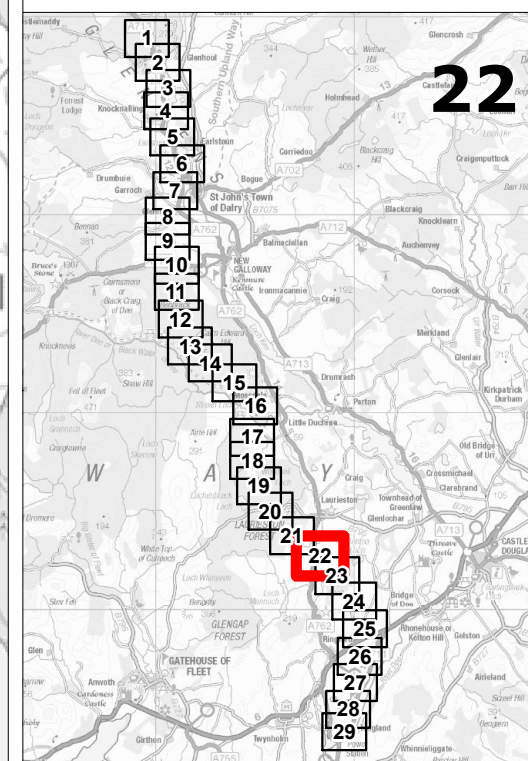


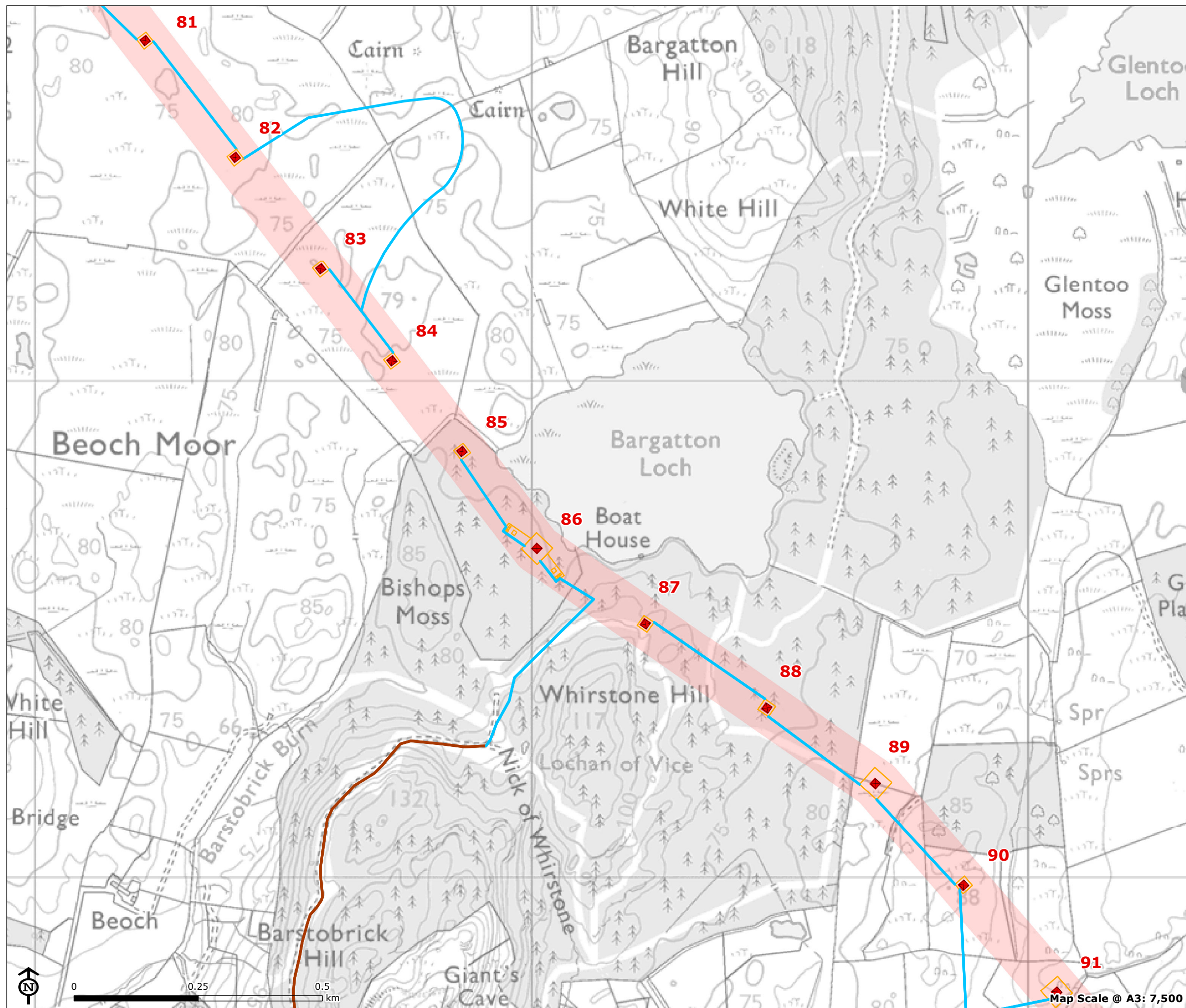


Kendoon to Tongland Consultation Round Three

**Figure 3.2.22: Proposed Alignment
of the Overhead Line**

- Glenlee to Tongland
(Steel Lattice Tower)
- Existing Access
- New Access
- Working Area
- Glenlee to Tongland
proposed development envelope

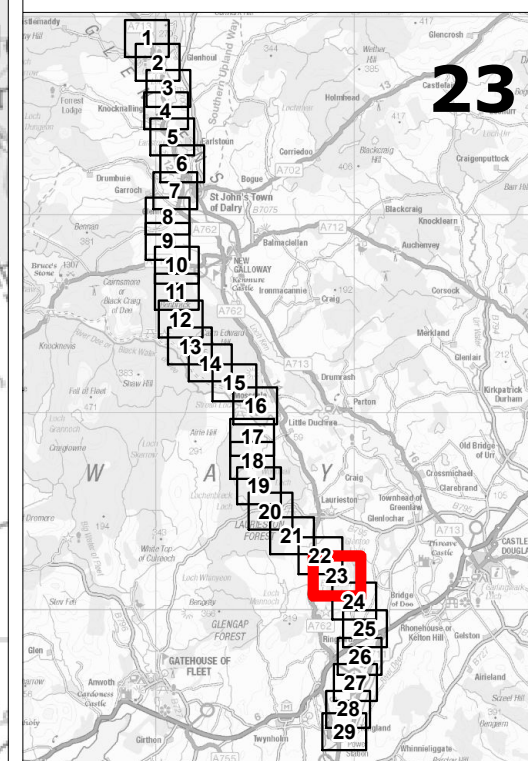


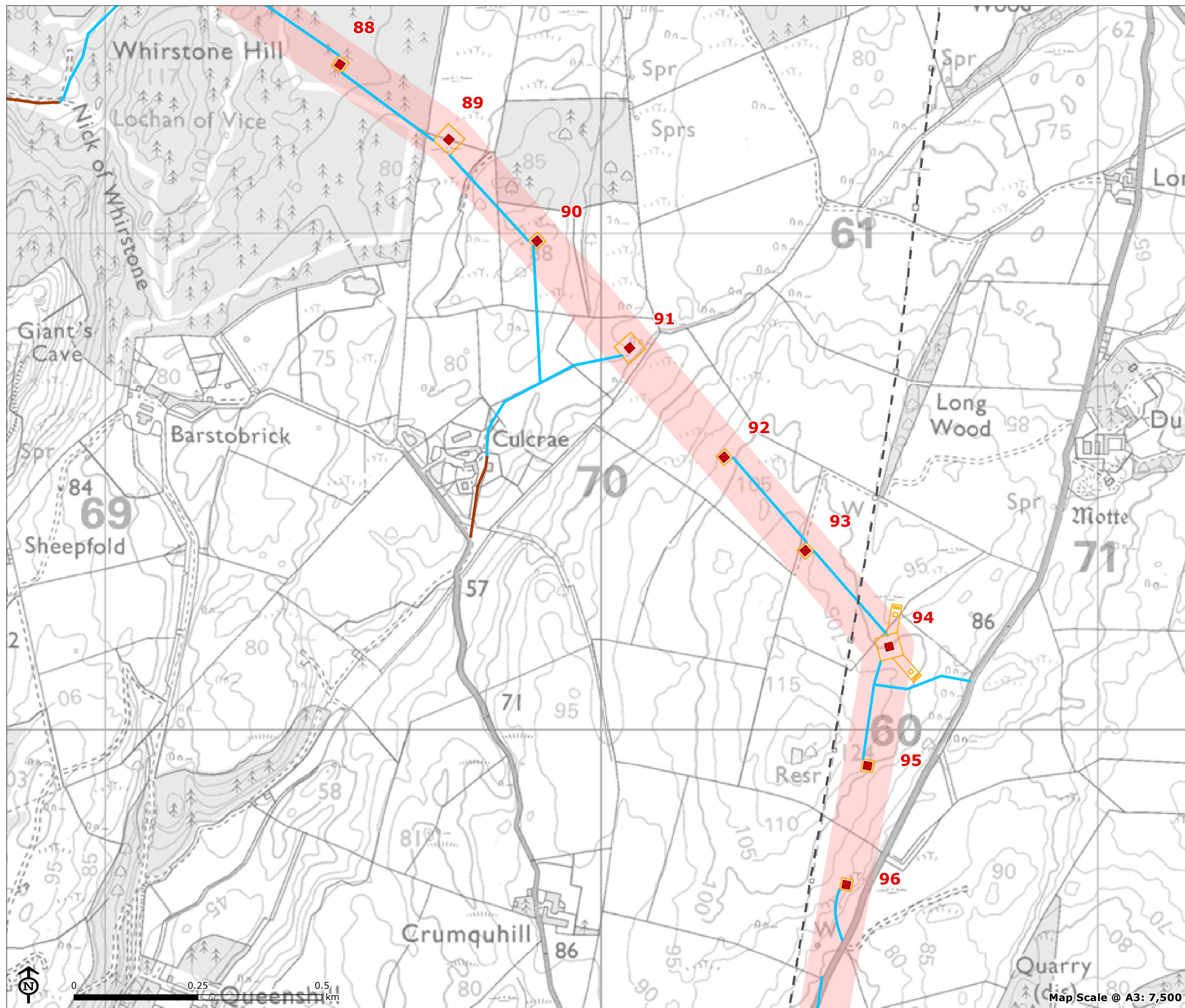


Kendoon to Tongland Consultation Round Three

**Figure 3.2.23: Proposed Alignment
of the Overhead Line**

- Glenlee to Tongland
(Steel Lattice Tower)
- Existing Access
- New Access
- Working Area
- Glenlee to Tongland
proposed development envelope

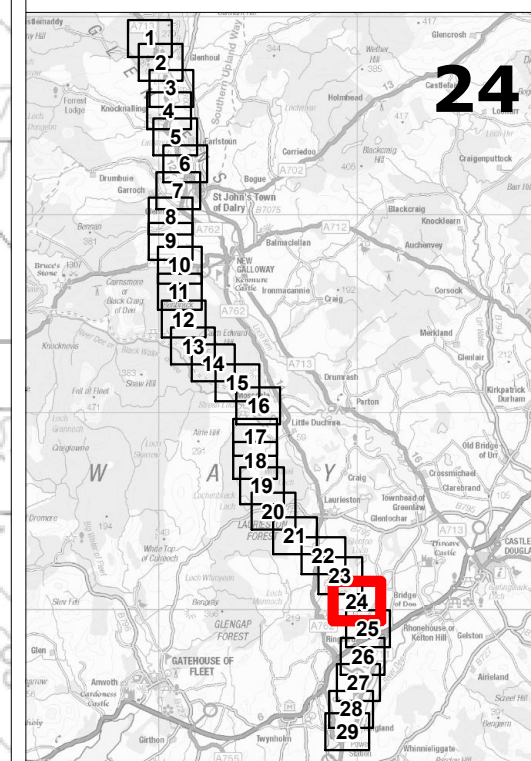




Kendoon to Tongland Consultation Round Three

**Figure 3.2.24: Proposed Alignment
of the Overhead Line**

- Glenlee to Tongland
(Steel Lattice Tower)
- Existing Access
- New Access
- Working Area
- Glenlee to Tongland
proposed development envelope
- - Existing 132kV overhead line
to be removed (following
construction of the KTR Project)

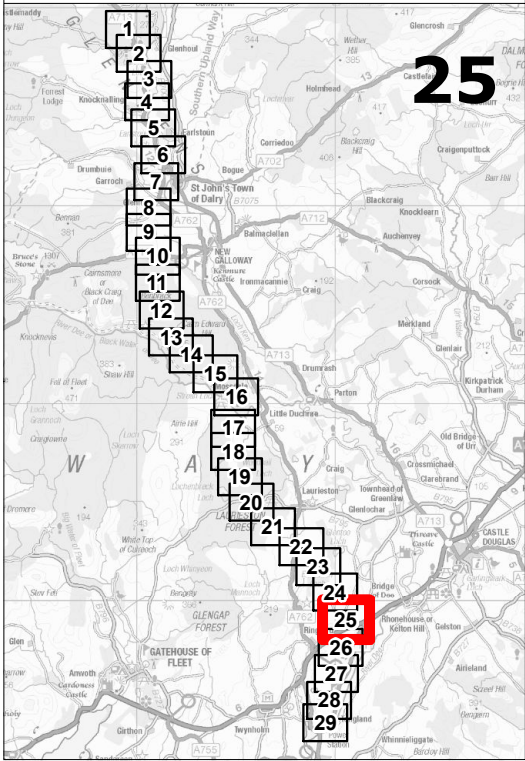
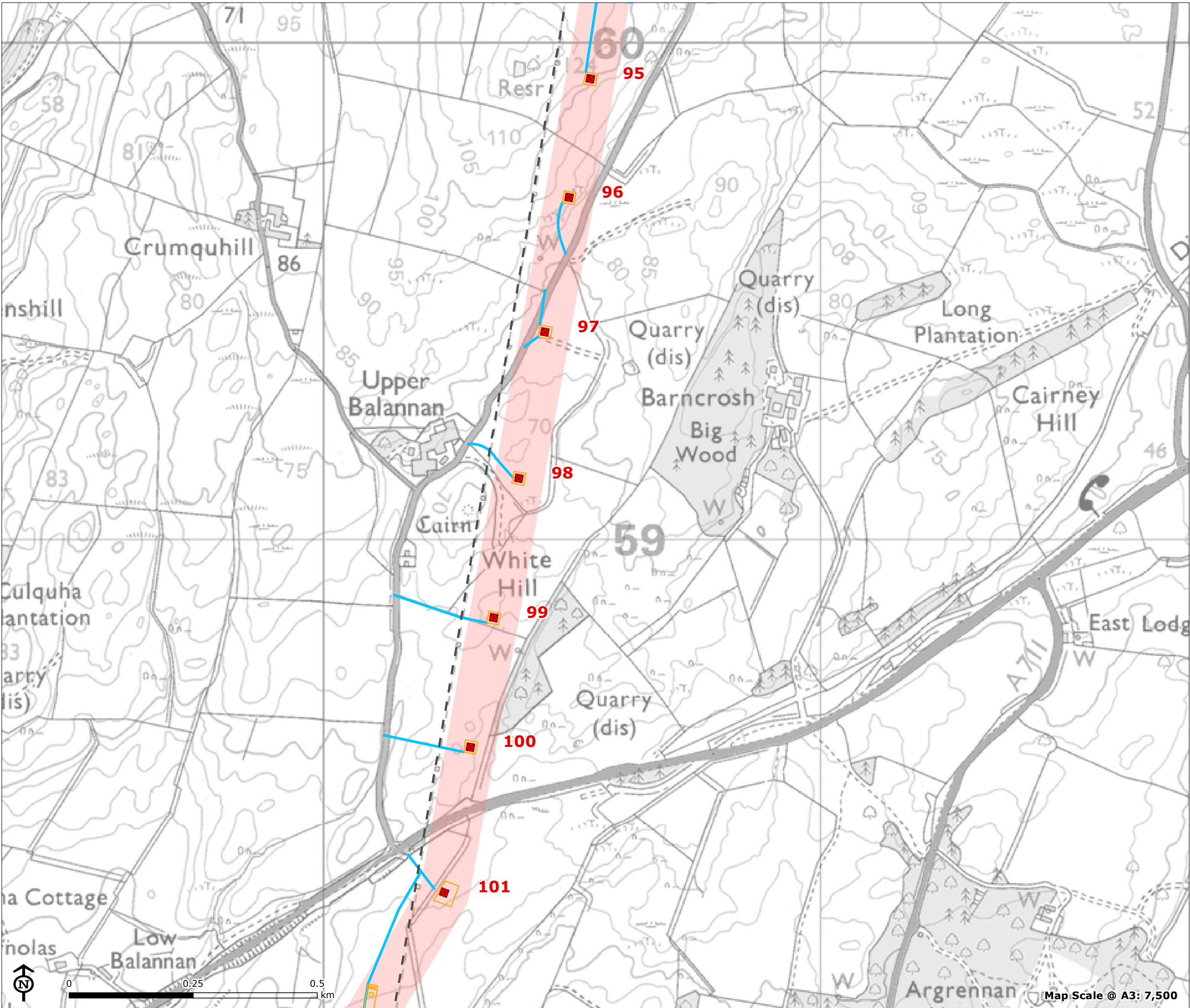


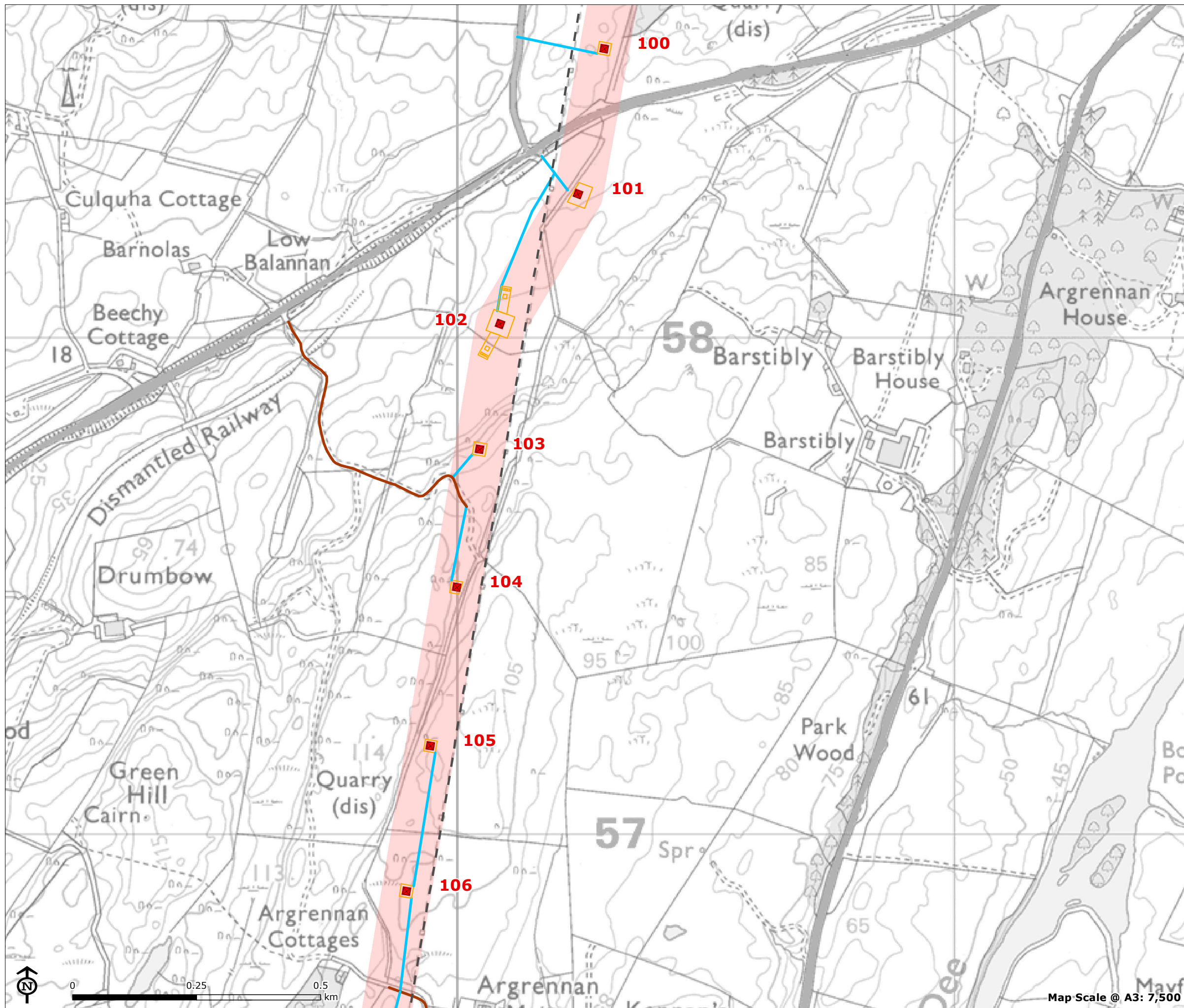
Map Scale @ A3: 7,500

Kendoon to Tongland
Consultation Round Three

Figure 3.2.25: Proposed Alignment
of the Overhead Line

- Glenlee to Tongland
(Steel Lattice Tower)
- Existing Access
- New Access
- Working Area
- Glenlee to Tongland
proposed development envelope
- - Existing 132kV overhead line
to be removed (following
construction of the KTR Project)

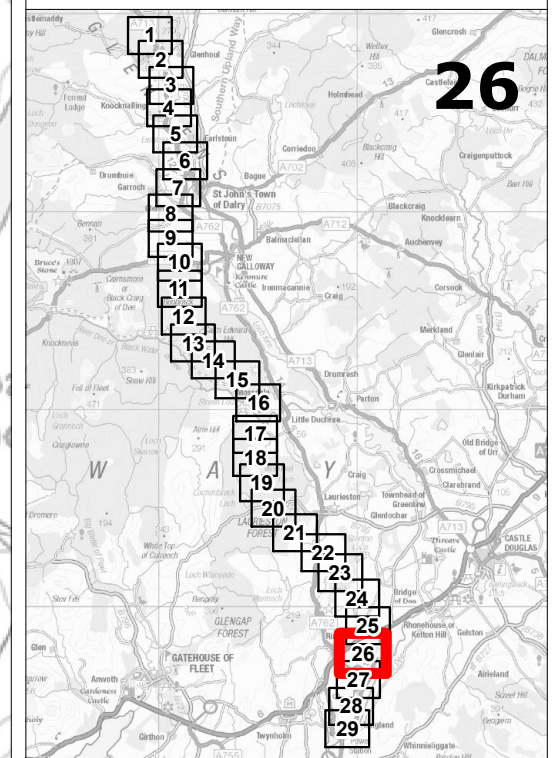




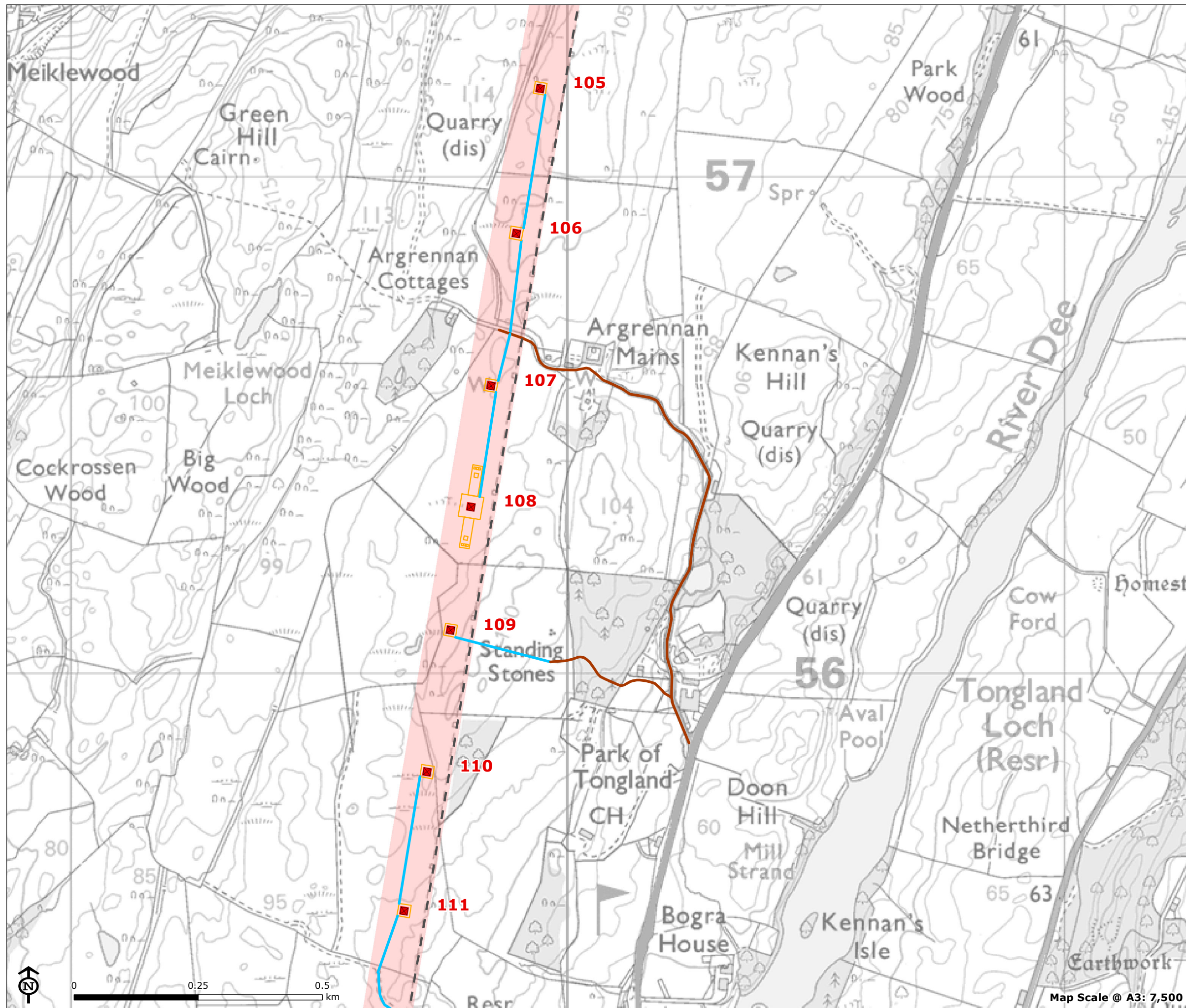
Kendoon to Tongland Consultation Round Three

**Figure 3.2.26: Proposed Alignment
of the Overhead Line**

- Glenlee to Tongland
(Steel Lattice Tower)
- Existing Access
- New Access
- Working Area
- Glenlee to Tongland
proposed development envelope
- - Existing 132kV overhead line
to be removed (following
construction of the KTR Project)



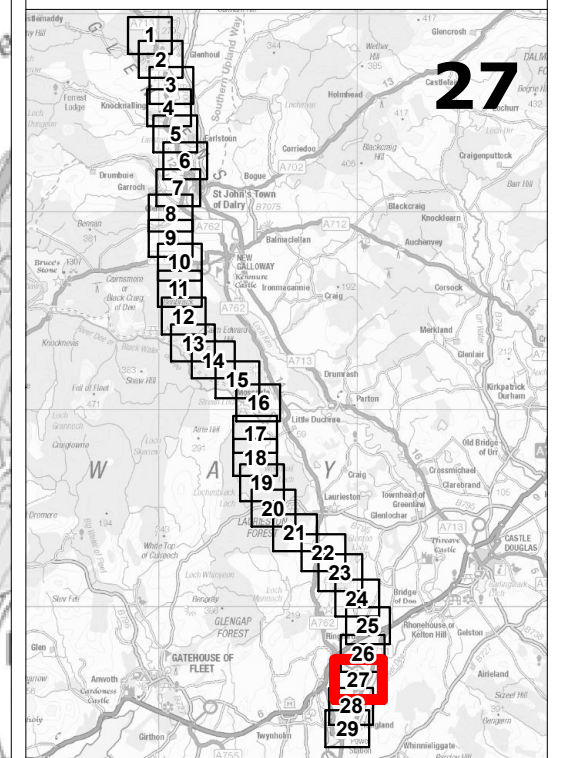
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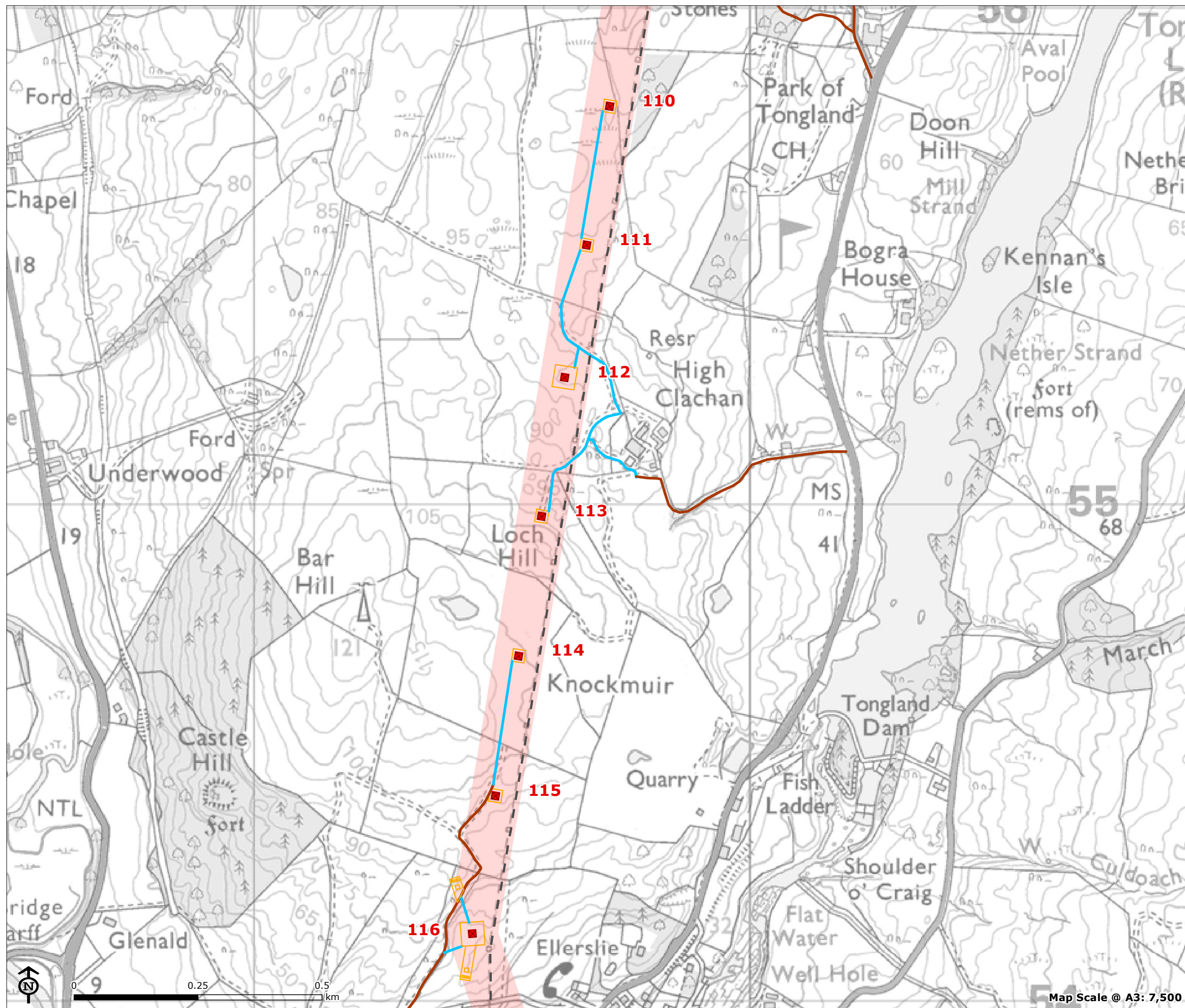
Kendoon to Tongland Consultation Round Three

**Figure 3.2.27: Proposed Alignment
of the Overhead Line**

- Glenlee to Tongland
(Steel Lattice Tower)
- Existing Access
- New Access
- Working Area
- Glenlee to Tongland
proposed development envelope
- - Existing 132kV overhead line
to be removed (following
construction of the KTR Project)



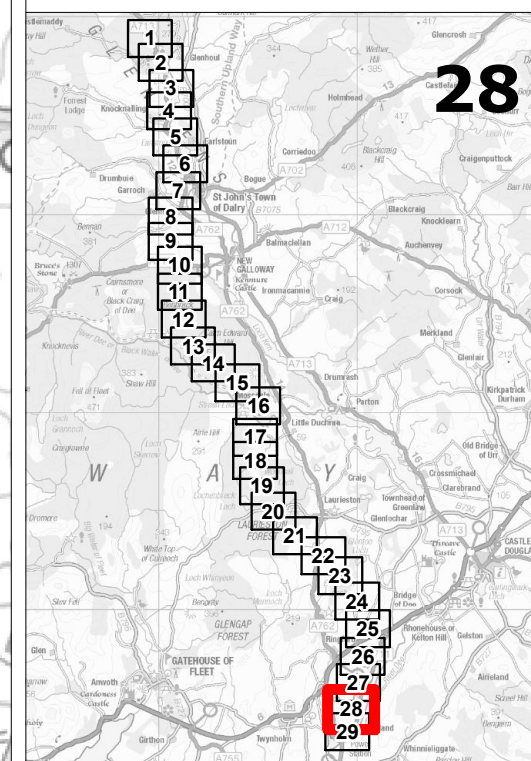
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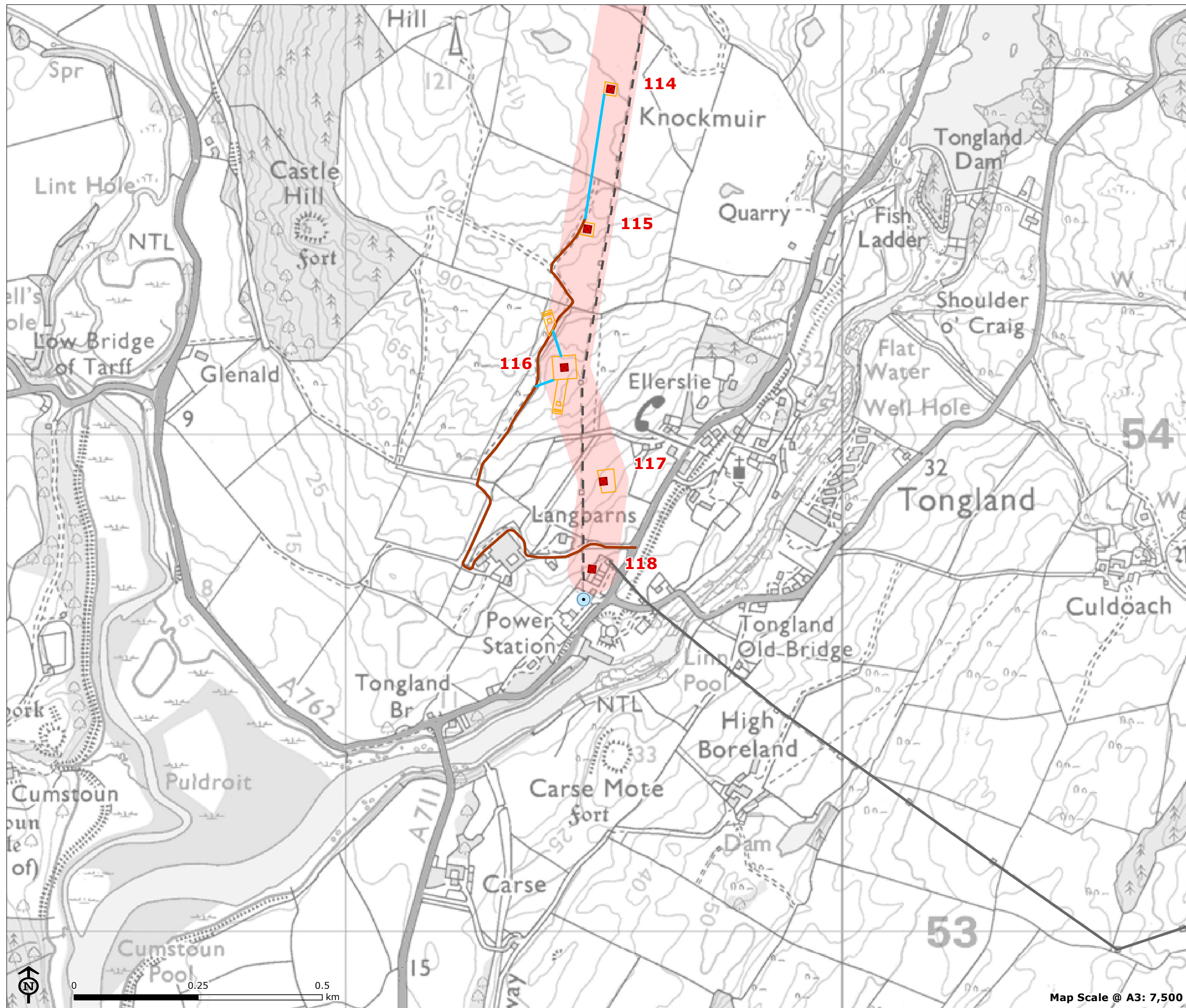
Kendoon to Tongland Consultation Round Three

**Figure 3.2.28: Proposed Alignment
of the Overhead Line**

- Glenlee to Tongland
(Steel Lattice Tower)
- Existing Access
- New Access
- Working Area
- Glenlee to Tongland
proposed development envelope
- - Existing 132kV overhead line
to be removed (following
construction of the KTR Project)



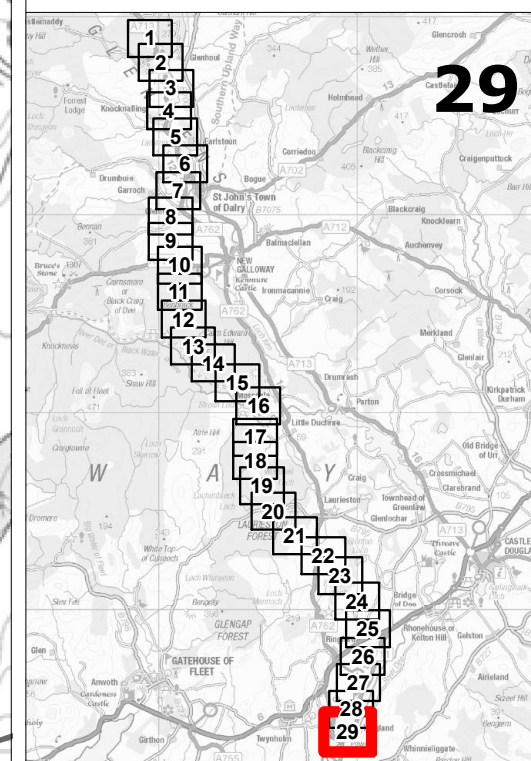
Map Scale @ A3: 7,500



Kendoon to Tongland Consultation Round Three

**Figure 3.2.29: Proposed Alignment
of the Overhead Line**

- Substation and hydro electricity generating station
- Glenlee to Tongland (Steel Lattice Tower)
- Existing Access
- New Access
- Working Area
- Glenlee to Tongland proposed development envelope
- Existing 132kV overhead line to be removed (following construction of the KTR Project)
- Existing Network



Map Scale @ A3: 7,500

4 The Consultation Process and Next Steps

The Consultation Process

- 4.1 As set out in Chapter 1, SPEN will apply to Scottish Ministers under Section 37 of the Electricity Act 1989 for consent to install and keep installed the overhead electricity lines comprising the KTR Project. At the same time, SPEN will also apply for deemed planning permission for the lines and associated works, under Section 57(2) of the Town and Country Planning (Scotland) Act 1997. The proposed extension to Glenlee substation will be subject to a separate planning application to Dumfries and Galloway Council, as explained in Chapter 1.
- 4.2 While there are no formal pre-application requirements for consultation in seeking Section 37 consent/deemed planning permission, SPEN is embracing best practice as outlined in the Scottish Government Energy Consents and Deployment Unit's *Best Practice Guidance (January 2013)* and in the Scottish Government's *Planning Circular 3/2013 Development Management Procedures and Planning Advice Note 3/2010 Community Engagement*. This guidance encourages applicants to engage with stakeholders and the public in order to develop their proposals in advance of such applications being made.
- 4.3 Therefore, prior to the submission of the Section 37 application for the overhead lines, SPEN will have carried out three rounds of consultation with stakeholders and the public. The three rounds are:
- **Round One:** Public consultation on the preferred corridor, which was carried out from June 9th to August 31st, 2015.
 - **Round Two:** Public consultation on preferred routes, which was carried out from October 31st to December 21st 2016, with feedback accepted until January 13th, 2017.
 - **Round Three:** Public consultation on detailed route alignment, which will be carried out from November 20th, 2017 to January 26th, 2018.
- 4.4 Following the submission of applications for Section 37 consent and deemed planning permission, the Scottish Government Energy Consents and Deployment Unit will, on behalf of Scottish Ministers, carry out further consultation with the public and stakeholders, including Dumfries and Galloway Council.

Consultation Strategy

- 4.5 SPEN attaches great importance to the effect that its works may have on the environment and local communities and is very keen to hear the views of local people to help it develop the KTR Project in the best way.
- 4.6 The overall objective of the consultation process is to ensure that all parties with an interest in the KTR Project continue to have access to up to date information and are given clear and easy ways in which to shape and inform SPEN's proposals at the pre-application stage.
- 4.7 In addition, it is envisaged that the key issues identified through this process can be recorded and presented to decision makers to assist the consents process.
- 4.8 A substantial amount of work has already been done by SPEN to identify stakeholders, engage with communities and share its plans and this will continue to take place at all levels both during and outside consultation periods.
- 4.9 In developing its strategy for the third round of consultation, SPEN has taken account of feedback submitted by stakeholders and communities during the first and second rounds of consultation. A

summarised overview of the comments received during the second round of consultation of relevance to the KTR Project is provided in the Summary of Feedback Report (2017)⁴.

Consultation Round Three

Consultees

- 4.10 SPEN has continued to consult statutory stakeholders through its Statutory Stakeholder Liaison Group (SSLG). This group comprises the Scottish Government, Scottish Natural Heritage, the Scottish Environment Protection Agency, Historic Environment Scotland, the Forestry Commission and Dumfries and Galloway Council.
- 4.11 Prior to the second round of consultation, a separate Community Liaison Group (CLG), chaired by the Scottish Government, was established by the Scottish Government. The CLG provides a forum for representatives of communities who are directly affected by the KTR Project, where they can receive information on the latest proposals and raise points with the Scottish Government and SPEN. The membership and scope of the CLG has been agreed with the Scottish Government and Dumfries and Galloway Council, further details on this Group can be found at <http://www.gov.scot/Topics/Business-Industry/Energy/Infrastructure/Energy-Consents/Kendoon-Tongland> .
- 4.12 To ensure that all other residents and stakeholders potentially affected by the proposals are consulted, SPEN has defined a consultation zone. The zone includes all residential and business addresses within the proposed study area and up to 1km either side of it. Exceptions to this rule are where the boundary of the zone bisects a community. This only applies to Kirkcudbright, where the boundary of the zone area has been extended to include the whole town. However, any member of the public (whether living within or outwith the consultation zone) will be welcome to participate in the consultation, attend an exhibition or make a comment using one of the channels outlined within this document.
- 4.13 The consultation will include the following broad groups:
- statutory and non-statutory consultees, including community councils;
 - approximately 3,500 homes and businesses in the consultation zone;
 - known local interest and community groups operating in the part of Dumfries and Galloway affected by the KTR Project;
 - elected members of Dumfries and Galloway Council, the Member of Parliament (MP) and Members of the Scottish Parliament (MSPs) whose constituencies are within the consultation zone; and
 - the public in general.
- 4.14 In addition, respondents to previous rounds of consultation who provided their contact details, and everyone who registered for email project updates, will be informed of the launch and invited to take part.

Consultation Launch and Duration

- 4.15 The third round of consultation will run for ten weeks from November 20th 2017 to January 26th 2018. The consultation period has been extended from eight weeks to ten weeks because it includes the Christmas holiday, when some people may be away.
- 4.16 Prior to the consultation, adverts will appear in local weekly newspapers at least seven days before the first exhibition. A news release will be issued to local media announcing the impending start of the consultation. Information explaining the project and the consultation will be posted out to homes, businesses, and known local interest and community groups within the local area making them aware of the start of the consultation and inviting them to take part. Other stakeholder groups will also be contacted direct, informed and invited to take part.

⁴ KTR 132kV Reinforcement Project Summary of Feedback from Second Round of Consultation (March 2017).

The Focus of the Third Round of Consultation

- 4.17 The focus of the third round of consultation will be to ask for people's views on the work which has been carried out to identify the alignment of the overhead line since the second round of consultation. The responses received to this third round of consultation will help to inform the final plans (see **Figure 3.1** for an illustration of this process). In particular, views are sought on:
- the suggested overhead line alignments, including potential tower and pole locations;
 - suggested locations for temporary construction access tracks and working areas;
 - the removal of the existing overhead lines; and
 - any other issues, suggestions or feedback; particularly views on the local area, for example areas used for recreation, local environmental features, and any plans to build along the line route.
- 4.18 To make this easier, the consultation zone will be divided into three sections corresponding to the three main connection areas:
- Zone A: Polquhanity to Kendoon
 - Zone B: Kendoon to Glenlee
 - Zone C: Glenlee to Tongland.
- 4.19 Note views on the proposed extension to Glenlee substation are not requested at present, as this will now be subject to a separate planning application to Dumfries & Galloway Council, as explained earlier in this document. There will be a separate opportunity to comment direct to Dumfries and Galloway Council on that application, and both SPEN and the Council will inform local people about how and when this can be done.

Sources of Information about Consultation

- 4.20 A map showing the consultation zone sections is provided as **Figure 4.1** and will be included in the principal sources of information about the consultation, which comprise the KTR Project leaflet and the project website (www.spendqsr.co.uk).

Project leaflet

- 4.21 The leaflet will be mailed to every home and business in, or within, a kilometre of the study area. It will consist of a map showing the preferred routes by Zone A, B or C. It will also include details of the scheme, the consultation process, how to find out more and how to submit comments by feedback form, website, post or email, and by when.

Project website

- 4.22 The website (www.spendqsr.co.uk) will build on the information in the leaflet, with publicly available consultation documents for viewing or download, and an online feedback form. The feedback form will be available from November 20th, 2017 until the deadline for receipt of feedback at midnight on January 26th, 2018.
- 4.23 Hard copies of consultation documents will be lodged at a number of publicly-accessible information points from November 20th 2017 for those who do not have access to the internet, cannot attend an exhibition or would prefer to see them in person. Details of these information points are listed in the Preface of this document and in other consultation materials.

How People can make a Comment

- 4.24 There will be a number of ways for people to make comments:
- in person at an exhibition;
 - online, using the feedback form on the website;
 - by post, using a paper feedback form, or by letter;
 - by email; or
 - by phone to the SPEN KTR Consultation Contact Centre.

In person

- 4.25 SPEN will hold three public exhibitions between November 21st and 23rd within the local area where people can view maps, talk to members of the project team and pick up a feedback form. Locations have been chosen so that people within the consultation zone are only a short distance from their nearest exhibition by car or public transport. The dates and venues are listed in full in the project leaflet and on the website. The format will be an afternoon/evening drop-in.
- 4.26 The exhibitions will be held at the following locations from 2pm until 8pm on the days stated:
- **Tuesday November 21st, New Galloway:** CatStrand Arts & Visitor Centre, High Street, DG7 3RN;
 - **Wednesday November 22nd, Kirkcudbright:** Kirkcudbright Parish Church Hall, St Mary Street, DG6 4DN;
 - **Thursday November 23rd, Mossdale:** Mossdale Village Hall, DG7 2NF.

Online

- 4.27 People will be able to make comments online at www.spendgsr.co.uk using an interactive online version of the feedback form, which will be available until midnight on January 26th, 2018.

Post

- 4.28 A hard-copy feedback form will be available at public exhibitions, for download from the website, by request to the SPEN KTR Consultation Contact Centre on 0800 157 7353 or by email to dgsr@communityrelations.co.uk. Completed forms must be returned to FREEPOST SPEN DGSR by January 26th, 2018. If returning completed forms by post, allow up to 7 days for these to be received, as it may not be possible to consider forms received after this date.

E-Mail

- 4.29 SPEN will also accept comments relating to the specific focus of this third round of consultation by e-mail to dgsr@communityrelations.co.uk by January 26th, 2018.

Phone

- 4.30 SPEN prefers to receive comments in writing as this helps avoid the risk of misinterpretation. However, where no other means are available, comments will be received via phone call free on 0800 157 353. The SPEN KTR Consultation Contact Centre is open Monday to Friday (except some bank holidays) between the hours of 9am and 5.30pm. There is a voicemail facility outside these hours.

SPEN's Response

- 4.31 The responses received in the third round of consultation will be evaluated by SPEN and reported back in the form of a Consultation Summary Report.
- 4.32 Although SPEN may not be able to respond to all individual comments, people will be able to request to be informed by email as and when there are project developments, such as the availability of the Consultation Summary Report. People interested in being kept informed in this way can register on the website or send their email address to dgsr@communityrelations.co.uk.

Next Steps: Proposed Alignment and EIA

Refinement of KTR Project Design

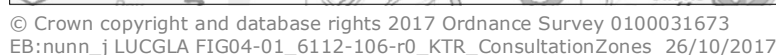
- 4.33 The responses received from the consultation process will be considered in combination with the findings of ongoing technical and environmental surveys, including further landowner discussions. This will enable SPEN to refine the design of the alignment of the overhead line, to identify proposed alignments which will form the subject of the EIA and applications for S37 Consent.

Environmental Impact Assessment (EIA)

- 4.34 In combination with the consultation process, SPEN will review the EIA Scoping Opinion⁵ and further Statutory Stakeholder Liaison Group (SSLG) and Community Liaison Group (CLG) meetings will be carried out to inform and refine the scope of the EIA.
- 4.35 Ongoing technical (engineering ground surveys) and environmental surveys will be undertaken in 2017/2018 to further inform the design of the KTR Project and the subsequent assessment of potential effects. In addition to the surveys undertaken to date, as outlined in **Chapter 3** and the Scoping Report (April 2017), a number of other factors will be considered at this stage, including:
- access, traffic and transportation;
 - air quality, including dust;
 - noise;
 - socio-economics, including recreation and tourism;
 - waste management;
 - water quality and resources;
 - electric and magnetic fields⁶.
- 4.36 The findings of these studies will inform any further modifications to the design of the KTR Project.
- 4.37 Following the 'freezing' of the design, the EIA will be completed culminating in the production of an EIA Report which will present the findings of the EIA and will accompany the applications for S37 Consent. Submission of the applications for S37 Consent is currently programmed for early 2019.

⁵ The Scoping Opinion is issued by the Scottish Government Energy Consents and Deployment Unit on behalf of the Scottish Ministers advising on the scope of the EIA.

⁶ Further detail on Electric and Magnetic Fields can be found at http://www.emfs.info/wp-content/uploads/2014/07/EMF_The_Facts_260613.pdf



Glossary

Associated Infrastructure: Infrastructure associated with the overhead line e.g. access tracks, temporary construction area, working areas around tower / pole locations.

Circuit: a combination of conductors (commonly three conductors) along which electricity is transmitted.

Conductors: metallic wire strung from tower to tower or pole to pole, to carry electricity current.

Development Envelope: A corridor defining the extent to which towers and poles may be micro-sited, post-consent, taking into account landowner discussions and changes in environmental baseline

Earth Wire: a wire erected above the topmost conductor at the tower peak or under slung on certain types of wood pole. These are used for protection against lightning strikes but can also contain fibre optic cores for communication purposes.

Environmental Impact Assessment (EIA): a formal process used to identify, predict and assess the likely environmental effects of a proposed development.

Holford Rules: accepted guidance for routeing overhead lines in the UK.

Insulators: articulated strings made either of glass or polymeric compound. These are required to prevent electric current crossing to a tower or pole body.

Kilovolt (kV): 1,000 volts.

Overhead Line: an electric line installed above ground usually supported by lattice steel towers or wooden poles.

Preferred Route: the preferred route is confirmed following SPEN technical review of the emerging proposed route.

Proposed Route: the proposed route is confirmed following the conclusion of the review of consultation responses made on the second round consultation.

Route Alignment: the alignment of the route which forms the basis of the application for Section 37 consent. This is arrived at through detailed environmental impact assessment (EIA), discussions with landowners and technical ground surveys.

Route Options: a number of routes connecting two substations or node points (in some cases, there may only be one route option).

Span: the section of overhead line between two towers or two wood poles.

SPEN: ScottishPower Energy Networks, responsible for the development, operation and maintenance of electricity transmission and distribution networks in Central and Southern Scotland on behalf of the transmission license holder for this area, Scottish Power Transmission (SPT).

Study Area: the area within which route options can be identified between the required points of connection (substations or node points on the existing network).

Substation: this controls the flow and voltage of power by means of transformers and switchgear, with facilities for control, fault protection and communications.

The National Grid: The electricity transmission system operator of Great Britain.

Underground Cable: an electric line installed below ground within a cable trench or ducting.

Volts: the international system unit of electric potential and electromotive force.