

## **APPENDIX C: SEPTEMBER 2021 CONSULTATION MATERIAL**



**Scottish & Southern**  
Electricity Networks

TRANSMISSION

**Consultation Document**  
**Overhead Line Route Selection**  
**Lewis-Harris 132 kV Overhead Line Connection**

**August 2021**

**Reference LT000245**





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*Figure 7: Preferred Route*



## GLOSSARY

Term	Definition
Alignment	A centre line of an overhead line OHL, along with location of key angle structures.
Amenity	The natural environment, cultural heritage, landscape and visual quality. Also includes the impact of SSEN Transmission's works on communities, such as the effects of noise and disturbance from construction activities.
Conductor	A metallic wire strung from structure to structure, to carry electric current.
Consultation	The dynamic process of dialogue between individuals or groups, based on a genuine exchange of views and, normally, with the objective of influencing decisions, policies or programmes of action.
Corridor	A linear area which allows a continuous connection between the defined connection points. The corridor may vary in width along its length; in unconstrained areas it may be many kilometres wide.
Environmental Impact Assessment (EIA)	A formal process set down in <i>The Electricity Works (EIA) (Scotland) Regulations 2017</i> used to systematically identify, predict and assess the likely significant environmental impacts of a proposed project or development.
Gardens and Designed Landscapes (GDLs)	The Inventory of Gardens and Designed Landscapes lists those gardens or designed landscapes which are considered by a panel of experts to be of national importance.
Habitat	Term most accurately meaning the place in which a species lives, but also used to describe plant communities or agglomerations of plant communities.
Kilovolt (kV)	One thousand volts.
Listed Building	Building included on the list of buildings of special architectural or historic interest and afforded statutory protection under the 'Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997' and other planning legislation. Classified categories A – C(s).
Micrositing	The process of positioning individual structures to avoid localised environmental or technical constraints.
Mitigation	Term used to indicate avoidance, remediation or alleviation of adverse impacts.
National Scenic Area (NSA)	A national level designation applied to those landscapes considered to be of exceptional scenic value.
Overhead line (OHL)	An electric line installed above ground, usually supported by lattice steel towers or poles.
Plantation Woodland	Woodland of any age that obviously originated from planting.
Riparian Woodland	Natural home for plants and animals occurring in a thin strip of land bordering a stream or river.
Route	A linear area of approximately 1 km width (although this may be narrower/wider in specific locations in response to identified pinch points / constraints), which provides a continuous connection between defined connection points.
Routeing	The work undertaken which leads to the selection of a proposed alignment, capable of being taken forward into the consenting process under Section 37 of the Electricity Act 1989.



<b>Term</b>	<b>Definition</b>
Scheduled Monument	A monument which has been scheduled by the Scottish Ministers as being of national importance under the terms of the 'Ancient Monuments and Archaeological Areas Act 1979'.
Semi-natural Woodland	Woodland that does not obviously originate from planting. The distribution of species will generally reflect the variations in the site and the soil. Planted trees must account for less than 30% of the canopy composition
Sites of Special Scientific Interest (SSSI)	Areas of national importance. The aim of the SSSI network is to maintain an adequate representation of all natural and semi-natural habitats and native species across Britain.
Span	The section of overhead line between two structures.
Special Area of Conservation (SAC)	An area designated under the EC Habitats Directive to ensure that rare, endangered or vulnerable habitats or species of community interest are either maintained at or restored to a favourable conservation status.
Special Landscape Area (SLA)	Landscapes designated by Argyll and Bute Council which are considered to be of regional/local importance for their scenic qualities.
Special Protection Area (SPA)	An area designated under the Wild Birds Directive (Directive74/409/EEC) to protect important bird habitats. Implemented under the Wildlife and Countryside Act 1981.
Stakeholders	Organisations and individuals who can affect or are affected by SSEN Transmission works.
Study Area	The area within which the corridor, route and alignment study takes place.
Terminal Structure	A structure (tower or pole) required where the line terminates either at a substation or at the beginning and end of an underground cable section.
The National Grid	The electricity transmission network in the Great Britain.
Volts	The international unit of electric potential and electromotive force.
Wayleave	A voluntary agreement entered into between a landowner upon whose land an overhead line is to be constructed and SSEN Transmission
Wild Land Area (WLA)	Those areas comprising the greatest and most extensive areas of wild characteristics within Scotland.



## PREFACE

This Consultation Document has been prepared by Ramboll on behalf of Scottish and Southern Electricity Networks Transmission (SSEN Transmission) to seek comments from all interested parties on the Preferred Route identified for the proposed Lewis-Harris 132 kV overhead line (OHL) project.

The Consultation Document is available online at: [https://www.ssen-transmission.co.uk/projects/harris-stornoway-132 kv-ohl/](https://www.ssen-transmission.co.uk/projects/harris-stornoway-132-kv-ohl/)

Our virtual consultation room will launch in September 2021, where further information regarding our proposals will be available alongside opportunities to join the project team for interactive text chat sessions.

A link to view the virtual consultation platform will be available on the project webpage from 15<sup>th</sup> September 2021.

<b>Date and time of event</b>	<b>Website address to join consultation</b>
15/09/2021 2pm – 4pm	<a href="https://www.ssen-transmission.co.uk/projects/harris-stornoway-132kv-ohl/">https://www.ssen-transmission.co.uk/projects/harris-stornoway-132kv-ohl/</a>
16/09/2021 6.30pm - 7.30pm	

Comments on this document should be sent to:

Lisa Marchi

SSEN Transmission  
10 Henderson Road  
Inverness  
IV1 1SN

Email: [lisa.marchi@sse.com](mailto:lisa.marchi@sse.com)

Mobile: 07825 015507

All comments are requested by 15<sup>th</sup> October 2021.



## EXECUTIVE SUMMARY

This Consultation Document invites members of the public, statutory consultees and other key stakeholders to provide comment on the Preferred Route identified for a 132 kV overhead line (OHL) connection between the existing Stornoway substation and the existing Harris grid supply point, south of Tarbert.

In order to meet the licence obligations and ensure security of supply SSEN Transmission needs to provide a new 132 kV OHL transmission connection; this new connection will replace the existing 132 kV OHL. SSEN Transmission have identified alternative Route Options within our study area to meet this need and have split the study area into four sections, as follows:

### **Section 1: Stornoway to Arnish**

Route 1 and Route Option 1a were identified as the preferred options on the basis that they would have least potential for impact on sensitive habitats (Class 1 peatland) and would require the least number of crossings of distribution voltage OHLs.

### **Section 2: Balallan to east of Abhainn a' Mhuil**

Route Option 2a was identified as the preferred option on the basis that it would have least potential for impact on non-designated cultural heritage assets and on landscape and would be located further away from residential dwellings. In addition, it represents the shorter route and would consequently require fewer structures, and the least number of crossings of existing infrastructure.

### **Section 3: East of Abhainn a' Mhuil to Taobh (northwest of Tarbert)**

Route 3 and Route Options 3a, 3c and 3e have been identified as the preferred options on the basis of their lower elevation and slopes. The alternative options would be technically difficult to install without substantial earthwork and the creation of permanent access points for construction and maintenance.

### **Section 4: Tarbert to South Harris**

Route 4 and Route Option 4a were identified as the preferred options on the basis that these would have less potential for impact on landscape and visual amenity, whilst also being located further away from residential dwellings. In addition, these options represent the shorter route and would consequently require fewer structures, and the least number of crossings of existing infrastructure.

This report presents a summary of a comparative analysis of environmental, engineering and cost criteria of the Route Options within each of the study area sections above.

A Report on Consultation will be completed in October 2021 which will document the consultation responses received, and the decisions made in light of these responses, to select a Proposed Route for further design development by assessment of OHL Alignment Options.

## 1. INTRODUCTION

### 1.1 Purpose of Document

SSEN Transmission is proposing to construct and operate a new double circuit 132 kV overhead line (OHL) between the existing substation south of Stornoway, Lewis, and the existing grid supply point south of Tarbert, Harris, Scotland. This Consultation Document invites comments from all interested parties on the Route Options under consideration. The Study Area for the project is shown in Appendix 1, Figure 1.

Transmission licensees, such as SSEN Transmission, have a duty under Section 9 of the Electricity Act 1989 to develop and maintain an efficient, coordinated and economical system of electricity transmission; and to facilitate competition in the generation and supply of electricity. These works are necessary in order to replace and strengthen the existing 132 kV OHL connection between these two connection points, in accordance with the National Electricity Transmission System Security and Quality of Supply Standard (NETS SQSS).

This Consultation Document describes the different connection OHL Route Options evaluated in more detail and invites interested parties to provide their views.

All comments received will inform SSEN Transmission's selection of a Preferred Option to take forward.

### 1.2 Document Structure

This report is comprised of the following sections as follows:

2. The Proposals – describes the project need, the project overview, and consultation history;
3. Description of Routes – describes the identification of Route Options and provides a summary of each Route Option;
4. Comparative Appraisal – a summary of the environmental, engineering and cost topics, followed by a comparative analysis summary and a description of the Preferred Route; and
5. Consultation on the Proposals – invites comments on the Preferred Option process, the identification of Preferred Route and next steps.

The main body of this document is supported by a series of figures which can be found in Appendix: Figures.

### 1.3 Next Steps

As part of the consultation exercise, comments are sought from members of the public, statutory consultees and other stakeholders on the Preferred Route Option put forward in this report.

A Report on Consultation will be produced in October 2021 which will document the consultation responses received, and the decisions made in light of these responses, to select a Proposed Route for further design by assessment of OHL Alignment Options.

Following the identification of a Proposed Route, further engineering and environmental surveys will be undertaken to identify a Preferred Alignment within the Proposed Route. Consultation on a Preferred Alignment will be undertaken in a similar manner to the identification of a Preferred Route, later this year.



## 2. THE PROPOSALS

### 2.1 Project Need

The primary requirement for this project is to address the condition of the existing Lewis-Harris 132 kV OHL connection, with a secondary requirement to improve network resilience. This project would also support SSEN's goal of one third reduction in greenhouse gas emissions, through the reduced need for diesel generation in the Western Isles due to unplanned outages.

### 2.2 Proposals Overview

The Proposed Development would comprise the construction of a new 132 kV OHL supported by trident wood poles (Plate 2.1 below). The 132 kV trident construction would meet the requirements of the line rating and would have a similar visual profile to the existing OHL. It would have improved reliability over the existing OHL, meeting increased climatic design parameters, and would also include a fibre-optic cable, which meets the requirements for modern communication for protection and operation of the circuit. The new OHL would replace the existing 132 kV OHL, which would be removed once the Proposed Development is operational.

**Plate 2.1: Trident wood pole design**



The spacing between wood poles would vary depending on topography, altitude, and land use but would likely be between 60 m and 160 m, with an average span length of 90 m. To install the majority of the wood poles, existing tracks would be used where possible. However, the use of bog mats may be necessary in some areas depending on existing access conditions, terrain and altitude. At this stage, it has been assumed that wood poles would be a maximum of 17 m above ground level, with a typical average pole height of 13 m above ground level.

Construction of the Proposed Development would require the removal of sections of commercial forest as well as community woodland, which would be undertaken in consultation with Scottish Forestry and affected



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landowners. After felling, any timber removed that is commercially viable would be sold and the remaining forest material would be dealt with in a way that delivers the best practicable environmental outcome and is compliant with waste regulations.

### 3. DESCRIPTION OF THE ROUTES

#### 3.1 Study Area

Given the constraints of the Island environment in scale, the extent of challenging physical environs and the extent of environmental designations, combined with the requirement to replace existing infrastructure, one viable onshore corridor option was identified by SSEN for the entire length of the connection. This corridor (Appendix 1, Figure 1) represents the study area for the route selection study.

Previous route selection work has been undertaken in respect of a connection between a proposed new switching station south-west of Balallan, Lewis, and a new converter station and substation site at Arnish Point, Lewis, as part of a separate SSEN project (LT15). This separate project is currently on hold; however, the route selection work has served to identify a proposed alignment for a new double circuit 132 kV OHL between Balallan and a point approximately 1.5 km south west of Stornoway substation. Therefore, no further route selection work has been undertaken for this section of the corridor.

For ease of assessment and reporting, the corridor has been split into four sections as detailed below:

- Section 1: Stornoway to Arnish;
- Section 2: Balallan to east of Abhainn a' Mhuil
- Section 3: East of Abhainn a' Mhuil to Taobh (northwest of Tarbert)
- Section 4: Tarbert to South Harris

The sections have been split based on topography and landform within the corridor, with Section 1 defined simply as it is separate from the other sections.

#### 3.2 Route Options

The Route Selection process was carried out in Q2 2021. From this process, a 'Preferred Route' has been brought forward for consultation and for further analysis to identify potential alignment options. According to the SSEN Transmission OHL Routeing Guidance, a 'Proposed Route' is defined as "*a route taken forward following stakeholder consultation to the alignment selection stage of the overhead line routeing process*".

The Route Options identified are shown in Appendix 1, Figure 2, and are briefly describe as follows:

##### 3.2.1 Section 1: Stornoway to Arnish

Within Section 1, the short stretch of Route 1 represents the only route option identified in this area, while Route Options 1a and 1b represent two alternative route options, on either side of the existing 132 kV OHL.

##### 3.2.2 Section 2: Balallan to east of Abhainn a' Mhuil

Within Section 2, the short stretch of Route 2 allows consideration of switching from Route Option 2a to Route Option 2b to the east of Beinn a Mhuil summit, while Route Options 2a and 2b represent the two alternative route options identified within Section 2, on either side of the existing 132 kV OHL.

##### 3.2.3 Section 3: East of Abhainn a' Mhuil to Taobh (northwest of Tarbert)

Within Section 3, Route 3 represents the only route option identified in three distinct areas. The northern part of Route 3 lies immediately west of the existing 132 kV OHL, around Ardvourlie. The central part of Route 3 lies to the south of the existing 132 kV OHL and the A859 road, south east of An Cliseam summit. The southern part of Route 3 lies to the north of the A859 road as it approaches Tarbert.

Route Options 3a and 3b represent the two alternative route options identified to the west of Loch Seaforth, on either side of the A859 road.

Route Option 3c and 3d represent the two alternative route options identified to the south of An Cliseam, on either side of the A859 road.



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Route Option 3e and 3f represent the two alternative route options identified at Ardhasaig.

3.2.4 Section 4: Tarbert to South Harris

Within Section 4, the short stretch of Route 4 represents the only route option identified as the connection crosses Tarbert village. Route Option 4a and 4b represent the two alternative route options identified within the remainder of Section 4, on either side of the existing 132 kV OHL.

## 4. COMPARATIVE APPRAISAL

### 4.1 Introduction

The comparative appraisal for each Route Option has been completed in accordance with SSEN Transmission guidance. The guidance states that each Route Option should be evaluated with reference to agreed environmental, engineering and cost criteria and should be considered in terms of the potential for the Proposed Development to be constrained. A Red/Amber/Green (RAG) rating has been applied to each criterion with RED indicating a high potential for constraint, AMBER indicating intermediate potential for constrain and GREEN indicating low potential for constraint. It should be noted that a RED or AMBER rating does not necessarily indicate that the Route Option would be unacceptable, but rather indicates the need for further consideration of the potential to mitigate potentially adverse effects.

Appendix 1, Figures 3 to 6 outline the constraints discussed within the environmental, engineering and cost assessments.

### 4.2 Section 1

#### 4.2.1 Environmental Topics

Blanket bog of varying condition is present throughout Section 1, which is an Annex 1<sup>1</sup> habitat. Schedule 1<sup>2</sup> diver species are likely to commute across all of the route options. Golden eagle and hen harrier (Schedule 1 species) are also known to nest in the immediate vicinity; the proposed development presents risk of disturbance and collision risk for these species. The route options are underlain mainly by Class 1 peatland.

Views of the route options may be possible from Lews Castle and Lady Lever Park GDL (particularly from high points such as Croc na Croich), from the A859 and the Lewis Castle Grounds Core Path (CP 6); however, these are considered likely to be minimal and/or intermittent due to intervening vegetation. There is likely to be notable views of Route Options 1a and 1b from the A859 road, given the low lying and gently undulating character of the landscape in this area, although some screening may be achieved by intervening topography.

At the alignment selection stage, the following will require detailed consideration:

- a number of existing OHLs are in close proximity and therefore cumulative visual impacts will require consideration;
- residential properties are located approximately 70 m to the south of Route 1, although boundary vegetation may provide localised filtering to screen views from these properties; and
- results from ornithology survey work and peat depth surveys will be used to inform alignment selection and/or further define potential impacts on ornithology, peatland and constructability.

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<sup>1</sup> Annex 1 of the EU Directive on the Conservation of Habitats, Flora and Fauna (92/43/EEC) lists the specific habitats which are considered threatened in the EU territory.

<sup>2</sup> Schedule 1 of the Wildlife and Countryside Act 1981 lists the birds in Great Britain that are protected from persecution.

**Table 4.1: Environmental Comparison Table – Section 1**

Route	RAG Impact Rating- Environmental																
	Natural Heritage						Cultural Heritage		People	Landscape and Visual			Land Use			Planning	
	Designations	Protected Species	Habitats	Ornithology	Hydrology	Geology	Designations	Non-designated Assets		Designations	Character	Visual	Agriculture	Forestry	Recreation	Policy	Proposals
Route 1	G	G	A	R	G	R	G	G	A	A	G	A	G	G	G	G	G
Route 1a	G	G	A	R	G	R	G	G	G	A	G	A	G	G	G	G	G
Route 1b	G	G	A	R	G	R	G	G	G	A	G	A	G	G	G	G	G

#### 4.2.2 Engineering Topics

The key engineering issue in Section 1 is peatland, which is present throughout and which represents a challenge for access, construction, and operational maintenance.

Route 1 crosses the existing 132 kV OHL once and would require two crossings of existing distribution OHLs. Route Option 1a is longer than Route Option 1b and would consequently require a greater number of structures and access locations; however, Route Option 1b would require two crossings of existing distribution OHLs.

**Table 4.2: Engineering Comparison Table – Section 1**

Route	RAG Impact Rating – Engineering															
	Infrastructure crossings		Environmental Design			Ground Condition		Construction and Access		Proximity					Other Considerations	
	Major Crossings	Minor Roads	Elevation	Contaminated Land	Flooding	Terrain	Peatland	Access	Angle Supports	Clearance Distance	Windfarms	Communication Masts	Urban Developments	Metallic Pipelines	Route Lengths	DNO Crossing
Route 1	A	G	G	G	G	G	R	G	G	G	G	G	G	G	G	R
Route 1a	G	G	G	G	G	G	R	G	G	G	G	G	G	G	A	G
Route 1b	G	G	G	G	G	G	R	G	G	G	G	G	G	G	G	R

#### 4.2.3 Cost Topics

All route options in Section 1 have the potential for areas of deep peat, which would make construction works difficult, and both Route Options 1a and 1b would require a crossing of Loch Beag Cnoc a' Choilich. There is likely to be more undergrounding of distribution OHLs required for Route Option 1b.

**Table 4.3: Cost Comparison Table – Section 1**

Route	RAG Impact Rating – Cost							
	Capital						Operational	
	Construction	Diversions	Public Road Improvement	Tree Felling	Land Assembly	Consent Mitigations	Inspections	Maintenance
Route 1	G	G	G	G	G	G	G	G
Route 1a	G	G	G	G	G	G	G	G
Route 1b	G	A	G	G	G	G	G	G

### 4.3 Section 2

#### 4.3.1 Environmental Topics

Blanket bog is present throughout Section 2, which is an Annex 1 habitat, and Schedule 1 diver species are likely to commute across all of the route options. Golden eagle and hen harrier (Schedule 1 species) are also known to nest in the immediate vicinity; the proposed development presents risk of disturbance and collision risk for these species. The route options are underlain by Class 1 and Class 2 peatland.

There are non-designated heritage assets present within all of the section 2 route options and so there is potential for direct impact on these; however, fewer non-designated assets lie within Route Option 2a than

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Route Option 2b. All of the route options lie within the South Lewis, Harris and North NSA and there would be some views of all of the route options from Eisgein and Harris – Uig WLA. There is likely to be notable views of all of the route options from the A859 and the Hebridean Way, given the low lying and gently undulating character of the landscape in this area, although some screening may be achieved by intervening topography. An area of commercial forestry/community woodland would be permanently lost in the southern part of Section 2, equating to the required wayleave around the proposed development.

Specific issues associated with Route 2 include potential visibility of the proposed development from the A859 and potential impacts on hydrological features (lochan and minor watercourses).

Specific issues associated with Route Option 2b include its proximity to residential dwellings at Arivuraich and potential impacts on landscape character.

At the alignment selection stage, the following will require detailed consideration:

- a number of existing OHLs are in close proximity and therefore cumulative visual impacts will require consideration;
- results from ornithology and peat depth surveys will be used to inform alignment selection and/or further define potential impacts on ornithology and on peatland.
- sensitive siting of the proposed wood poles will be required to minimise potential loss of commercial forestry/community woodland.

**Table 4.4: Environmental Comparison Table – Section 2**

Route	RAG Impact Rating- Environmental																
	Natural Heritage						Cultural Heritage		People	Landscape and Visual			Land Use			Planning	
	Designations	Protected Species	Habitats	Ornithology	Hydrology	Geology	Designations	Non-designated Assets	Proximity to Dwellings	Designations	Character	Visual	Agriculture	Forestry	Recreation	Policy	Proposals
Route 2	G	A	A	R	A	R	G	A	G	G	G	A	G	G	G	G	G
Route 2a	G	G	A	R	A	R	G	A	G	A	A	A	G	A	G	G	G
Route 2b	G	G	A	R	A	R	G	A	R	A	A	A	G	A	G	G	G

#### 4.3.2 Engineering Topics

Key engineering issues in Section 2 are the areas of flood risk around the woodland, the potential for areas of deep peat and the presence of a communications mast at the northern end of the forested area. One additional issue specifically associated with Route Option 2a is that it sits at a higher elevation and on steeper slopes than Route Option 2b. However, Route Option 2b has a number of additional issues associated with it, in terms of its crossings the existing 132 kV OHL, crossing the A859 road twice, and crossing two existing distribution



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OHLs. It also passes closer to residential properties at Arivruaich than Route Option 2a, is slightly longer, and it would require a greater number of angle supports.

**Table 4.5: Engineering Comparison Table – Section 2**

Route	RAG Impact Rating – Engineering															
	Infrastructure crossings		Environmental Design			Ground Condition		Construction and Access		Proximity					Other Considerations	
	Major Crossings	Road Crossings	Elevation	Contaminated Land	Flooding	Terrain	Peatland	Access	Angle Supports	Clearance Distance	Windfarms	Communication Masts	Urban Developments	Metallic Pipelines	Route Length	DNO Crossings
Route 2	R	R	G	G	A	G	A	G	A	A	G	R	G	G	A	R
Route 2a	G	G	G	G	A	A	A	G	G	A	G	R	G	G	G	G
Route 2b	A	R	G	G	A	G	A	G	A	R	G	R	G	G	A	R

#### 4.3.3 Cost Topics

Both route options in Section 2 would require tree felling, although a larger swathe would require to be removed on Route Option 2b. Crossings of distribution voltage OHLs would be required for both Route Options 2a and 2b; however, there may be more undergrounding required for Route Option 2b. Crossings of the A859 road would also be required as part of Route Option 2b.

**Table 4.6: Cost Comparison Table – Section 2**

Route	RAG Impact Rating – Cost							
	Capital						Operational	
	Construction	Diversions	Public Road Improvement	Tree Felling	Land Assembly	Consent Mitigations	Inspections	Maintenance
Route 2	G	G	G	G	G	G	G	G
Route 2a	G	G	G	A	G	G	G	G
Route 2b	A	A	G	G	G	G	G	G

#### 4.4 Section 3

##### 4.4.1 Environmental Topics

Blanket bog is present throughout Section 3, which is an Annex 1 habitat, and there is considered to be the potential for impact on various protected species (otter, freshwater pearl mussel and Atlantic salmon) and their supporting habitat throughout Section 3. There is risk of disturbance and collision for qualifying species of the North Harris Mountains SPA and IBA and for Schedule 1 bird species associated with the West Coast and Outer Hebrides SPA. Numerous watercourses are crossed by the route options. The route options are all underlain by Class 1 and Class 2 peatland, although only by small areas of Class 2 peatland in the southern part of Section 3. All of the route options lie within the South Lewis, Harris and North NSA and there would be some views of all of the route options from Eisgein and Harris – Uig WLA. An area of woodland may be permanently lost in the northern part of Section 3, equating to the required wayleave around the proposed development.

Route 3 passes through two Drinking Water Protected Areas (DWPA) and two private water supplies (PWS) are located in proximity, one close to the northern part and the other within the southern part. There are non-designated heritage assets located within Route 3 and so there is potential for direct impact on these. There are some residential properties located in proximity to Route 3, particularly at Ardhasaig, and a number of live planning applications for proposed developments in proximity to Route 3 have been identified, including the proposed construction of a café to support mountain bike trails at Ardvourlie.

Specific issues associated with Route Option 3b include its proximity to a PWS and the fact that it passes through a comparatively greater area of Class 1 peatland than Route Option 3a.

Specific issues associated with Route Option 3c include a proposed new telecommunications mast within the route option itself and the fact that it includes comparatively more Class 1 and 2 peatland than Route Option 3d.

Specific issues associated with Route Options 3e and 3f include the proximity of residential properties at Ardhasaig, potential impacts on landscape character, particularly the interrelationship between the landscape and the seascape on the headland where Route Option 3e is located, and potential impacts on visual amenity experienced by road users on the A859/ Hebridean Way and residents in Ardhasaig.

At the alignment selection stage, the following will require detailed consideration:

- a number of existing OHLs are in close proximity and therefore cumulative visual impacts will require consideration;
- care will be required to avoid the proposed development creating complex linear patterns across the landscape when viewed from elevated locations within the wider area; and
- results from ornithology and peat depth surveys will be used to inform alignment selection and/or further define potential impacts on ornithology and on peatland.

**Table 4.7: Environmental Comparison Table – Section 3**

Route	RAG Impact Rating- Environmental																
	Natural Heritage						Cultural Heritage		People	Landscape and Visual			Land Use			Planning	
	Designations	Protected Species	Habitats	Ornithology	Hydrology	Geology	Designations	Non-designated Assets	Proximity to Dwellings	Designations	Character	Visual	Agriculture	Forestry	Recreation	Policy	Proposals
Route 3	G	A	A	R	A	R	G	A	A	A	A	A	G	A	A	G	A
Route 3a	G	A	A	R	A	R	G	G	G	A	A	A	G	G	G	G	G
Route 3b	G	A	A	R	A	R	G	G	G	A	A	A	G	G	G	G	G
Route 3c	G	A	A	R	A	R	G	G	G	A	A	A	G	G	G	G	A
Route 3d	G	A	A	R	A	R	G	G	G	A	A	A	G	G	G	G	G
Route 3e	G	A	A	R	G	A	G	A	R	A	A	A	G	G	G	G	G
Route 3f	G	A	A	R	G	A	G	G	R	A	G	A	G	G	G	G	G

#### 4.4.2 Engineering Topics

Key engineering issues in Section 3 are the potential for areas of deep peat in the northern part of Section 3, the high elevation and steeply sloping ground in the northern and central parts of Section 3, the presence of residential properties at Ardvourlie, Ardhasaig and Tarbert and the presence of communications masts.

Route 3 crosses distribution OHLs in two locations where undergrounding of the existing OHL might be required, to allow the proposed development to use its corridor. In addition, the southern part of Route 3 may need to be built on the footprint of the existing 132 kV OHL, where there would be potential for creating a temporary diversion to allow this.

Specific issues associated with Route Option 3b are that it is longer than Route Option 3a and would consequently require a greater number of structures/ access points. It also crosses three distribution OHLs whereas Route Option 3a would only cross one. However, Route Option 3a sits at higher elevation overall.

Specific issues associated with Route Option 3c include its crossing the existing 132 kV OHL and its crossing the A859 road twice, where neither of these crossings are required for Route Option 3d. In addition, Route Option 3c sits at slightly higher elevation, it is longer and would require more angle supports and it would cross one distribution OHL which would be undergrounded. However, Route Option 3d would be technically difficult to install, due to its largely being situated on side slopes of up to 30 degrees. There would also need to be permanent access works to allow safe access to the pole positions for construction and future maintenance.

Specific issues associated with Route Option 3e include its crossing the existing 132 kV OHL twice and the A859 twice, whereas Route Option 3f could be built on the footprint of the existing 132 kV OHL and would not need to cross the A859 road. However, a temporary diversion of the 132 kV OHL would not be viable in this instance, due to topography, and the overbuild section would need to be built under outage. Route Option 3e is the longer route, whereas Route Option 3f sits at higher elevation and has sleeper slopes than Route Option 3e. Therefore, Route Option 3f would also be technically difficult to install, being situated on side slopes of up to 40 degrees, and there would also need to be permanent access works to allow safe access to the pole positions for construction and future maintenance.

**Table 4.8: Engineering Comparison Table – Section 3**

Route	RAG Impact Rating – Engineering															
	Infrastructure crossings		Environmental Design			Ground Condition		Construction and Access		Proximity					Other Considerations	
	Major Crossings	Minor Roads	Elevation	Contaminated Land	Flooding	Terrain	Peatland	Access	Angle Supports	Clearance Distance	Windfarms	Communication Masts	Urban Developments	Metallic Pipelines	Route Length	DNO Crossings
Route 3	R	A	A	G	G	R	A	G	G	R	G	R	R	G	G	R
Route 3a	A	A	A	G	G	R	A	G	A	G	G	R	G	G	G	A
Route 3b	A	A	G	G	G	R	A	G	A	G	G	R	G	G	A	R
Route 3c	R	R	R	G	G	R	G	G	A	G	G	R	G	G	R	R
Route 3d	G	G	A	G	G	R	G	G	G	G	G	R	G	G	G	G
Route 3e	R	R	G	G	G	G	G	G	G	R	G	G	R	G	R	R
Route 3f	R	G	G	G	G	R	G	G	G	R	G	G	R	G	G	G

#### 4.4.3 Cost Topics

Most route options in Section 3 are located on steep terrain, particularly Route Options 3d and 3f, and all of the route options lie in close proximity to existing telecommunications masts. Crossings of the A859 would be required for Route 3 and Route Options 3a, 3c and 3e, and the existing 132 kV OHL and distribution voltage OHLs lie within most route options. Route Options 3e and 3f lie in close proximity to residential dwellings at Ardhasaig.



**Table 4.9: Cost Comparison Table – Section 3**

Route	RAG Impact Rating – Cost							
	Capital						Operational	
	Construction	Diversions	Public Road Improvement	Tree Felling	Land Assembly	Consent Mitigations	Inspections	Maintenance
Route 3	G	G	G	G	G	G	G	G
Route 3a	G	A	G	G	G	G	G	G
Route 3b	A	G	G	G	G	G	G	G
Route 3c	G	A	G	G	G	G	G	G
Route 3d	A	A	G	G	G	G	G	G
Route 3e	G	G	G	G	G	A	G	G
Route 3f	A	G	G	G	G	G	G	G

#### 4.5 Section 4

##### 4.5.1 Environmental Topics

Blanket bog is present throughout Section 4, which is an Annex 1 habitat, and there is considered to be the potential for impact on various protected species (otter, freshwater pearl mussel and Atlantic salmon) and their supporting habitat throughout Section 4. There is risk of disturbance and collision for qualifying species of the North Harris Mountains SPA and IBA and for Schedule 1 bird species associated with the West Coast and Outer Hebrides SPA. The route options are all underlain by Class 1 and Class 2 peatland, and all of the route options lie within the South Lewis, Harris and North NSA. There is likely to be notable views of all of the route options from the A859 and the Hebridean Way.

Route 4 passes through the settlement of Tarbert, where a number of residential properties lie in close proximity. On the approach to Tarbert, an area subject to recent woodland planting lie in close proximity. In addition, views of the proposed development are likely to be prominent from Loch A Siar and Loch An Tairbeairt, for residents at Tarbert and Diraclett, and for users of Core Path 13.

Specific issues associated with Route Option 4a include the potential for direct impact on non-designated heritage assets located within it, and the potential for impact on three PWS. However, Route Option 4b has greater potential for impact on residential amenity at Diraclett and on landscape character to the east of the A859. In particular, Route Option 4b would route between the road and views to the sea. While it would not obstruct views, it would add complexity to the currently open views from the road towards the coast.

At the alignment selection stage, the following will require detailed consideration:

- care will be required to avoid the proposed development creating complex linear patterns across the landscape when viewed from elevated locations within the wider area; and
- results from ornithology and peat depth surveys will be used to inform alignment selection and/or further define potential impacts on ornithology and on peatland.

**Table 4.10: Environmental Comparison Table – Section 4**

Route	RAG Impact Rating- Environmental																
	Natural Heritage						Cultural Heritage		People	Landscape and Visual			Land Use			Planning	
	Designations	Protected Species	Habitats	Ornithology	Hydrology	Geology	Designations	Non-designated Assets	Proximity to Dwellings	Designations	Character	Visual	Agriculture	Forestry	Recreation	Policy	Proposals
Route 4	G	A	A	R	G	R	G	A	R	A	A	A	G	G	G	G	G
Route 4a	G	A	A	R	A	R	G	A	A	A	A	A	G	G	G	G	G
Route 4b	G	A	A	R	A	R	G	A	R	A	A	A	G	G	A	G	G

#### 4.5.2 Engineering Topics

Key engineering issues in Section 4 are the proximity of residential properties at Tarbert, the presence of steep and mountainous terrain which may present difficulties for construction, and the proximity of the existing communications mast at the crossing point in Tarbert.

Route 4 includes the corridor of the existing 132 kV OHL and the proposed development would potentially be built on the footprint of the existing 132 kV OHL. However, a temporary diversion would not be viable in this instance, due to topography, and the overbuild section would need to be built under outage. In addition, Route 4 would require crossing existing distribution voltage OHLs in two locations.

Specific issues associated with Route Option 4b include its crossing the existing 132 kV OHL once and the A859 road twice, as well as crossing three minor roads, while Route Option 4a crosses the A859 in one location only. In addition, Route Option 4b is longer than Route Option 4a and would require a greater number of angle supports. Route Option 2b also passes closer to existing properties at Tarbert than Route Option 4a and passes through small settlements south of Tarbert. Route Option 4b crosses existing distribution voltage OHLs in five locations whereas Route Option 4a crosses only one distribution voltage OHL.

**Table 4.11: Engineering Comparison Table – Section 4**

Route	RAG Impact Rating – Engineering															
	Infrastructure crossings		Environmental Design			Ground Condition		Construction and Access		Proximity					Other Considerations	
	Major Crossings	Minor Roads	Elevation	Contaminated Land	Flooding	Terrain	Peatland	Access	Angle Supports	Clearance Distance	Windfarms	Communication Masts	Urban Developments	Metallic Pipelines	Route Length	DNO Crossings
Route 4	R	A	G	G	G	A	G	G	G	R	G	R	R	G	G	R
Route 4a	G	A	G	G	G	A	G	G	G	A	G	R	G	G	G	A
Route 4b	A	R	G	G	G	A	G	G	A	R	G	R	A	G	A	R

#### 4.5.3 Cost Topics

Both route options in Section 4 lie in close proximity to an existing telecommunications mast and both would require to cross the gorge at Tarbert. Both route options cross the A859; however, Route Option 4a only crosses the A859 once while Route Option 4b crosses the A859 twice as well as crossing three other minor roads. Crossings of distribution voltage OHLs would be required for both Route Options 4a and 4b; however, there may be more undergrounding required for Route Option 4b.

**Table 4.12: Cost Comparison Table – Section 4**

Route	RAG Impact Rating – Cost							
	Capital						Operational	
	Construction	Diversions	Public Road Improvement	Tree Felling	Land Assembly	Consent Mitigations	Inspections	Maintenance
Route 4	G	G	G	G	G	G	G	G
Route 4a	G	G	G	G	G	G	G	G
Route 4b	A	A	G	G	G	G	G	G

## 4.6 Comparative Analysis Summary

### 4.6.1 Section 1

In Section 1, it is considered that Route Option 1a is preferred over Route Option 1b on the basis of environmental, engineering and cost considerations. Route Option 1b has slightly greater potential for

environmental constraint than Route Option 1a with respect to sensitive habitats (Class 1 peatland). In addition, Route Option 1b would be constrained technically as a result of the existing network, as it would require two crossings of distribution voltage OHLs. In terms of total cost, Route Option 1b would have a higher cost due to the requirement for undergrounding of distribution connections.

#### 4.6.2 Section 2

In Section 2, it is considered that Route Option 2a is preferred over Route Option 2b on the basis of environmental, engineering and cost considerations. It is acknowledged that a greater extent of forest felling is likely to be required for Route Option 2a; however, Route Option 2b has greater potential for environmental constraint than Route Option 2a with respect to non-designated heritage assets, landscape character and proximity to dwellings. In addition, Route Option 2b has greater potential than Route Option 2a to be constrained technically as a result of its crossing the existing 132 kV OHL, crossing the A859 road twice and crossing existing distribution voltage OHLs in two locations. In addition, Route Option 2b is a slightly longer route, and would require a greater number of structures, accesses and angle towers, and it lies closer to existing properties at Arivruaich than Route Option 2a. In terms of total cost, Route Option 2b would have a higher cost due to the greater requirement for tree felling, road crossings and distribution OHL crossings in comparison with Route Option 2a.

#### 4.6.3 Section 3

In Section 3, it is considered that Route Option 3a is preferred over Route Option 3b on the basis of environmental, engineering and cost considerations, although the differences between the two are slight. Route Option 3b has greater potential for environmental constraint than Route Option 3a with respect to a PWS and to sensitive habitat (Class 1 peatland). Route Option 3b also has greater potential than Route Option 3a to be constrained technically as a result of its being longer and requiring a greater number of distribution voltage OHL crossings. No material difference in cost is noted.

In comparing Route Options 3c and 3d, it is concluded that Route Option 3c is preferred on the basis of engineering and cost considerations. Although Route Option 3c has slightly greater potential for environmental constraint with respect to sensitive habitat (Class 1 peatland) and planning, these differences are slight in comparison to the fact that Route Option 3d would be technically difficult to install without substantial earthwork, due to its largely being situated on side slopes of up to 30 degrees. There would also need to be permanent access works to allow safe access to the pole positions for construction and future maintenance of the proposed development. Route Option 3d would also have a higher cost than Route Option 3c.

In comparing Route Options 3e and 3f, it is concluded that Route Option 3e is preferred on the basis of engineering considerations while Route Option 3f is preferred on the basis of environmental considerations. No preference is noted on the basis of cost considerations. Route Option 3e has greater potential for environmental constraint than Route Option 3f with respect to landscape, visual amenity and proximity to dwellings. However, Route Option 3f would be technically difficult to install without substantial earthwork, due to its largely being situated on side slopes of up to 40 degrees. There would also need to be permanent access works to allow safe access to the pole positions for construction and future maintenance of the proposed development. On balance, Route Option 3e is selected as the preferred option.

#### 4.6.4 Section 4

In Section 4, it is considered that Route Option 4a is preferred over Route Option 4b on the basis of environmental, engineering and cost considerations. Route Option 4b has greater potential for environmental constraint than Route Option 4a with respect to landscape, visual amenity and proximity to dwellings, although it is acknowledged that Route Option 4b may have marginally less potential for constraint in relation to hydrology (PWS) and peatland habitat. In terms of engineering considerations, Route Option 4b has greater potential than Route Option 4a to be constrained technically as a result of its greater number of road crossings and greater number of crossings of existing distribution voltage OHLs. In addition, Route Option 2b is a slightly





longer route, and would require a greater number of structures, accesses and angle towers, and it lies closer to existing properties at Tarbert and Diraclett than Route Option 4a. On the basis of cost, more road crossings and distribution OHL crossings are required for Route Option 4b.

#### **4.7 Preferred Route**

In conclusion, the Preferred Route is a combination of the following options:

- Route 1;
- Route 1a;
- Route 2a;
- Route 3;
- Route 3a;
- Route 3;
- Route 3c;
- Route 3e;
- Route 3;
- Route 4; and
- Route 4a.

The Preferred Route is illustrated on Figure 7, Appendix 1.

As identified above, there are various environmental and technical constraints associated with this Preferred Route, which will be subject to further, more detailed assessment as the project progresses.

## 5. CONSULTATION ON THE PROPOSALS

SSEN Transmission places great importance on, and is committed to, consultation and engagement with all parties, or stakeholders, likely to have an interest in proposals for new projects such as this. Stakeholder consultation and engagement is an essential part of an effective development process.

### 5.1 Questions for Consideration by Consultees

When providing your comments and feedback, SSEN Transmission would be grateful for your consideration of the questions below:

1. Have we explained the need for this Project adequately?
2. Have we explained the approach taken to select the Preferred Route adequately?
3. Are there any factors, or environmental features, that you consider may have been overlooked during the Preferred Route selection process?
4. Do you feel, on balance, that the Preferred Route selected is the most appropriate for further consideration at the Alignment selection stage?

### 5.2 Next Steps

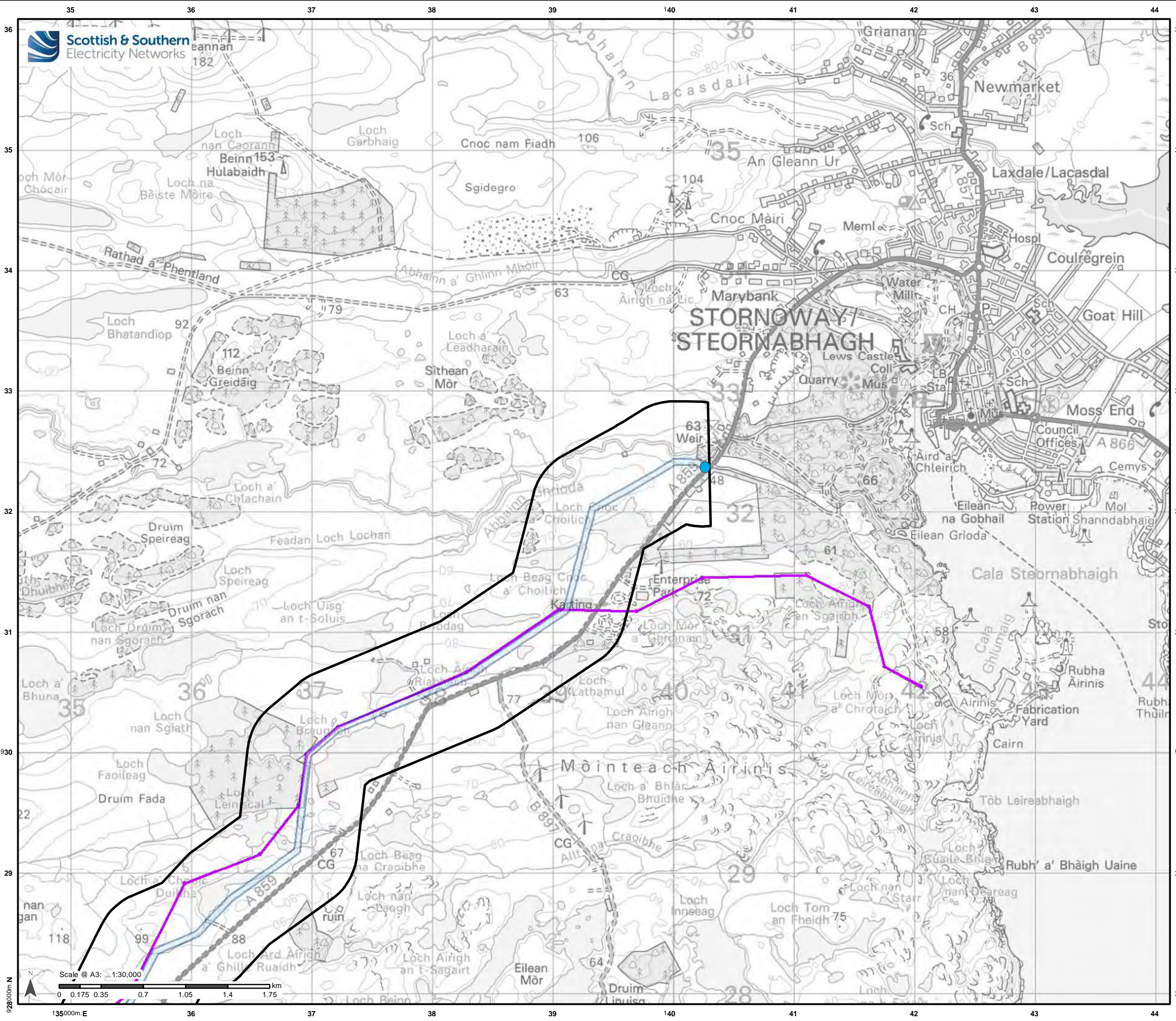
Virtual online consultation events will be held, as detailed in the preface of this document. The responses received from these consultation events, and those sought from statutory consultees and other stakeholders, will inform further consideration of the Route Options put forward, and the identification of a Proposed Route Option to take forward to the next stage in the OHL Routeing process (Alignment Selection).

All comments are requested by 15<sup>th</sup> October 2021. A Report on Consultation will be produced which will document the consultations received, and the decisions made in light of these responses.

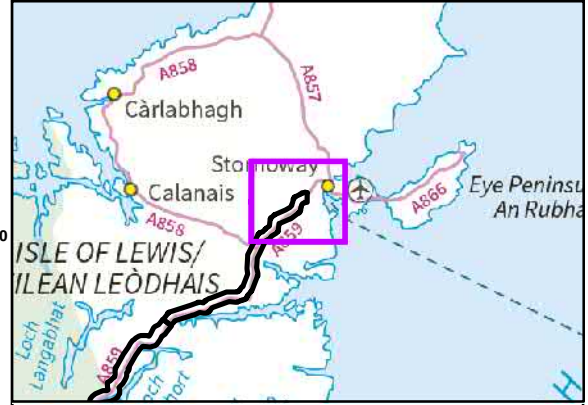
Following the identification and confirmation of a Proposed Route, further engineering and environmental surveys (e.g. further input by landscape, ecology, cultural heritage, hydrology, and forestry specialists) would be undertaken to identify a Preferred Alignment. Consultation on a Preferred Alignment will be undertaken in a similar manner to the identification of a Preferred Route later this year.



## **APPENDIX 1: FIGURES**



- Legend**
- Proposed Corridor
  - Existing Network 25m Buffer
  - LT15 Alignment
  - Stornoway Substation



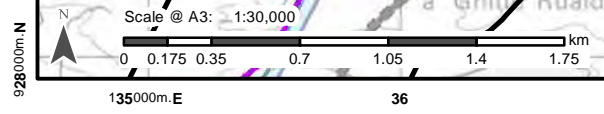
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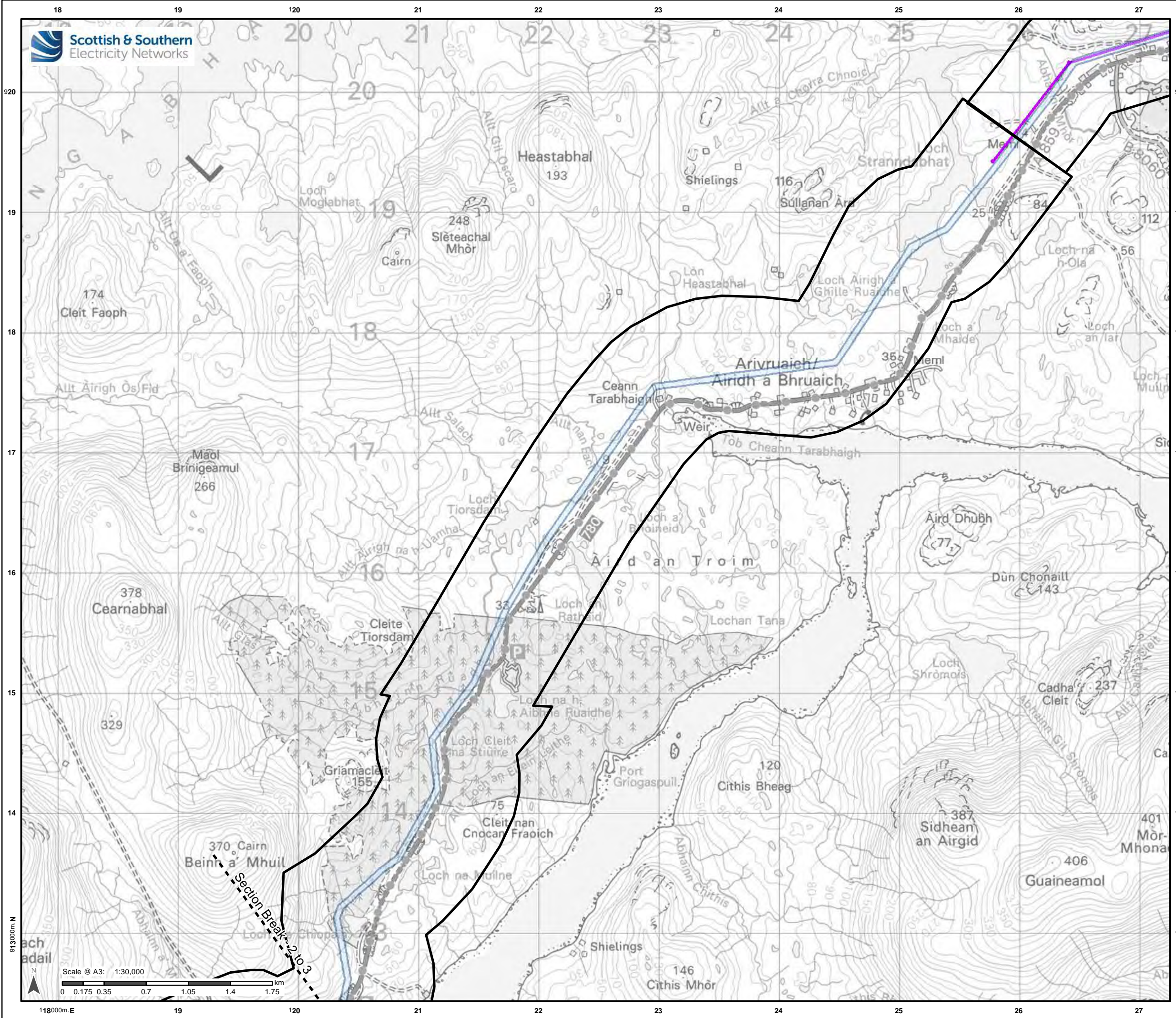
Project No: LT0245  
Project: 1620011469

Title:  
Figure 1a: Proposed Corridor




Drawn by: CF Date: 10/08/2021

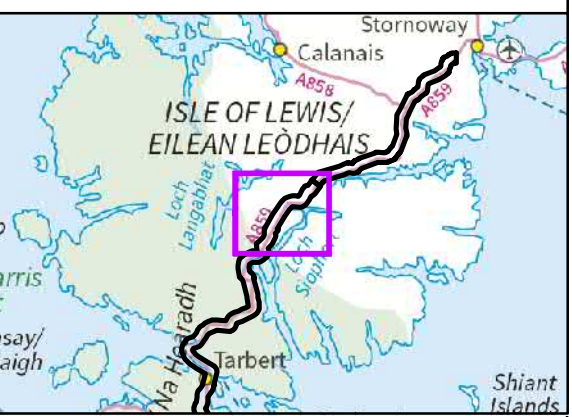
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**Legend**

-  Proposed Corridor
-  Existing Network 25m Buffer
-  LT15 Alignment



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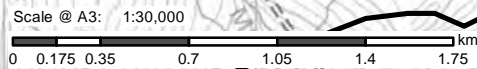
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Title:  
Figure 1b: Proposed Corridor

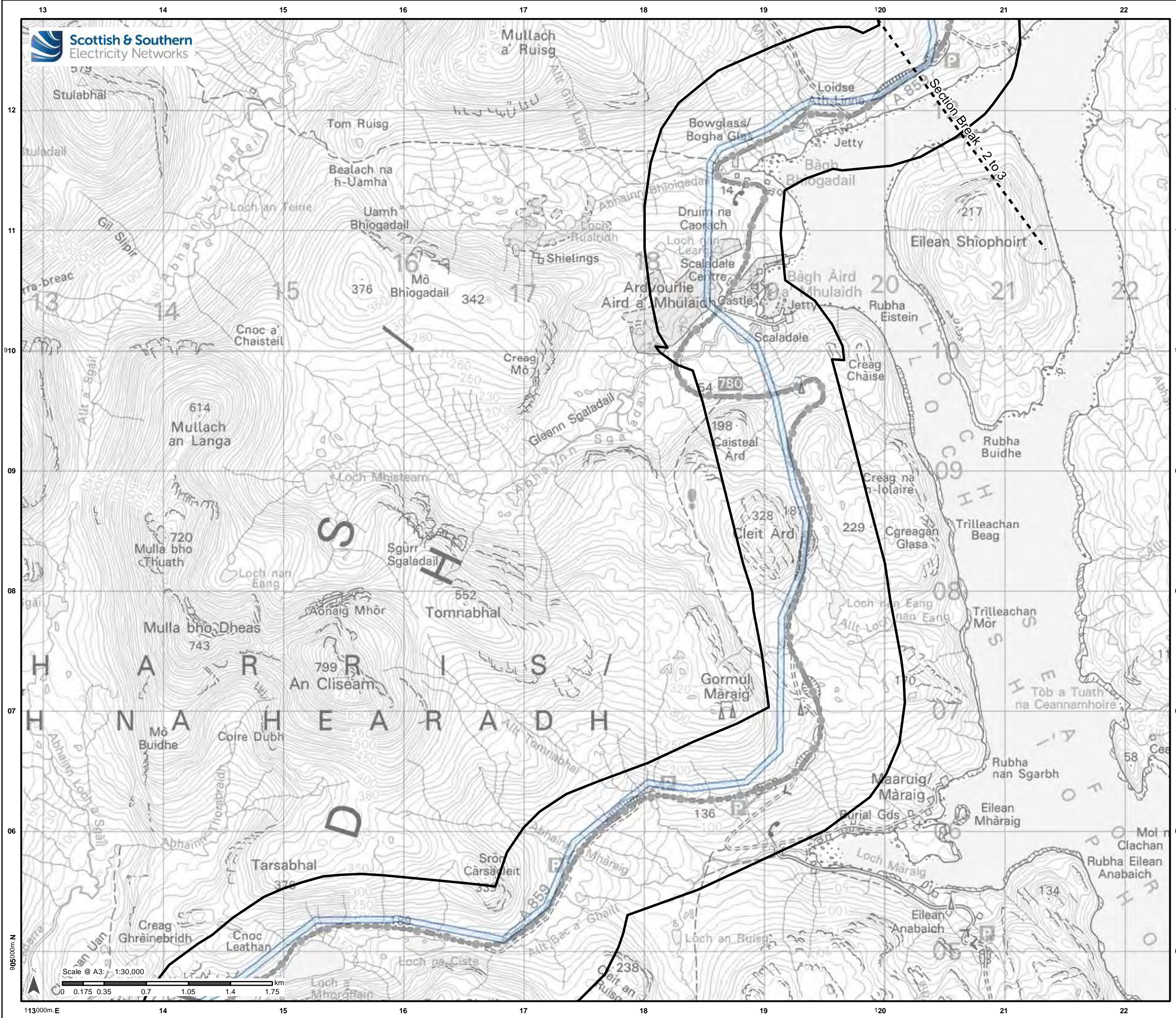
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913000m.N

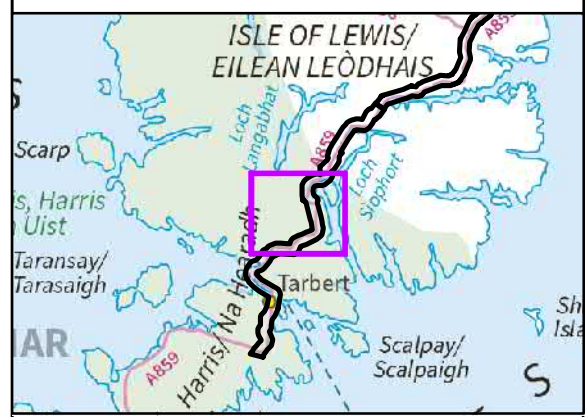


118000m.E 19 120 21 22 23 24 25 26 27



**Legend**

-  Proposed Corridor
-  Existing Network 25m Buffer



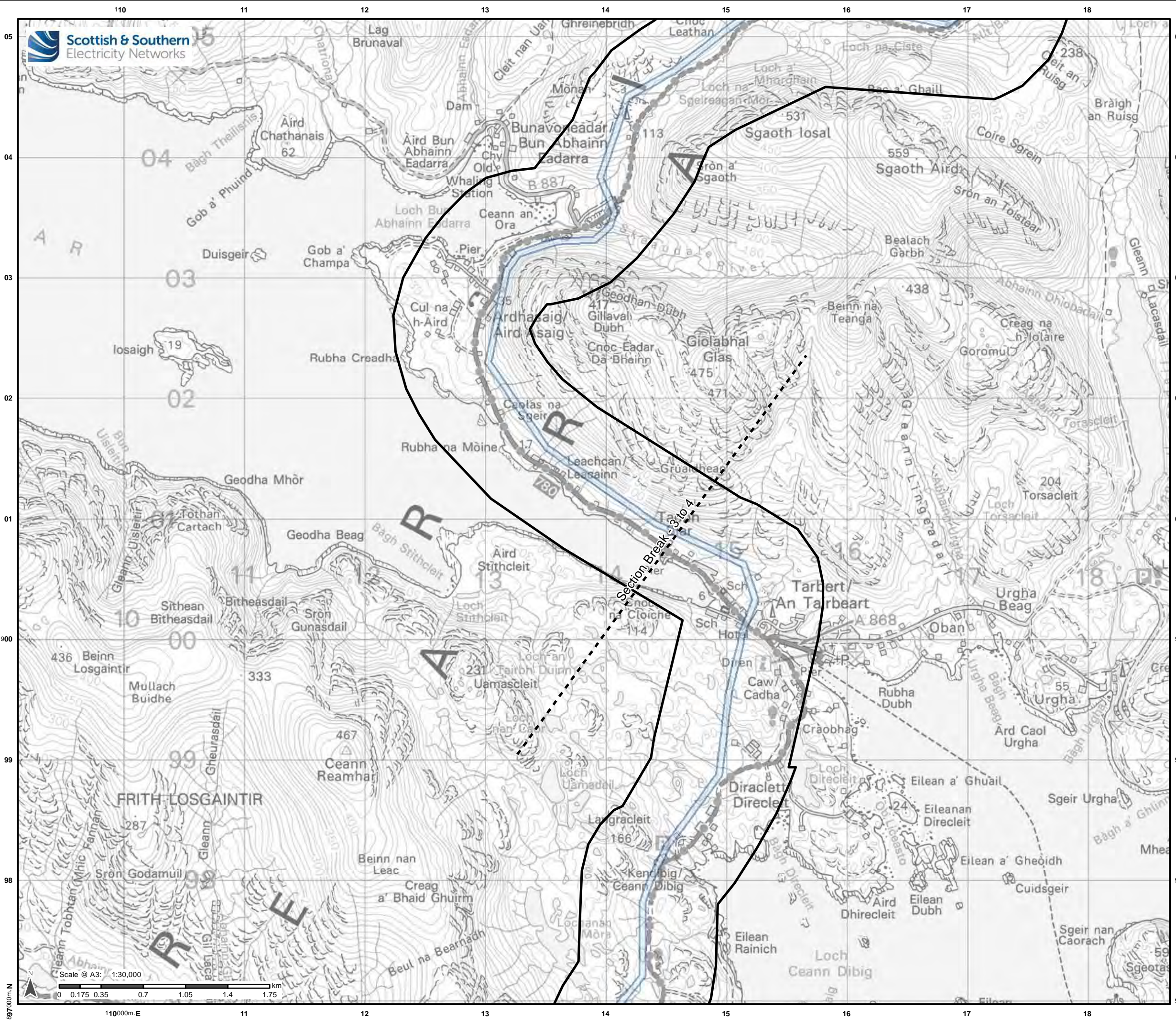
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Title:  
Figure 1c: Proposed Corridor

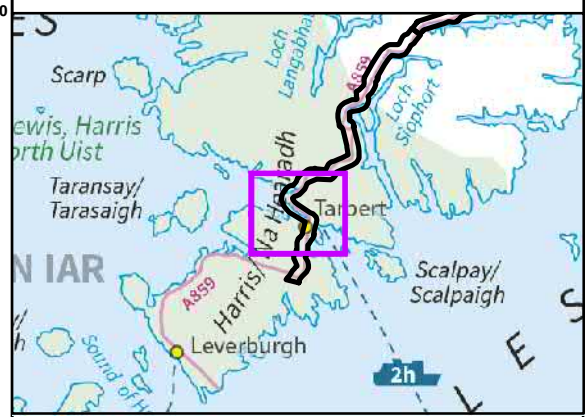
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**Legend**

-  Proposed Corridor
-  Existing Network 25m Buffer



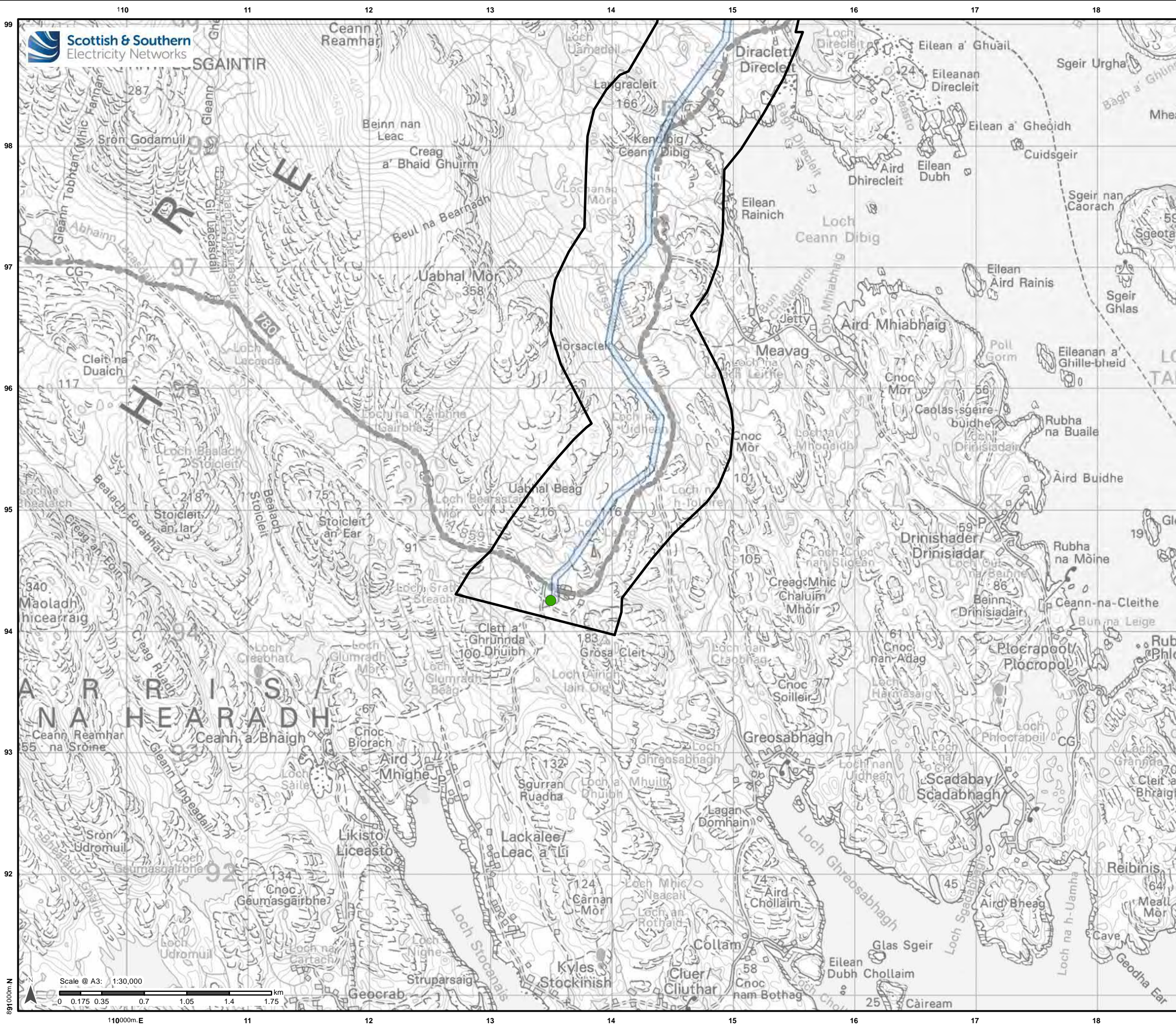
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

Title:  
Figure 1d: Proposed Corridor

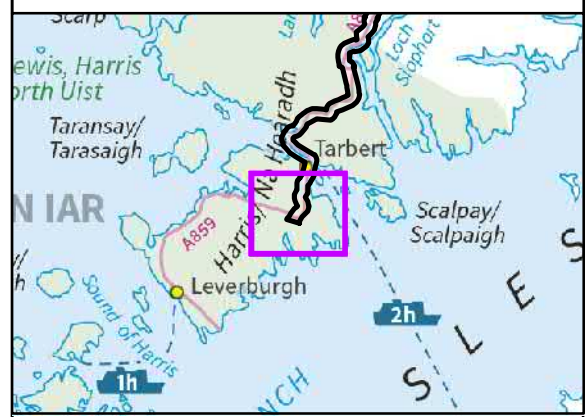
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**Legend**

-  Proposed Corridor
-  Existing Network 25m Buffer
-  Harris Grid Supply Point



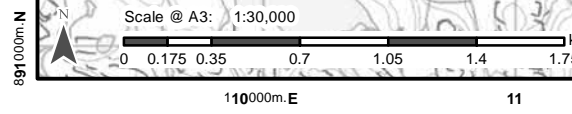
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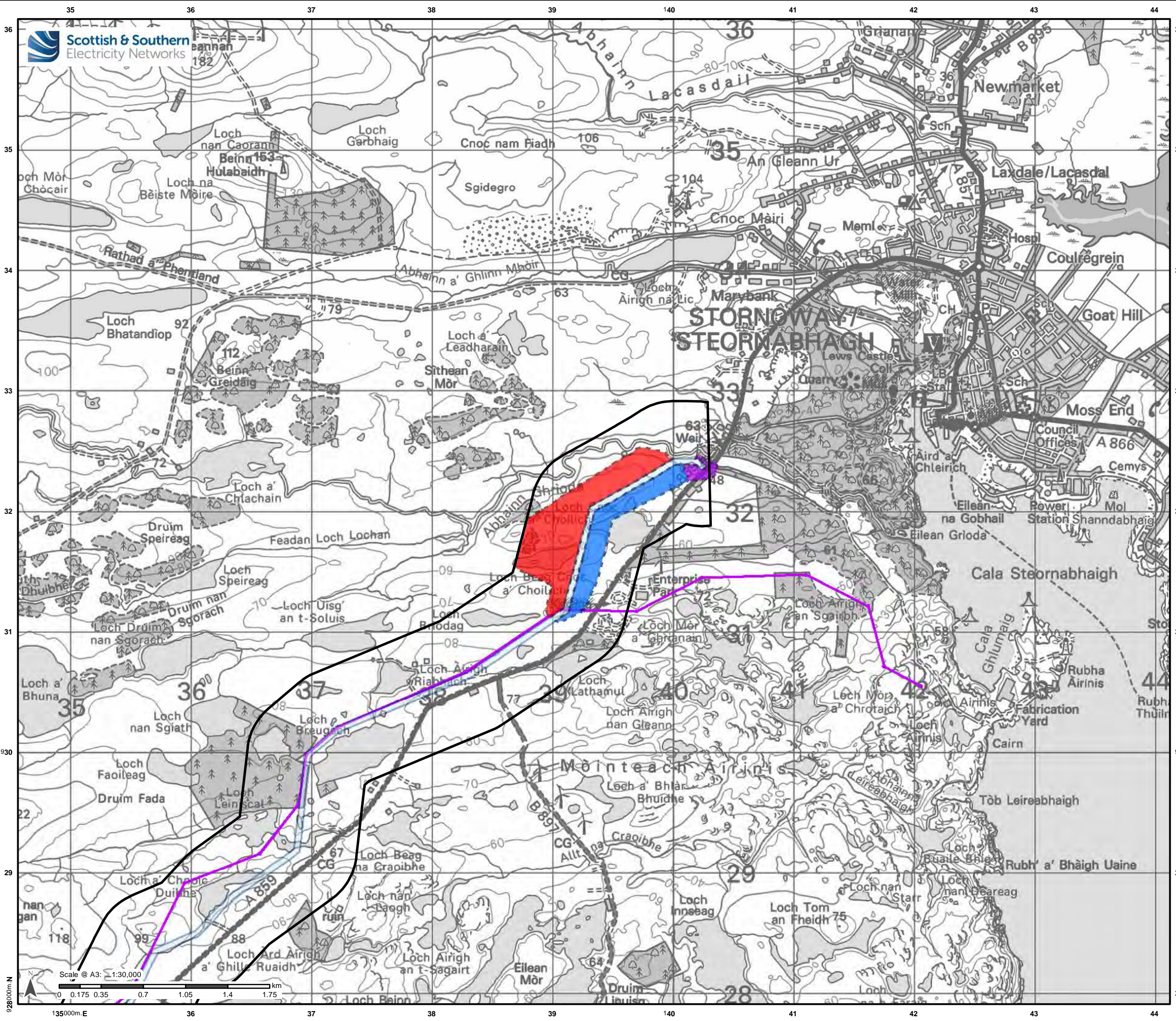
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Figure 1e: Proposed Corridor

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Date: 10/08/2021

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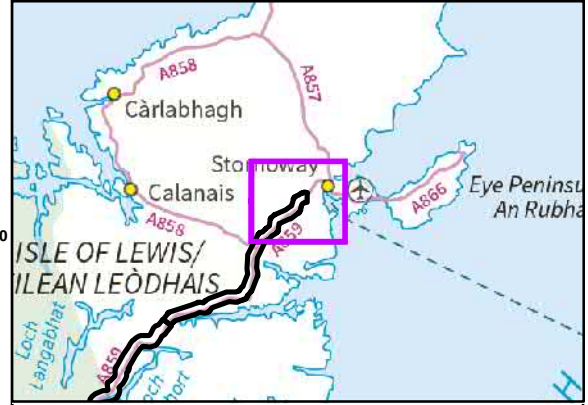






**Legend**

- Proposed Corridor
- Existing Network 25 m Buffer
- Route Options**
- Route 1
- Route Option 1a
- Route Option 1b
- LT15 Alignment



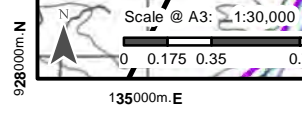
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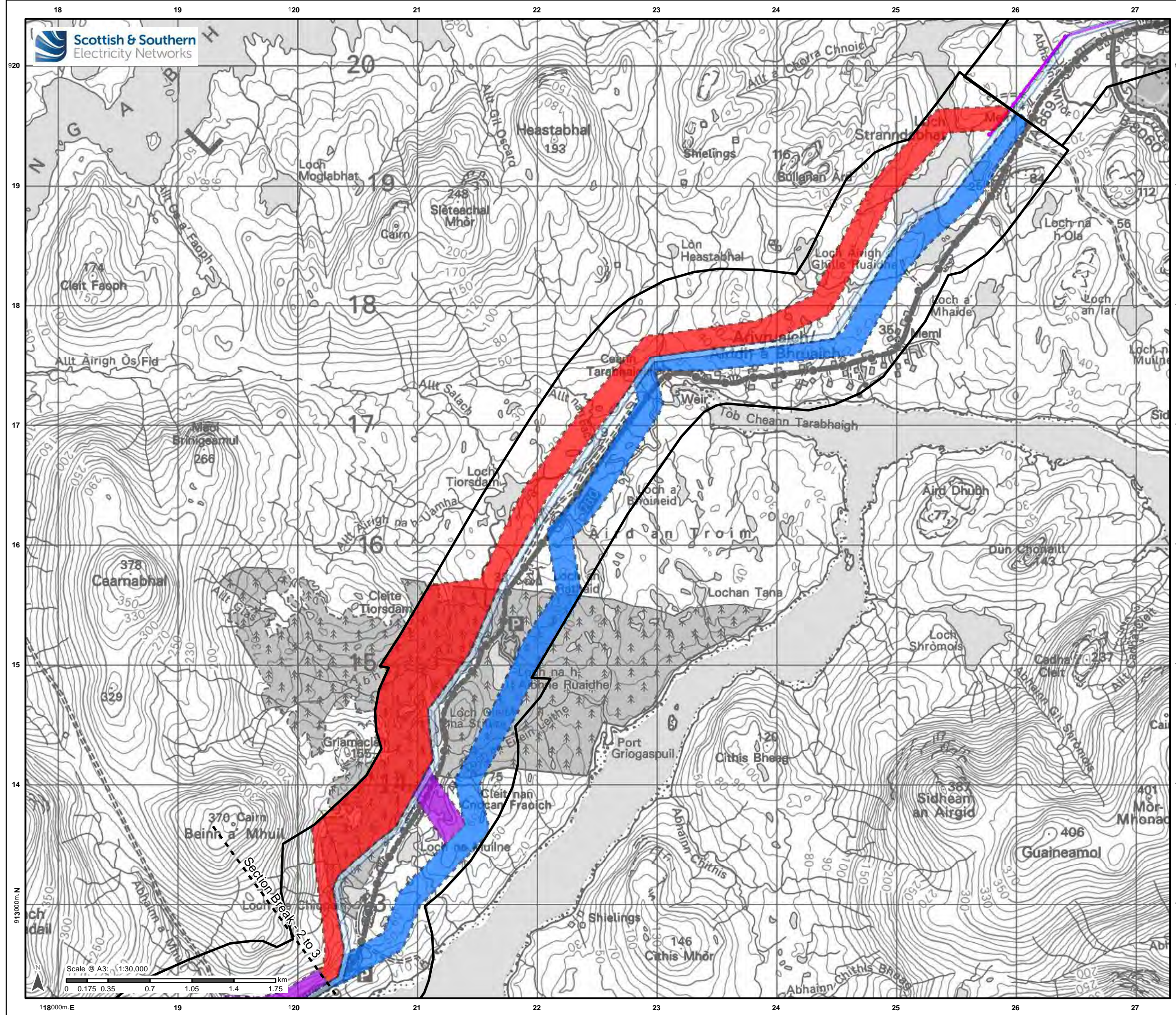
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Project: 1620011469

Title:  
Figure 2a: Route Options

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Drawing: R162\_11469\_Fig\_RouteOptions\_B.mxd





### Legend

- Proposed Corridor
- Existing Network 25 m Buffer
- Route Options**
- Route 2
- Route Option 2a
- Route Option 2b
- Route 3
- LT15 Alignment



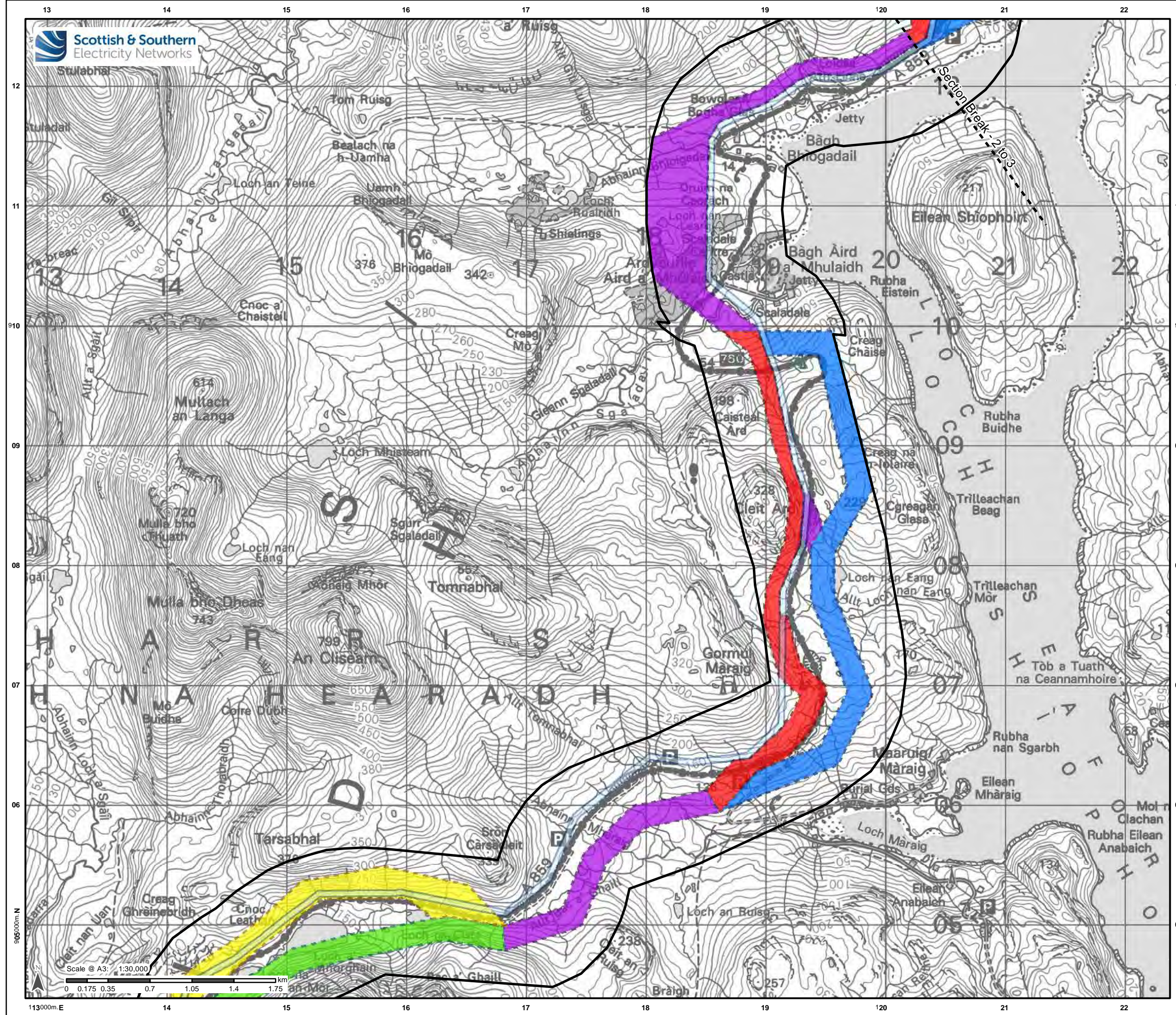
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Title:  
Figure 2b: Route Options

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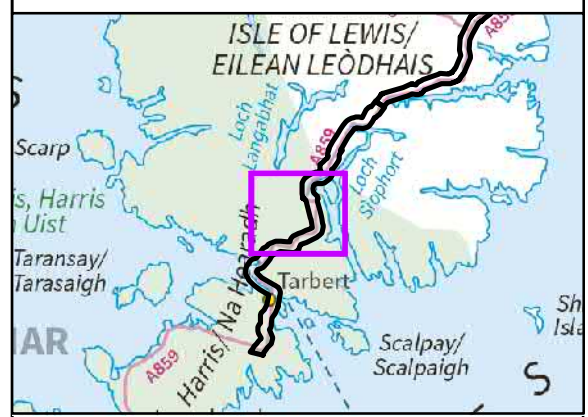


**Legend**

- Proposed Corridor
- Existing Network 25 m Buffer

**Route Options**

- Route Option 2a
- Route Option 2b
- Route 3
- Route Option 3a
- Route Option 3b
- Route Option 3c
- Route Option 3d



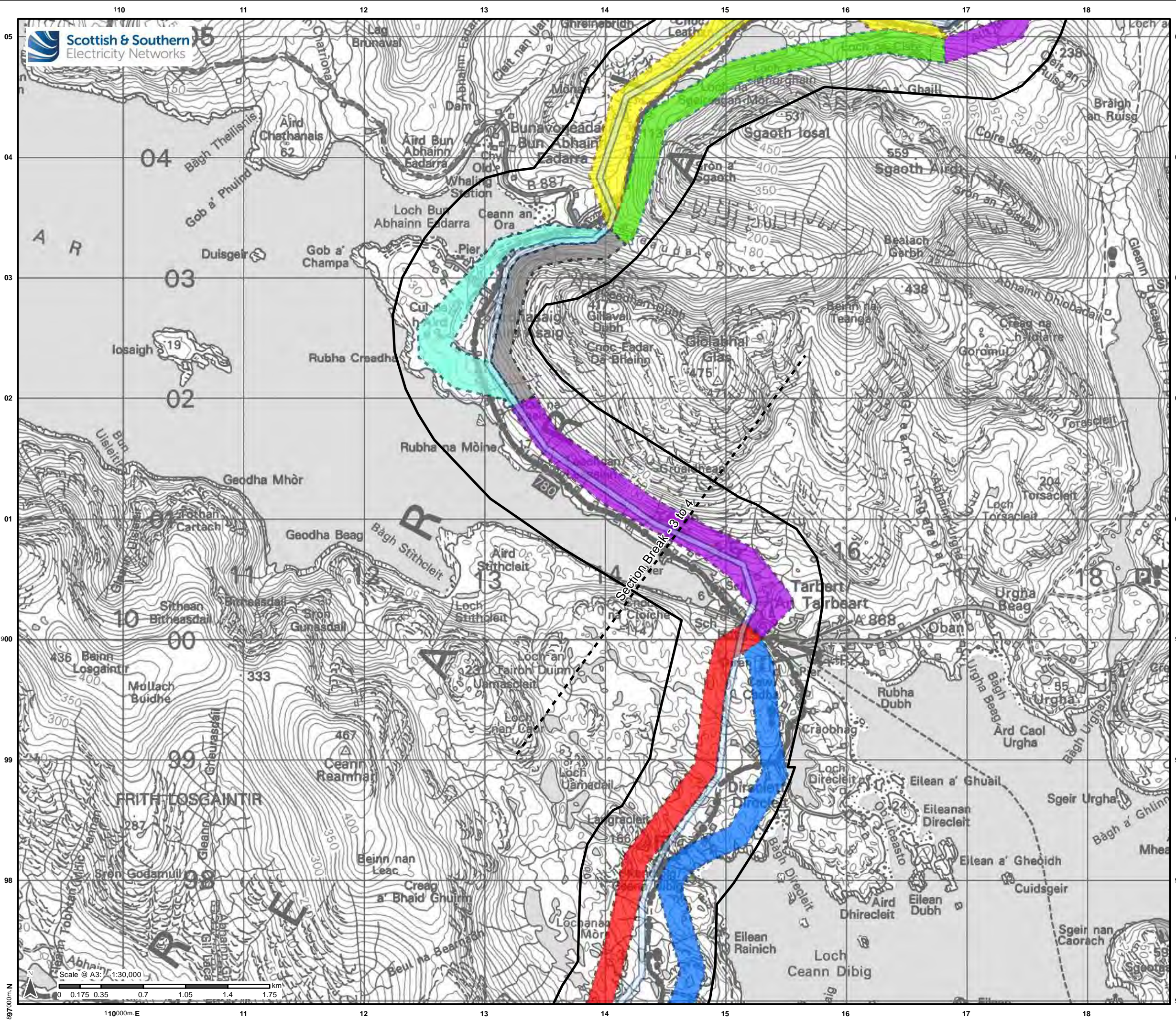
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Project: 1620011469

Title:  
Figure 2c: Route Options

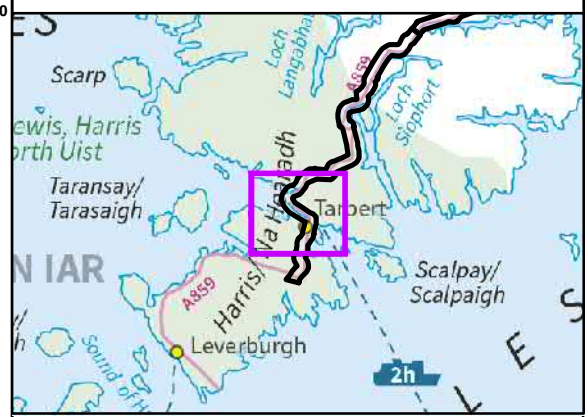
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**Legend**

- Proposed Corridor
- Existing Network 25 m Buffer
- Route Options**
- Route 3
- Route Option 3c
- Route Option 3d
- Route Option 3e
- Route Option 3f
- Route 4
- Route Option 4a
- Route Option 4b



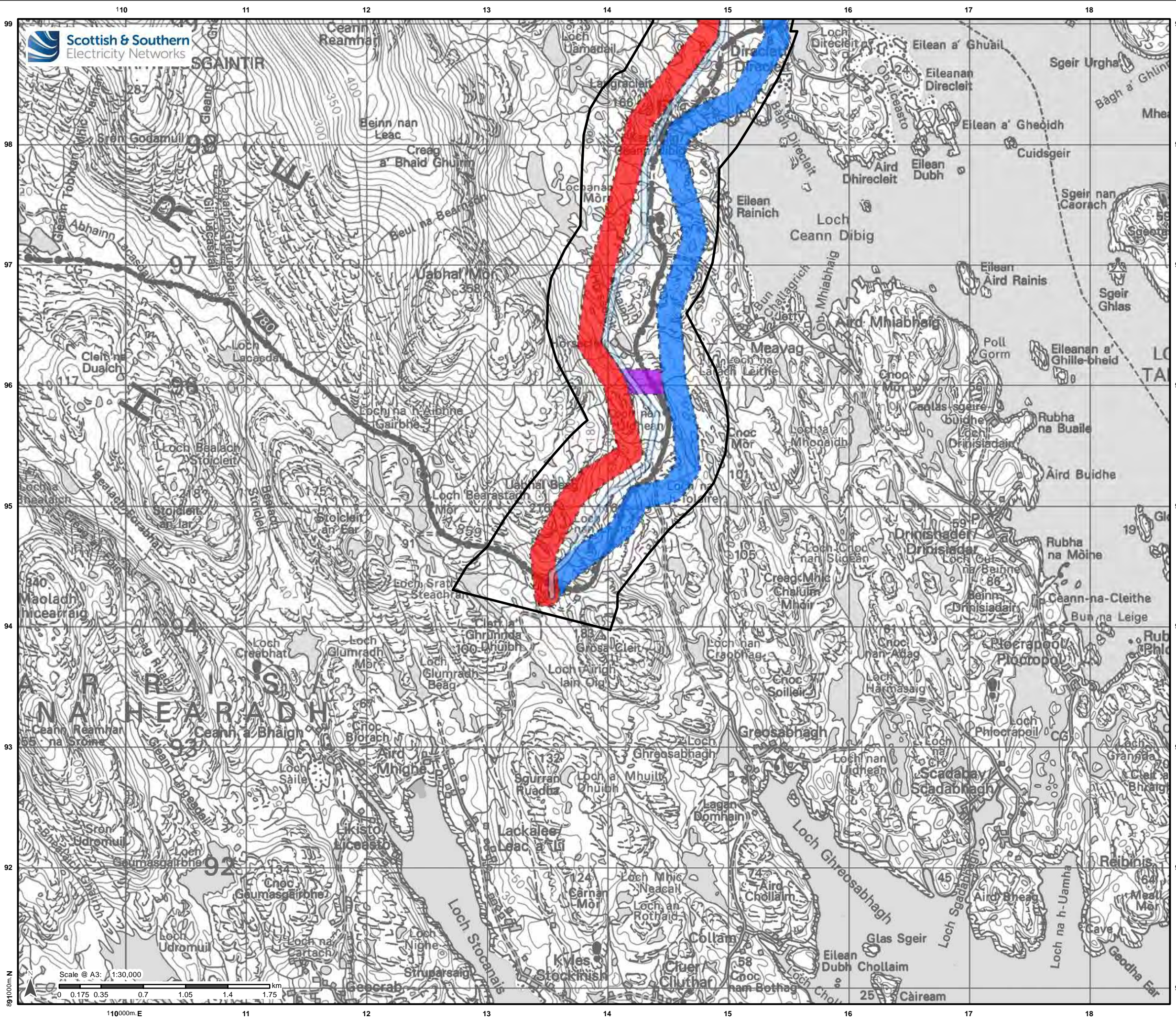
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Title:  
Figure 2d: Route Options

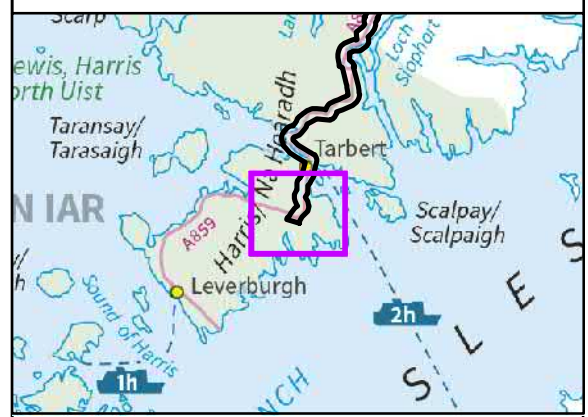
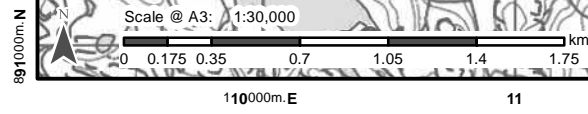
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**Legend**

- Proposed Corridor
- Existing Network 25 m Buffer
- Route Options**
- Route 4
- Route Option 4a
- Route Option 4b



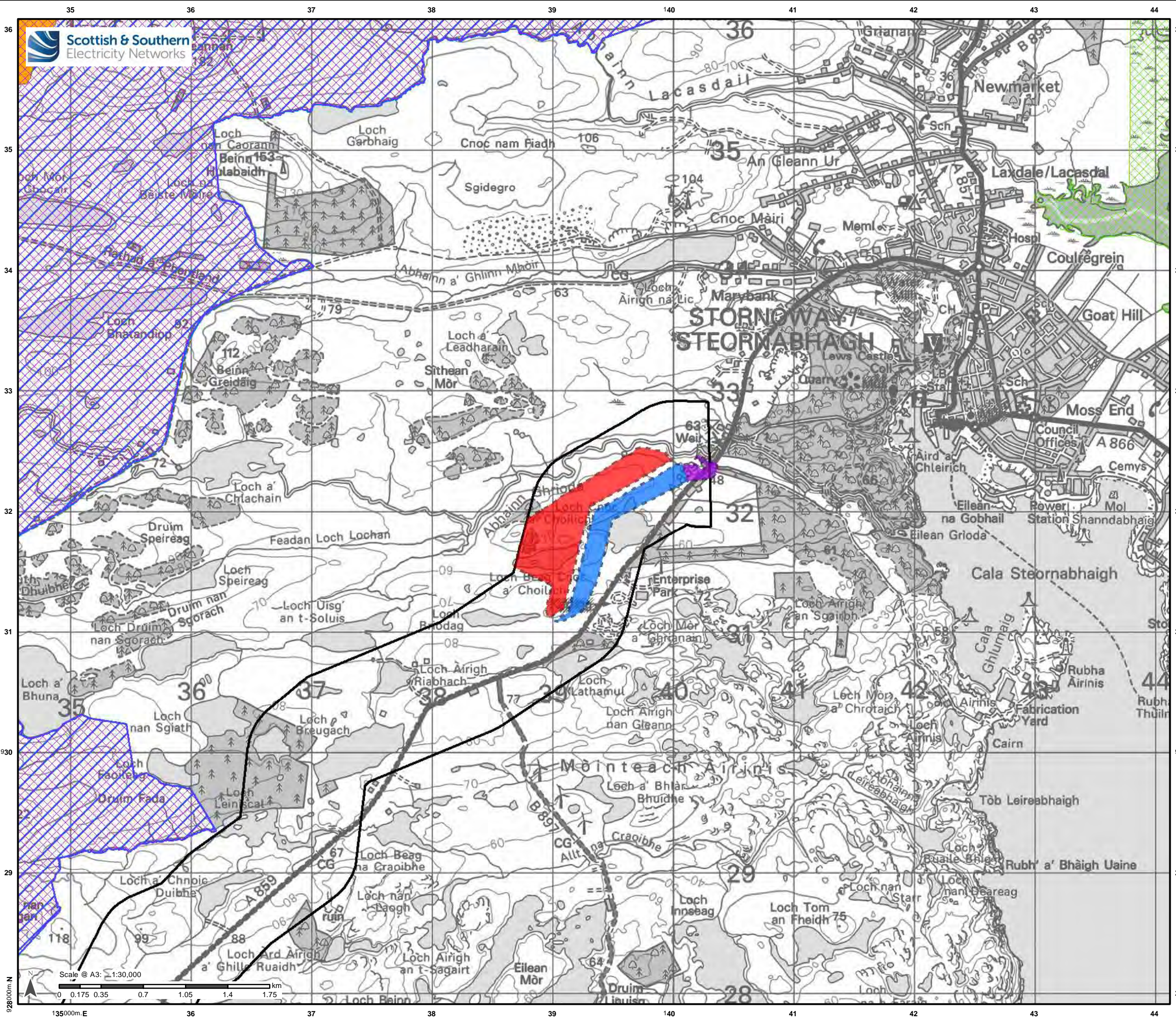
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Project No: LT0245  
Project: 1620011469

Title:  
Figure 2e: Route Options

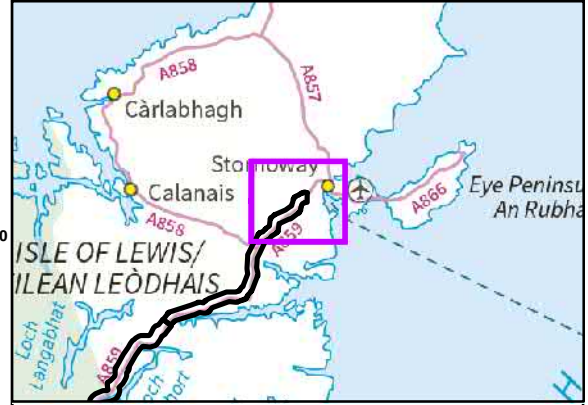
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Drawing: R162\_11469\_Fig\_RouteOptions\_B.mxd



### Legend

- Proposed Corridor
- Route Options**
- Route 1
- Route Option 1a
- Route Option 1b
- Ramsar Site
- Special Area of Conservation
- Special Protection Area/Important Bird Area
- Site of Special Scientific Interest



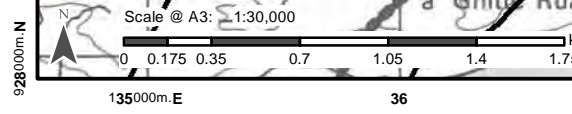
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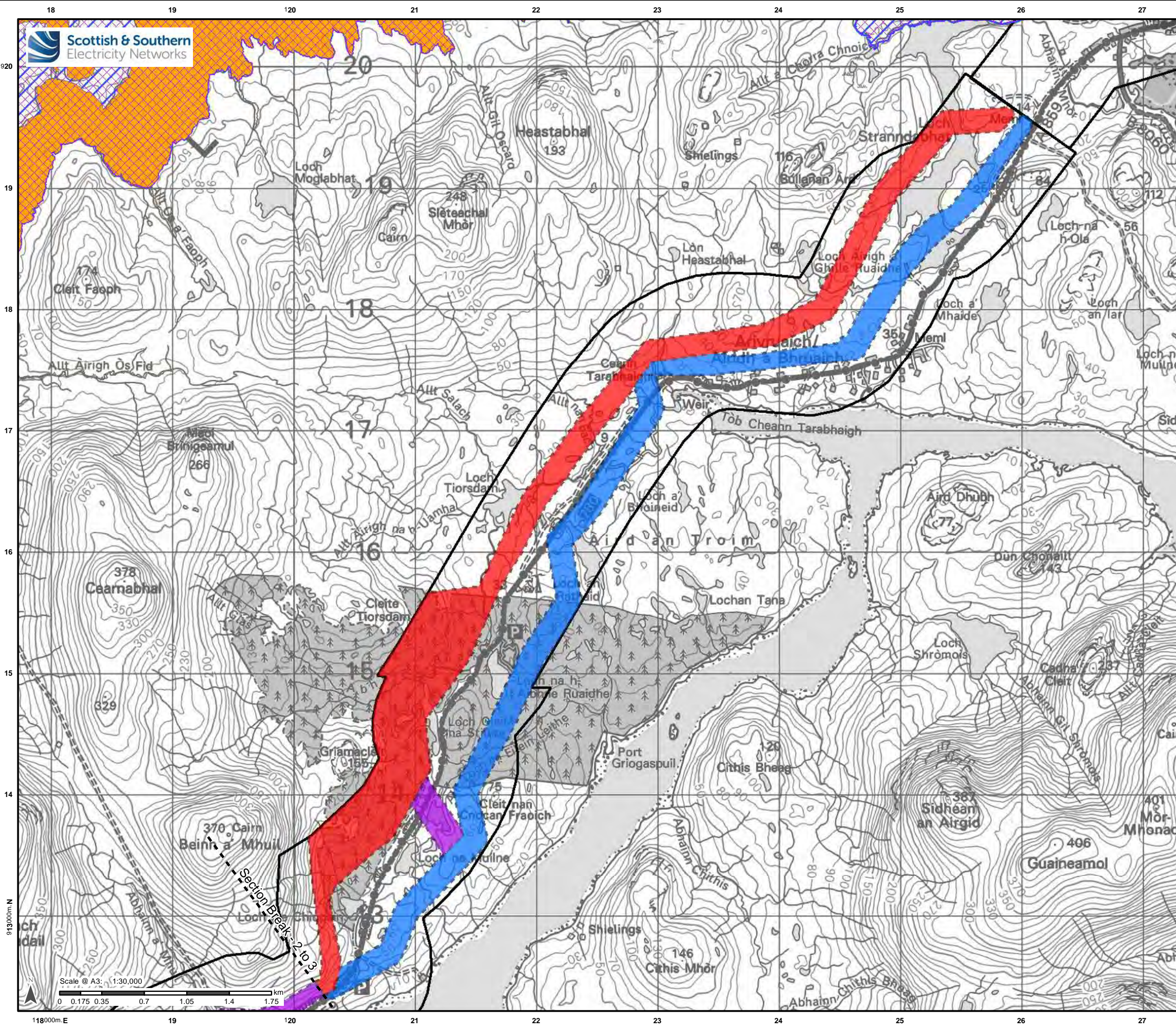
Project No: LT0245  
Project: 1620011469

Title:  
Figure 3a: Natural Heritage

Drawn by: EB  
Date: 10/08/2021

Drawing: R162\_11469\_Fig3\_NaturalHeritage\_B.mxd





### Legend

- Proposed Corridor
- Section Breaks
- Route Options**
- Route 2
- Route Option 2a
- Route Option 2b
- Route 3
- Ramsar Site
- Special Area of Conservation
- Special Protection Area/Important Bird Area



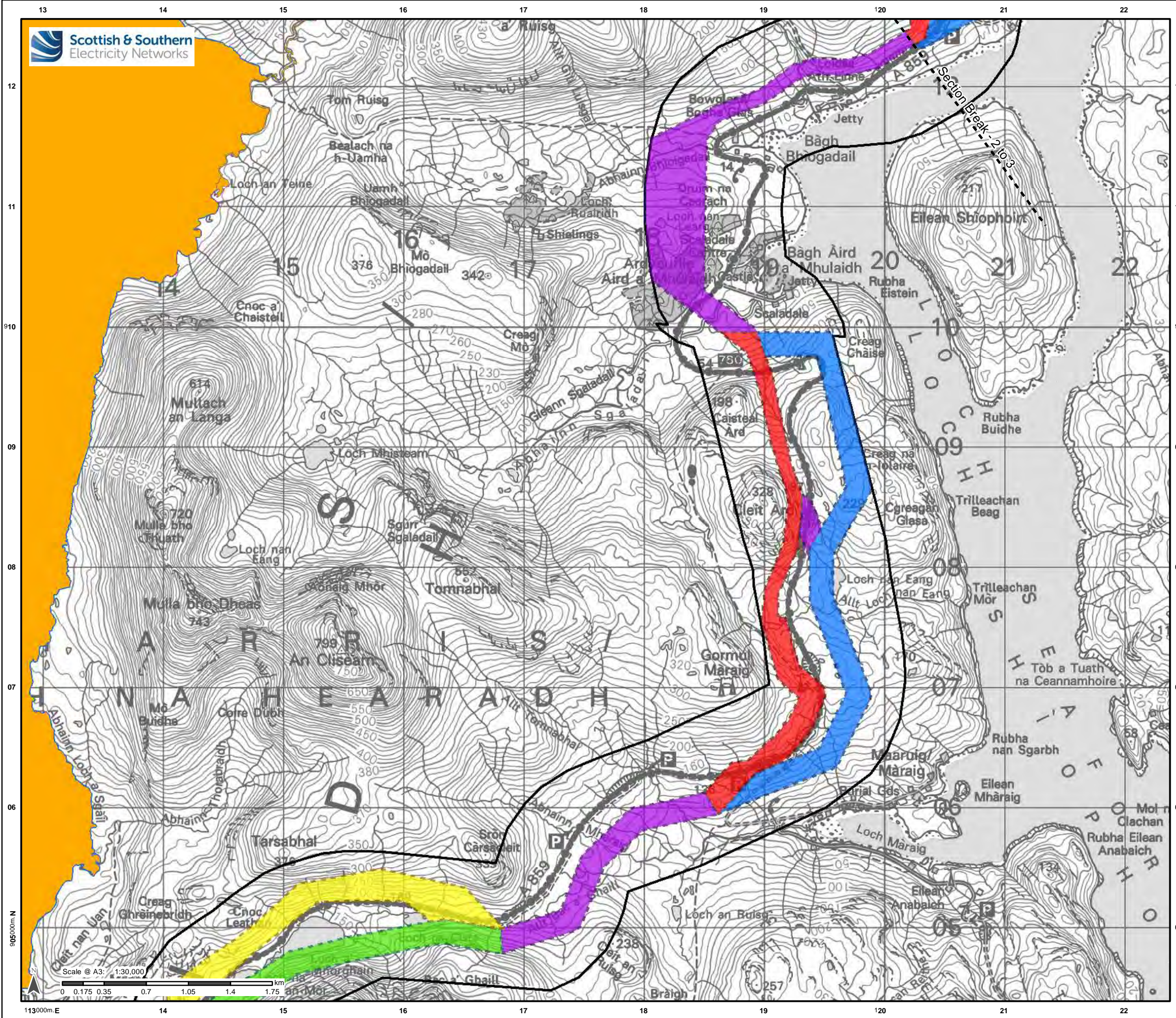
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Project No: LT0245  
Project: 1620011469

Title:  
Figure 3b: Natural Heritage

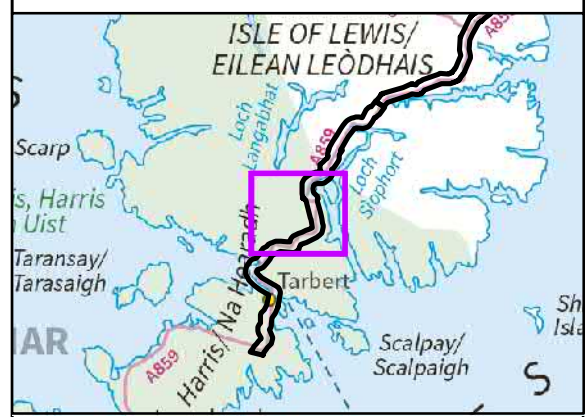
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### Legend

- Proposed Corridor
- Section Breaks
- Route Options**
- Route Option 2a
- Route Option 2b
- Route 3
- Route Option 3a
- Route Option 3b
- Route Option 3c
- Route Option 3d
- Special Area of Conservation
- Special Protection Area/Important Bird Area
- Site of Special Scientific Interest



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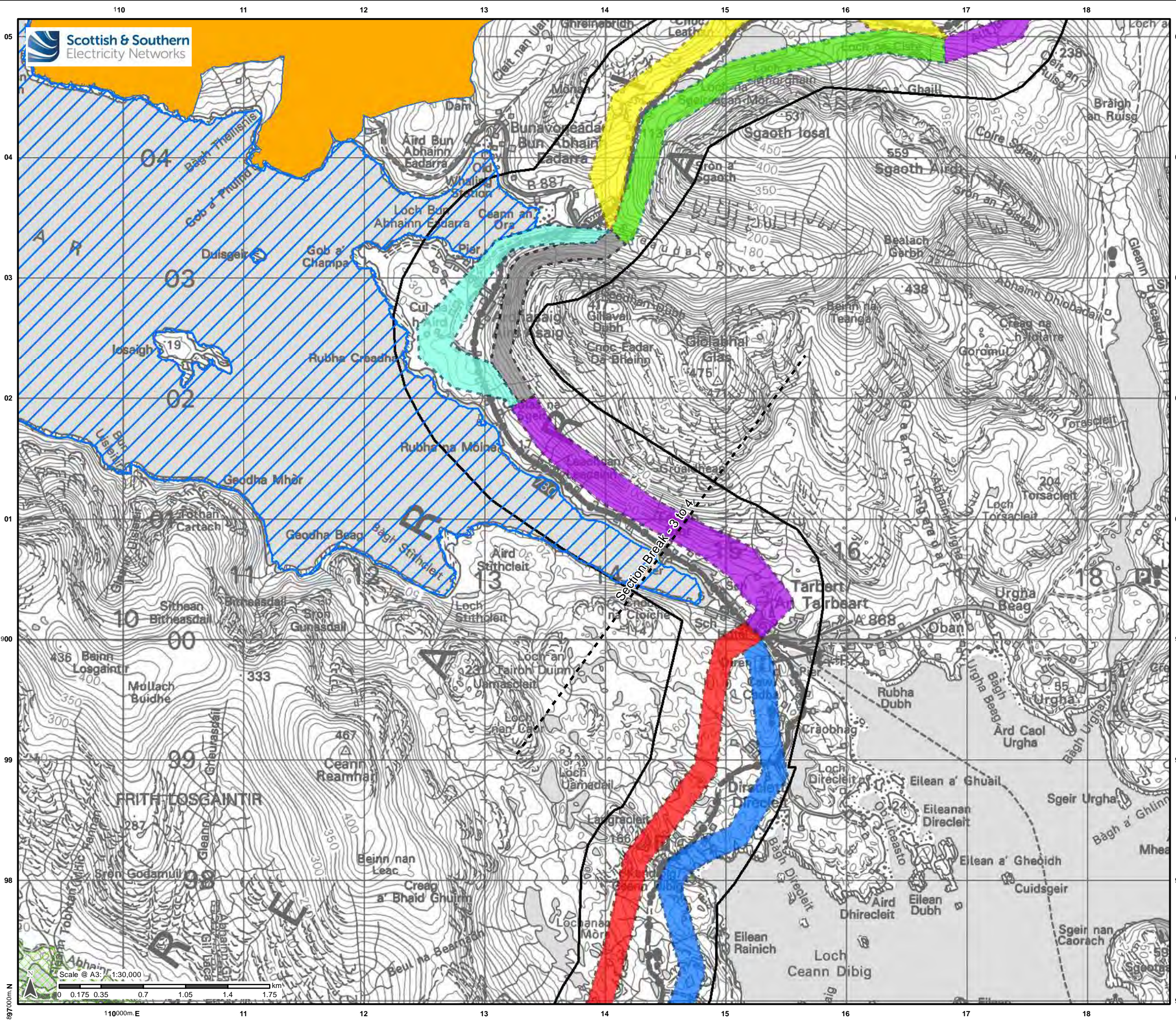
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Title:  
Figure 3c: Natural Heritage

Drawn by: EB Date: 10/08/2021

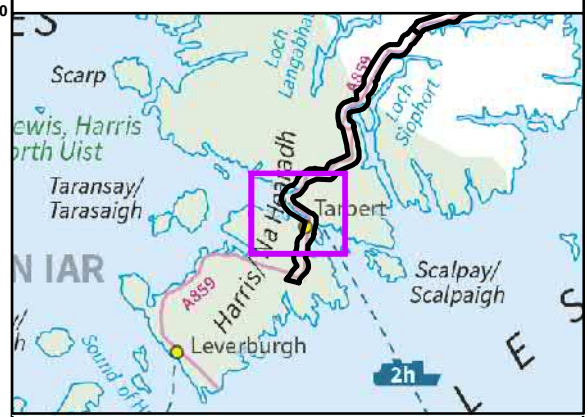
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### Legend

- Proposed Corridor
- Section Breaks
- Route Options**
- Route 3
- Route Option 3c
- Route Option 3d
- Route Option 3e
- Route Option 3f
- Route 4
- Route Option 4a
- Route Option 4b
- Special Area of Conservation
- Special Protection Area/Important Bird Area
- Site of Special Scientific Interest

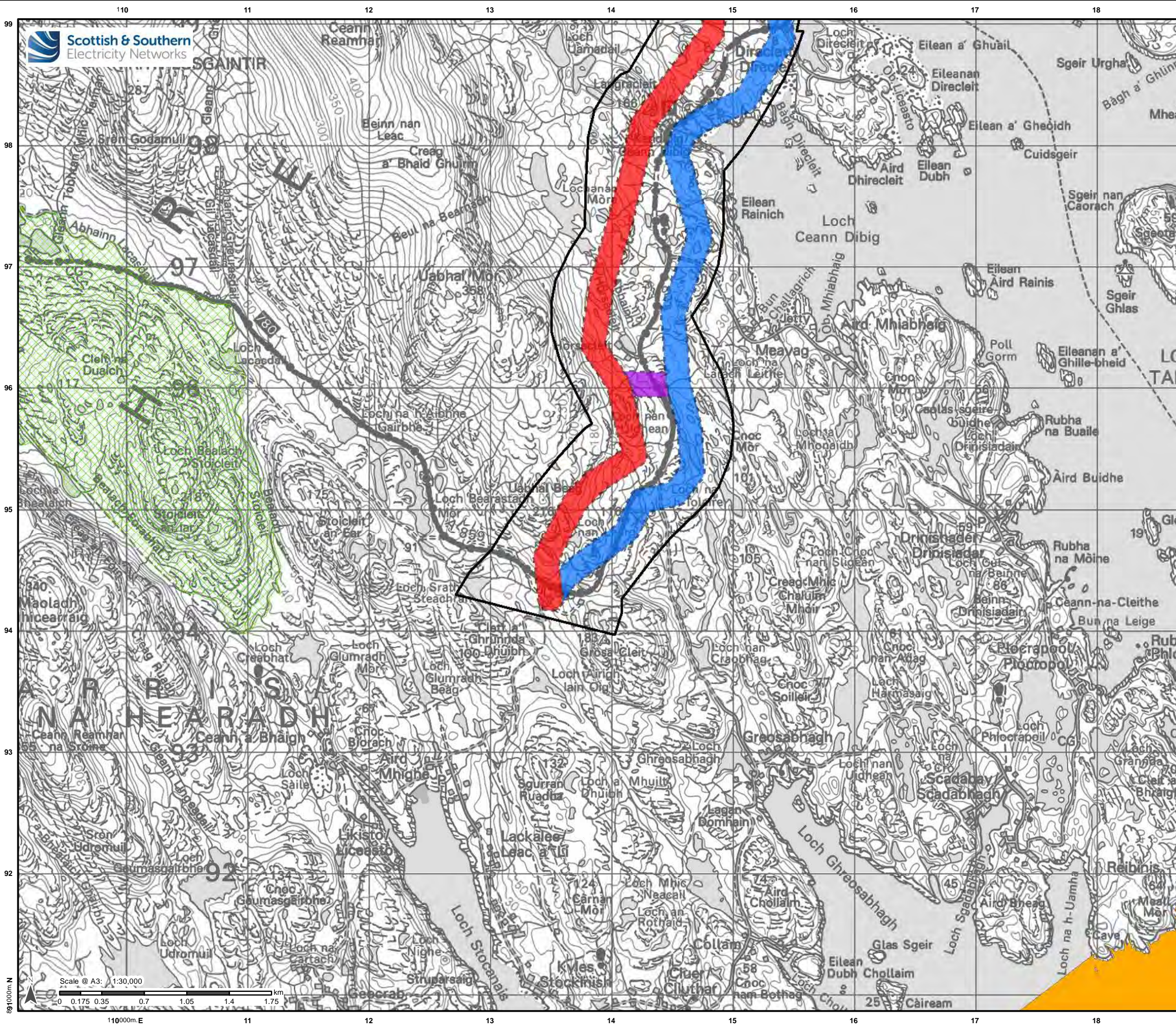


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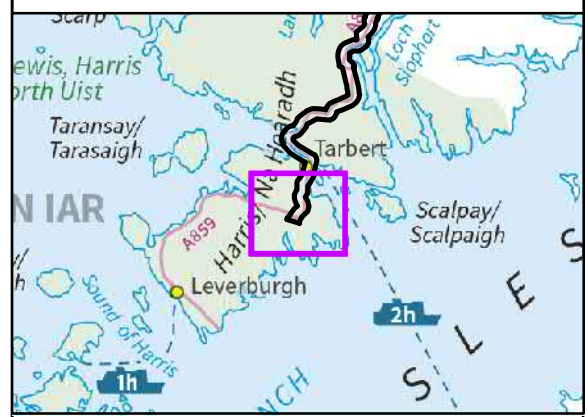
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Figure 3d: Natural Heritage

Drawn by: EB Date: 10/08/2021  
Drawing: R162\_11469\_Fig3\_NaturalHeritage\_B.mxd



### Legend

- Proposed Corridor
- Route Options**
  - Route 4
  - Route Option 4a
  - Route Option 4b
- Special Area of Conservation
- Site of Special Scientific Interest



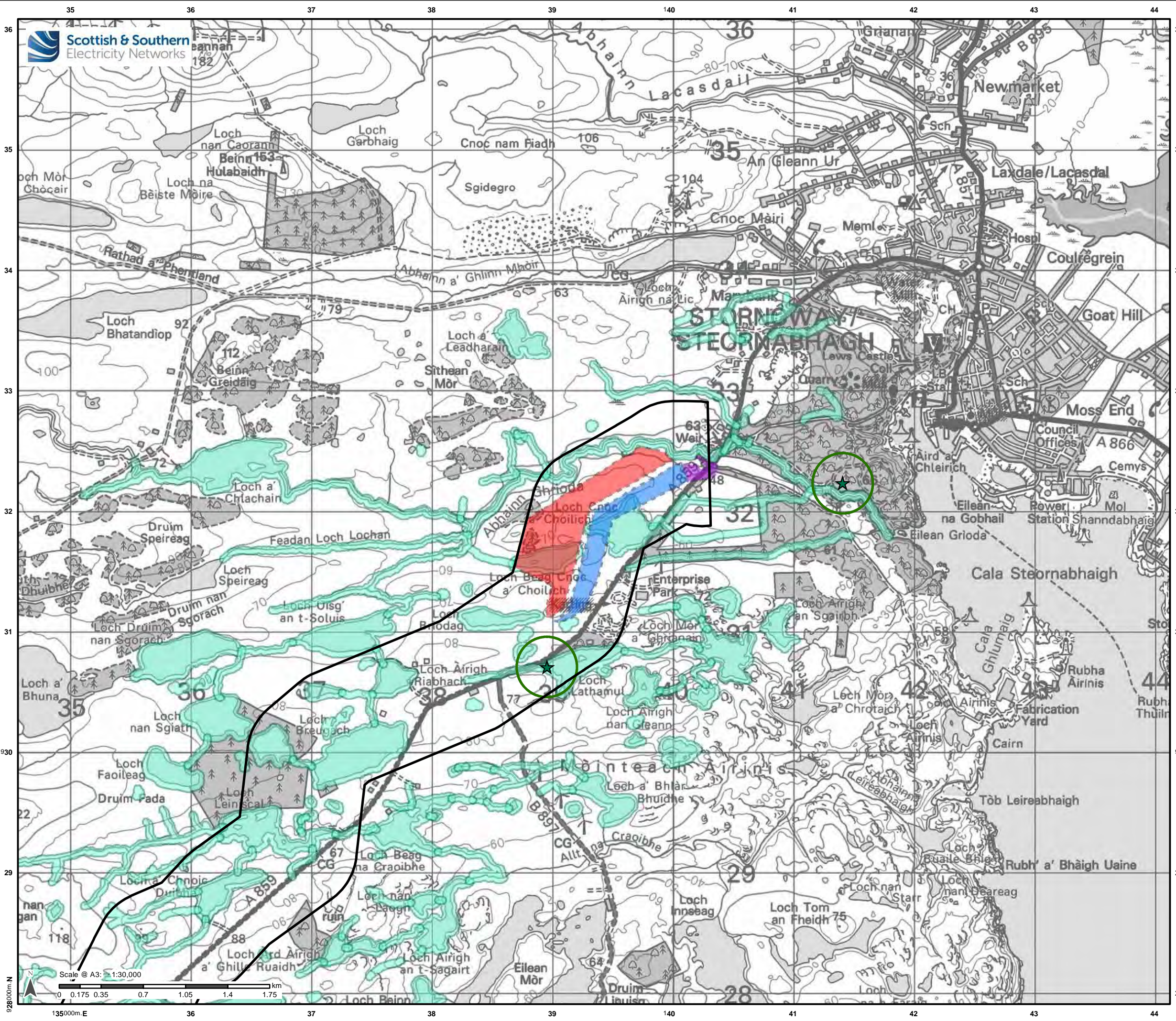
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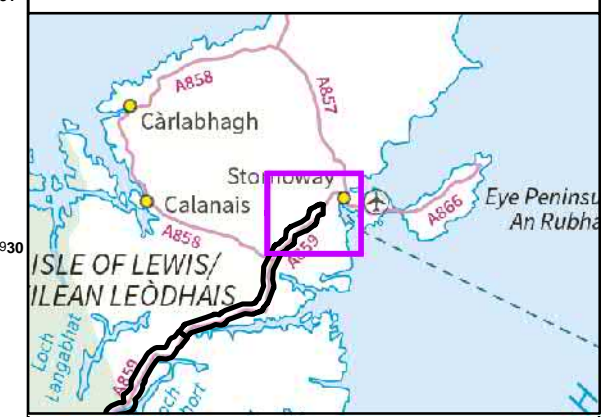
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Figure 3e: Natural Heritage

Drawn by: EB Date: 10/08/2021

Drawing: R162\_11469\_Fig3\_NaturalHeritage\_B.mxd



- ### Legend
- Proposed Corridor
  - Route Options**
  - Route 1
  - Route Option 1a
  - Route Option 1b
  - Private Water Supply
  - Private Water Supply Buffer (250 m)
  - Surface Water 30m Buffer



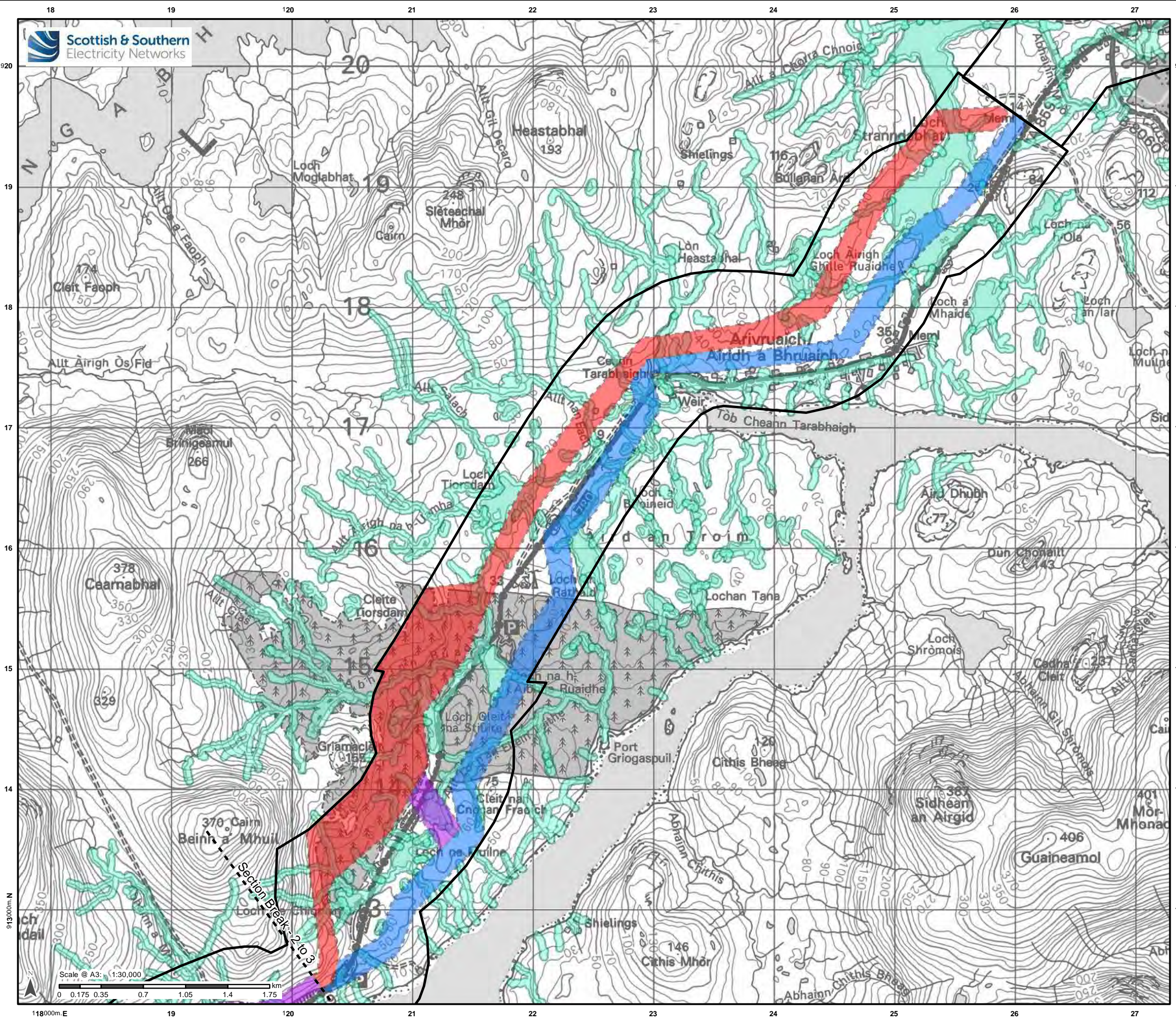
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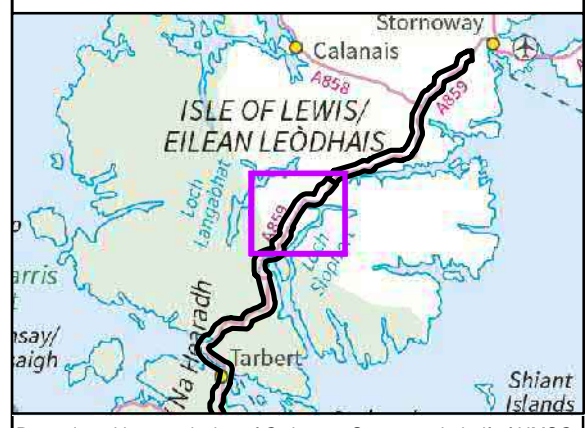
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Figure 4a: Hydrology

Drawn by: BM Date: 10/08/2021

Drawing: R162\_11469\_Fig4\_Hydrology\_B.mxd



- Legend**
- Proposed Corridor
  - Section Breaks
  - Route Options**
  - Route 2
  - Route Option 2a
  - Route Option 2b
  - Route 3
  - Surface Water 30m Buffer



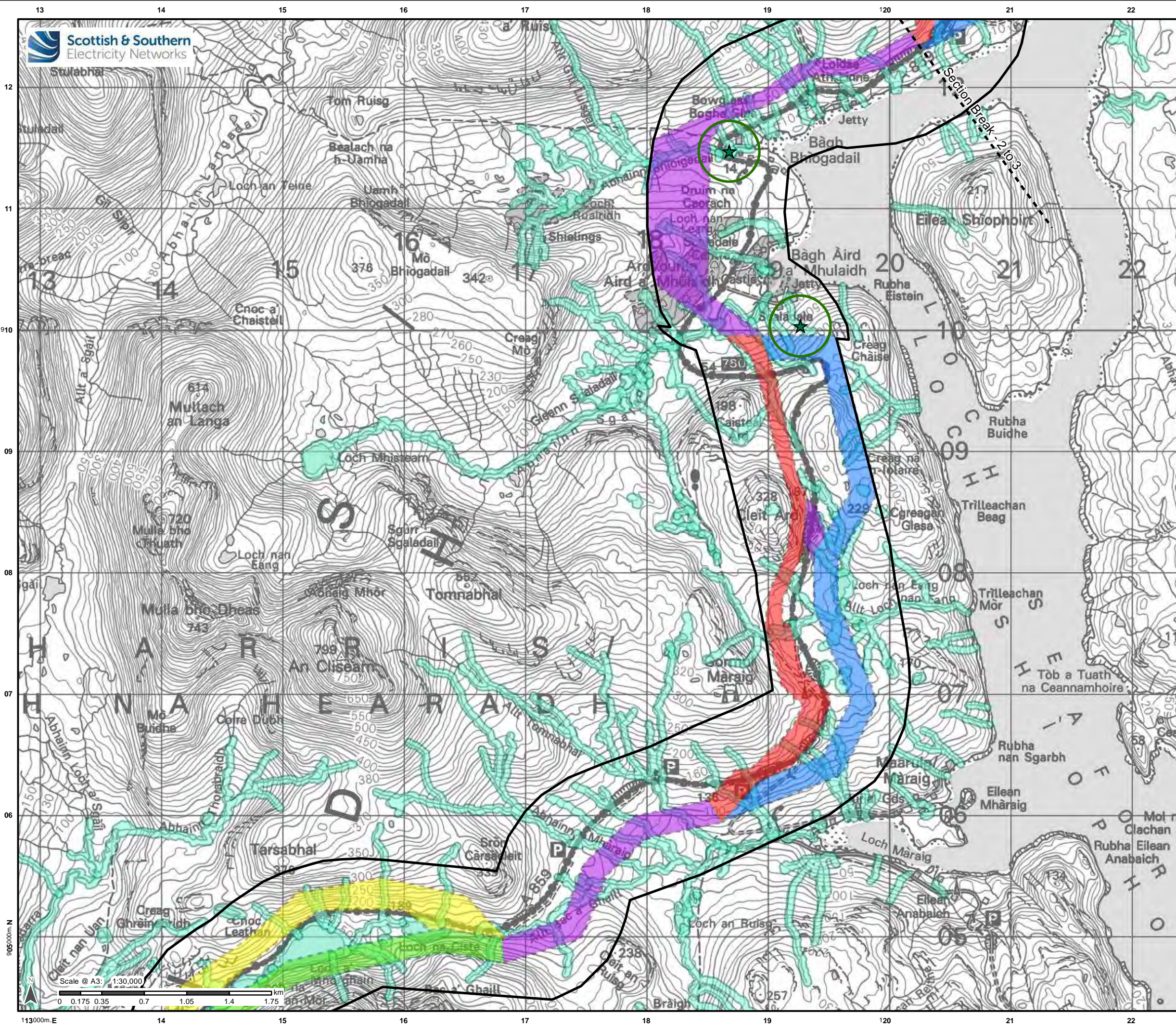
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Project No: LT0245  
Project: 1620011469

Title:  
Figure 4b: Hydrology

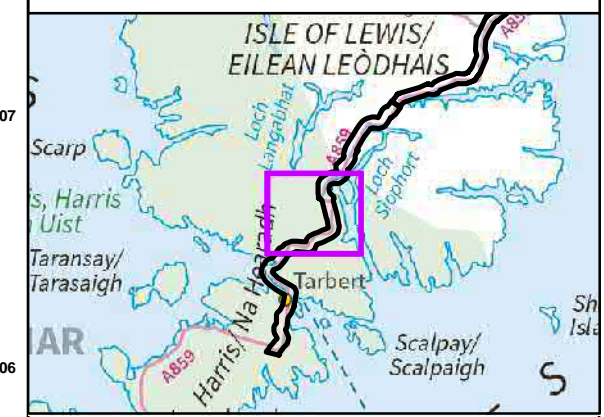
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**Legend**

- Proposed Corridor
- Section Breaks
- Route Options**
- Route Option 2a
- Route Option 2b
- Route 3
- Route Option 3a
- Route Option 3b
- Route Option 3c
- Route Option 3d
- Private Water Supply
- Private Water Supply Buffer (250 m)
- Surface Water 30m Buffer



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Project No: LT0245  
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Title:  
Figure 4c: Hydrology

Drawn by: BM Date: 10/08/2021

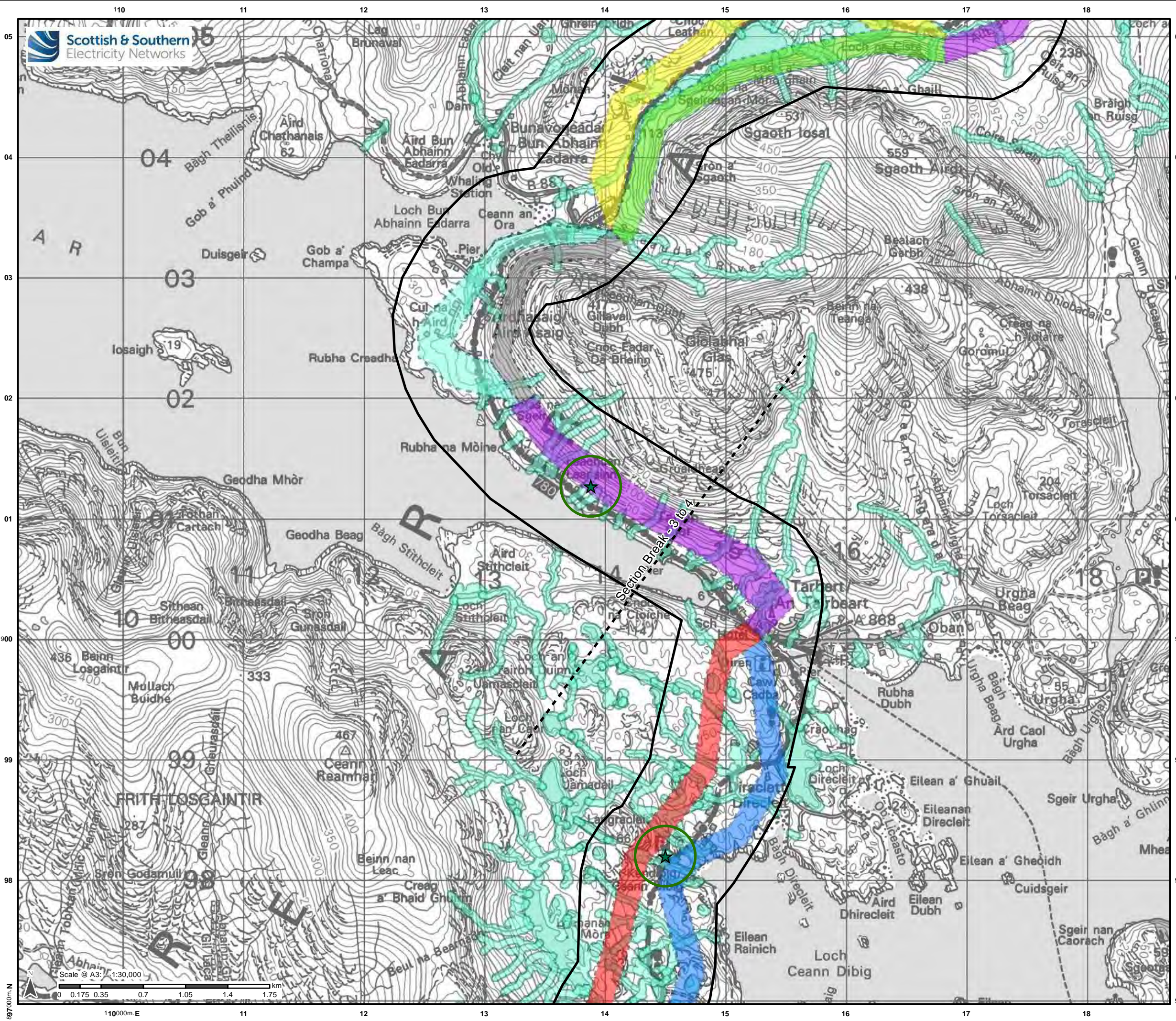
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905000m.N

Scale @ A3: 1:30,000

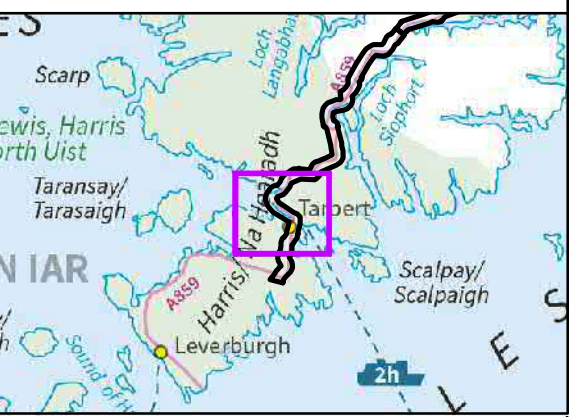
0 0.175 0.35 0.7 1.05 1.4 1.75 km

113000m.E 14 15 16 17 18 19 20 21 22



### Legend

- Proposed Corridor
- Section Breaks
- Route Options**
- Route 3
- Route Option 3c
- Route Option 3d
- Route Option 3e
- Route Option 3f
- Route 4
- Route Option 4a
- Route Option 4b
- Private Water Supply
- Private Water Supply Buffer (250 m)
- Surface Water 30m Buffer



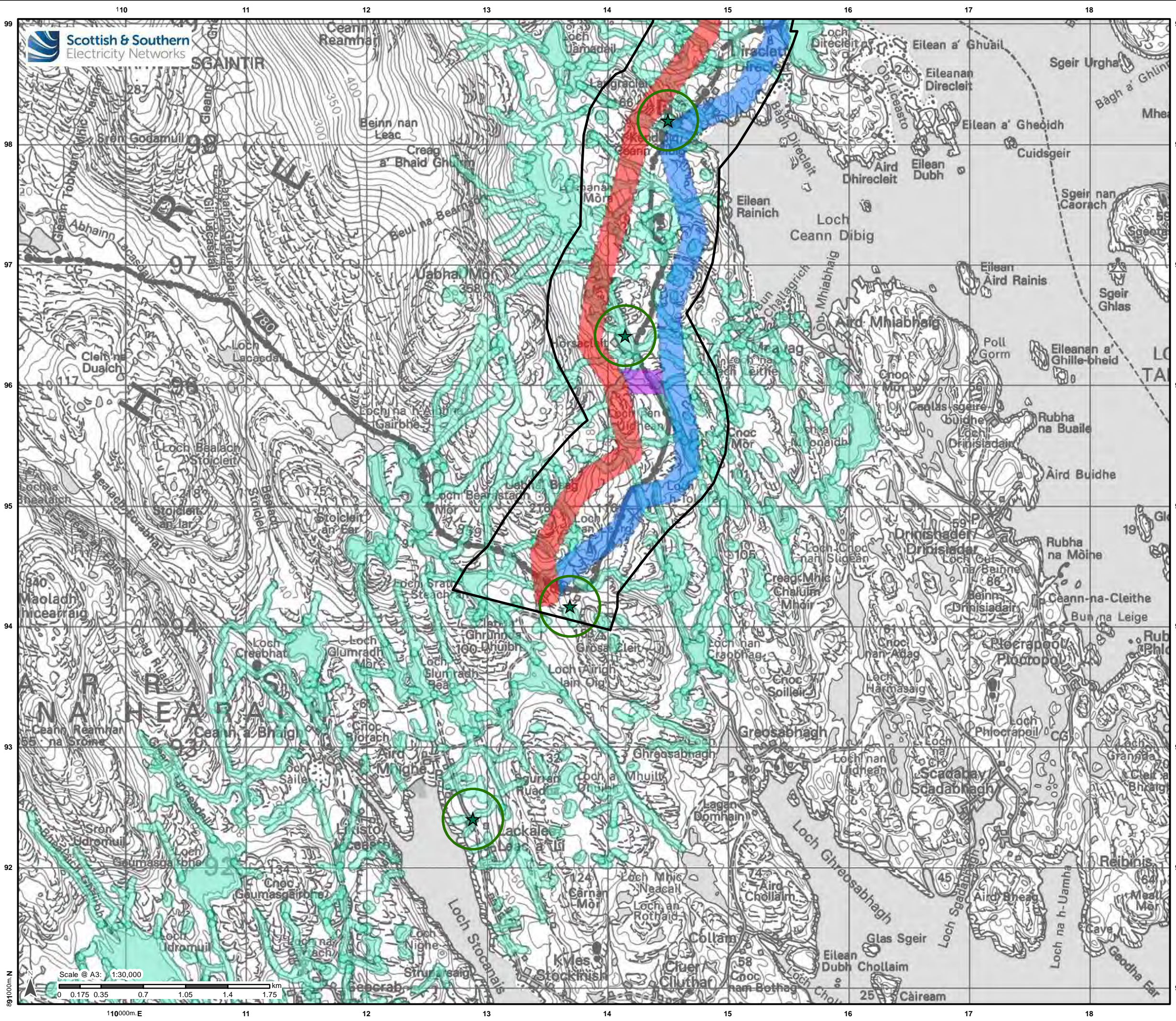
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Project: 1620011469

Title:  
Figure 4d: Hydrology

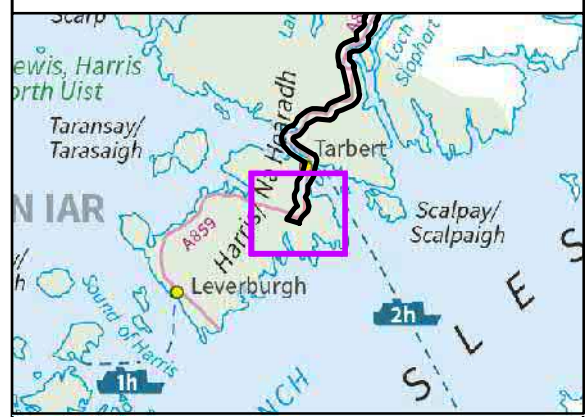
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**Legend**

- Proposed Corridor
- Route Options**
- Route 4
- Route Option 4a
- Route Option 4b
- Private Water Supply
- Private Water Supply Buffer (250 m)
- Surface Water 30m Buffer



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Title:  
Figure 4e: Hydrology

Drawn by: BM  
Date: 10/08/2021

Drawing: R162\_11469\_Fig4\_Hydrology\_B.mxd

