

P e l l F r i s c h m a n n

Coire Glas Grid Connection

Transport Assessment

March 2023

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1 Introduction

1.1 Purpose of the Transport Assessment

Pell Frischmann (PF) has been commissioned by ASH design+assessment, on behalf of Scottish & Southern Electricity Networks Transmission (SSEN), to undertake a Transport Assessment (TA) for the Proposed Development, which comprises approximately 13 kilometres (km) of new double circuit 400 kV steel structure Overhead Line (OHL) between the proposed Coire Glas Switching Station to and the existing Fort Augustus Substation (via the proposed Loch Lundie Substation) and Ancillary Works, as described in **Volume 1, Chapter 3: Project Description** of the EIA Report.

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The TA identifies the key transport and access issues associated with the Proposed Development and the likely traffic impacts in the study area. The TA identifies where mitigation works may be required to accommodate the predicted traffic impacts associated with the Proposed Development, to be developed during detailed design.

1.2 TA Structure

Following this introduction, the TA is structured as follows:

- Chapter Two describes the Site background and Proposed Development;
- Chapter Three reviews the relevant transport and planning policies;
- Chapter Four sets out the methodology used within this assessment;
- Chapter Five describes the baseline transport conditions;
- Chapter Six describes the trip generation and distribution of traffic in the study area;
- Chapter Seven summarises the traffic impact assessment;
- Chapter Eight considers mitigation proposals for development related traffic within the study network;
and
- Chapter Nine summarises the findings of the TA and outlines the key conclusions.

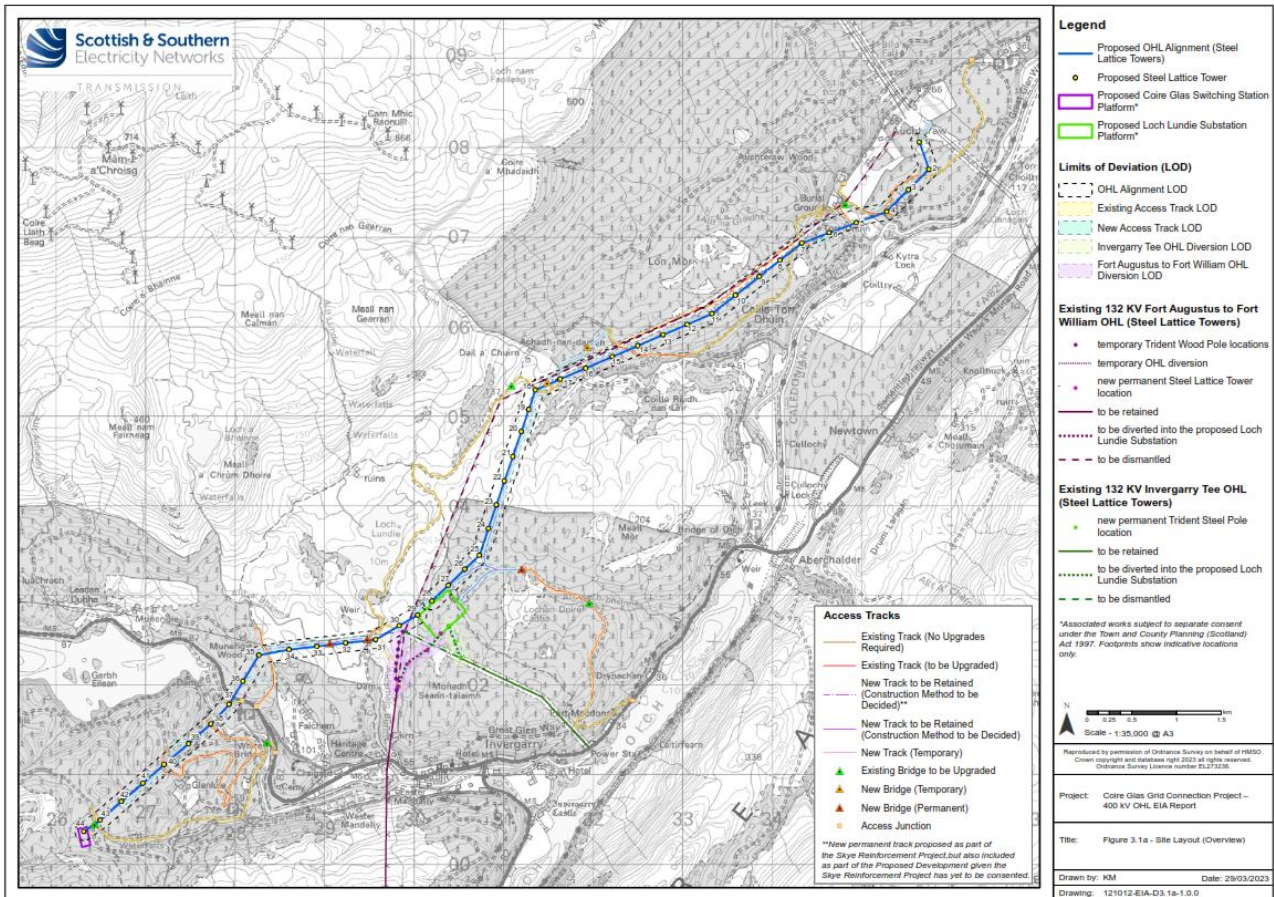
2 Site Background

2.1 Site Location

The Proposed Development is located between the proposed Coire Glas Switching Station, located in Glengarry Forest near Invergarry, and the existing Fort Augustus Substation, in Auchterawe. The location of the route for the Proposed Development is shown in Plate 1.

The OHL elements of the Proposed Development are shown by a solid blue line.

Plate 1 Site Location



2.2 Proposed Development

The Proposed Development is the installation and operation of approximately 13 km of new double circuit 400 kV OHL supported by steel lattice towers. This comprises approximately 4.7 km of OHL from the proposed new Coire Glas Switching Station to the proposed new Loch Lundie Substation and approximately 8.5 km of OHL from the proposed new Loch Lundie Substation to the existing Fort Augustus Substation. Terminal towers would be required to connect at the switching station and both substations.

The following ancillary works are also included:

- The formation of access tracks (permanent, temporary, and upgrades to existing tracks) and the installation of bridges and culverts to facilitate access (as shown in Plate 1);
- The upgrade of existing, or creation of new, bellmouths at public road access points;
- Establishment of temporary measures to protect road and water crossings (e.g. scaffolding);
- Working areas around infrastructure to facilitate construction;
- Tree felling and vegetation clearance to facilitate construction and operation of the Proposed Development, to comply with the Electricity Safety, Quality and Continuity Regulations (ESQCR) 2002;

- Installation of a new temporary OHL diversion, including the installation of up to eight temporary Trident wood poles, to the 132 kV Fort Augustus to Fort William OHL whilst the OHL is rerouted into the proposed Loch Lundie Substation;
- Re-routeing of the 132 kV Fort Augustus to Fort William OHL and the 132 kV Invergarry Tee OHL into the proposed new Loch Lundie Substation; and
- Decommissioning and dismantling of a section of the existing 132 kV Steel Lattice Fort Augustus to Fort William OHL between the Loch Lundie Substation Loch Lundie Substation and the existing Fort Augustus Substation.

The Proposed Development will not have a fixed operational life. As explained in later sections, it is considered that the traffic impacts associated with the construction phase of the Proposed Development represents an assessment of the worst case scenario, as the operational phase of a transmission line generates insignificant traffic flows, associated with general maintenance works.

3 Transport Policy Review

3.1 Introduction

This part of the TA provides an overview of the relevant national and local transport planning policy and guidance.

3.2 National Policy and Guidance

3.2.1 3.2.1 National Planning Framework 4 (2023)

The Revised Draft National Planning Framework 4 (RDNPF4) was laid in Parliament on 08 November 2022. The RDNPF4 was approved by Scottish Parliament on 11 January 2023 and was then passed to Scottish Ministers who adopted the National Planning Framework 4 (NPF4) on 13 February 2023.

With regards to traffic and transport and the Proposed Development, Policy 11: Energy within the NPF4 notes that:

“a) Development proposals for all forms of renewable, low-carbon and zero emissions technologies will be supported. These include:

ii. enabling works, such as grid transmission and distribution infrastructure;

iii. energy storage, such as battery storage and pumped storage hydro;

e) In addition, project design and mitigation will demonstrate how the following impacts are addressed:

iii. public access, including impact on long distance walking and cycling routes and scenic routes;

vi. impacts on road traffic and on adjacent trunk roads, including during construction;

xi. proposals for the decommissioning of developments, including ancillary infrastructure, and site restoration;

xiii. cumulative impacts.”

3.3 Local Policy and Guidance

3.3.1 Highland-wide Local Development Plan (2012)

The Highland-wide Local Development Plan (HwLDP) was adopted by The Highland Council (THC) in April 2012 and is the established development plan policy for the Highlands. It sets out a settlement strategy and spatial framework as to how THC foresees development occurring in a twenty-year period.

The HwLDP does not contain any specific policy guidance for the Proposed Development. However, Policy 56 is relevant with regards to general transport policy. The relevant transport elements from this policy are:

“Development proposals that involve travel generation must include sufficient information with the application to enable the Council to consider any likely on- and off- Site transport implications of the development and should:

- incorporate appropriate mitigation on Site and/or off Site, provided through developer contributions where necessary, which might include improvements and enhancements to the walking/cycling network and public transport services, road improvements and new roads; and*
- incorporate an appropriate level of parking provision, having regard to the travel modes and services which will be available and key travel desire lines and to the maximum parking standards laid out in Scottish Planning Policy or those set by the Council.*

When development proposals are under consideration, the Council's Local Development Strategy will be treated as a material consideration.

The Council will seek the implementation and monitoring of Green Travel Plans in support of significant travel generating developments."

3.3.2 The West Highlands and Islands Local Development Plan (2019)

The West Highlands and Islands Local Development Plan (WestPlan) was adopted in 2019 and along with HwLDP and Supplementary Guidance forms 'the development plan' which directs future developments within the Highlands. In relation to connectivity and transport, the outcome of the WestPlan's policies are as follows:

"Public agencies and other partners co-ordinate and optimise their investment in agreed growth locations. Communities are better supported to become more self-reliant, to have more pride in their area and identity, to diversify their populations, and to have more control of local resources."

3.3.3 The Inner Moray Firth Local Development Plan (2015)

The Inner Moray Firth Local Development Plan (IMFLDP) was adopted in 2015 and provides guidance for development within Inner Moray Firth area for 20 years. The Transport Appraisal¹ document supports the IMFLDP and notes that the IMFLDP aims to:

- *optimise the use of existing infrastructure;*
- *reduces the need to travel;*
- *facilitates travel by public transport and freight movement by rail or water;*
- *provides safe and convenient opportunities for walking and cycling; and*
- *enables the integration of transport modes.*

3.3.4 Onshore Wind Energy Supplementary Guidance (2016)

The Onshore Wind Energy Supplementary Guidance was adopted by THC in 2016. In relation to traffic and transport interests, the guidance document notes that:

"All proposals should seek to avoid significant adverse effects on the public road network individually and cumulatively with other built and permitted proposals as well as valid planning applications not yet determined (the weight apportioned to each will reflect their position in the planning process).

The proposals for the use of the public roads and mitigation works will require the approval of the Roads Authority. Developers will be required to enter into a Section 96 (Roads Scotland Act) agreement with the Council to cover damage to the public roads by construction traffic and may be required to provide a bond as surety.

Developers will be required to undertake a Transport Assessment to establish the transport impacts of the construction traffic associated with the development, the suitability of the existing road network, the impact on existing road users and adjacent communities, and the requirements for any mitigation works."

3.3.5 Guidance on the Preparation of Transport Assessments (2014)

THC has prepared guidance on how TA should be prepared for development Sites within the Highlands. The guidance was published by THC in November 2014.

This TA has been prepared having noted the guidelines and it provides the required assessment in accordance with the guidelines.

¹ The Highland Council (2013), Inner Moray Firth Proposed Local Development Plan, Transport Appraisal

3.3.6 Roads and Transport Guidelines for New Developments (2013)

This THC document outlines the guidance and standards for the provision of infrastructure within the Council area, which includes the design and construction of all new roads associated with development proposals.

THC's Roads and Transport Guidelines for New Developments document provides guidance in relation to transport implications of onshore wind farm developments. Whilst the development proposals are not for the development of a wind farm, elements of the policy are applicable, namely:

"...a developer should be aware that the Council will require a Transportation Assessment (TA) to be submitted that must consider the existing road network, transportation constraints and potentially sensitive routes or communities.

A wind farm vehicular Site access must provide appropriate visibility splays and suitable surface water drainage. Within the Site, the wind turbines are likely to be located some distance from the nearest public road, requiring internal access tracks to be constructed. As the access tracks need to accommodate abnormal loads, they have to be of a suitable width. These tracks are normally constructed from hard-core material and the developer will usually be encouraged/allowed to use material obtained from borrow pits within the Site area, to reduce construction traffic. On-Site concrete batching should also be considered, as this can also result in a reduction of associated vehicles on the local road network.

A suitable turning area must be constructed within the Site, to accommodate abnormal load delivery vehicles, construction vehicles and future maintenance vehicles. During the construction period, a wheel-wash system shall be provided."

3.4 Conclusion

The above summaries of policy statements are considered the most relevant to this TA.

4 Study Methodology

4.1 Introduction

The two key phases of the life of the Proposed Development are as follows:

- The Construction Phase, including removal of the existing 132 kV Steel Lattice Fort Augustus to Fort William OHL between the Loch Lundie Substation Loch Lundie Substation and the existing Fort Augustus Substation; and
- The Operational Phase.

4.2 Project Phases – Transport Overview

Of the aforementioned phases, the construction phase is considered to have the greatest impacts in terms of transport. Construction plant, bulk materials and construction materials will be transported to Site, and these movements may potentially cause a significant increase in traffic on the network within the study area. It should be noted however that the construction effects are temporary and transitory in nature.

The operational phase is restricted to trips associated with the occasional maintenance of the Proposed Development which would generate significantly lower volumes of traffic, and which are not considered to be in excess of daily traffic variation levels on the road network. Therefore, no separate assessment for the operational phase is considered to be required.

4.3 Scoping Discussions

The Applicant submitted a request for a Scoping Opinion to the Scottish Ministers in respect of the Environmental Impact Assessment (EIA) which included a section considering traffic and transport. Due to committed timescales to deliver the connection, the Section 37 application has been submitted prior to a Scoping Opinion being received from Scottish Ministers. Where scoping responses from consultees have been received, such responses have been considered.

5 Baseline Conditions

5.1 Study Area

Access to the Proposed Development will be via a combination of new and existing access tracks. Access will be taken from the A87, A82 and from the U1163 leading from Fort Augustus to the small settlement of Auchterawe using existing and upgraded access junction.

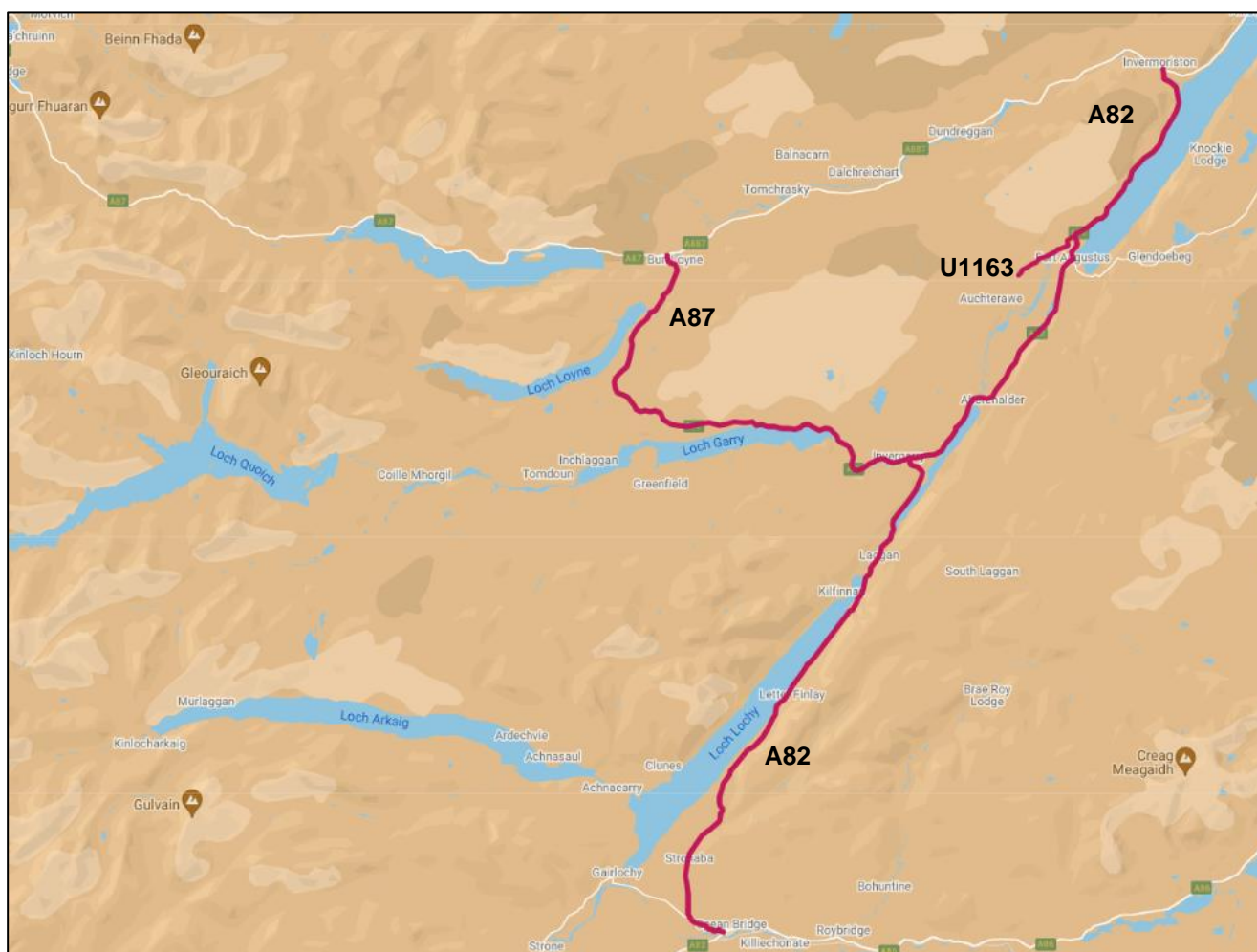
The location of the proposed access junctions are provided in Annex A. The design of the upgraded junctions will be agreed with Transport Scotland (TS) and THC prior to construction works commencing and would be secured by planning condition.

The proposed study area is based upon the road network required to access the Proposed Development and based upon potential trunk road routes that would be used to allow the delivery of construction materials. The proposed study area is as follows:

- A82 between Invermoriston and Spean Bridge;
- U1163 between Fort Augustus and Auchterawe; and
- The A87 between Invergarry and Bunloinn.

The extent of the study area is defined by the red lines in Plate 2.

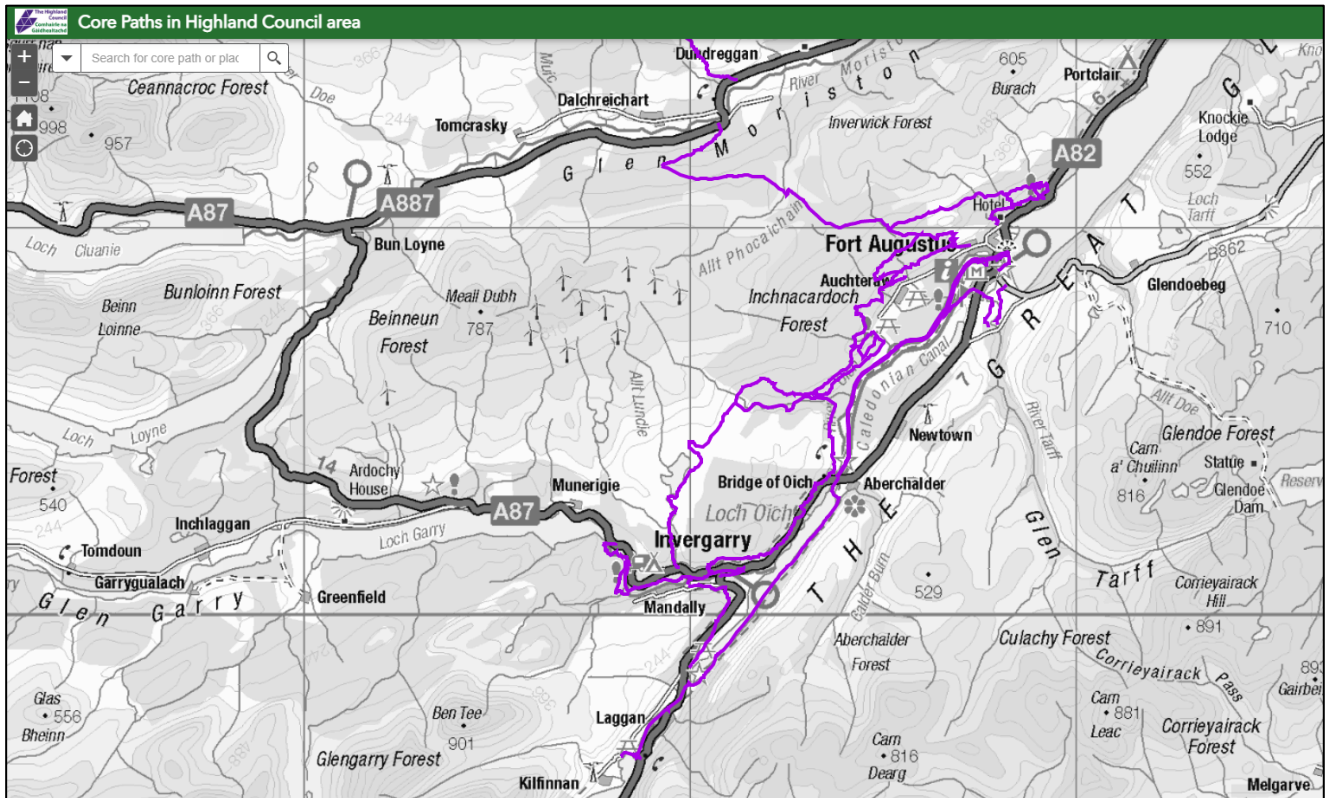
Plate 2 Study Area



5.2 Pedestrian and Cyclist Networks

There are a number of Core Paths which are located within the study area of the Proposed Development, as shown in Plate 3.

Plate 3 Core Path Plan² (The Highland Council)



These Core Paths comprise a combination of constructed paths (roadside footway), tar tracks or grass / earth tracks and include:

- Aldernaig Burn to Loch Lundie (LO11.02) (PRoW HL32);
- Cycle Track – Bridge of Oich (LO11.03);
- Bridge of Oich to Invergarry by Loch Lundie (IN16.09);
- Torr Dhuin to River Oich (IN16.13);
- Torr Dhuin Fort Walk (IN16.12);
- Auchteraw Woods Paths (IN16.14);
- Jenkins Park to Great Glen Way (IN16.03);
- Caledonian Canal Tow Path;
- Whitebridge Forest Track (LO11.08);
- River Garry Paths (LO11.01);
- Bridge of Oich to Loch Lundie (IN16.09); and
- Bridge of Oich to Torr Dhuin (IN16.10).

A review of Sustrans' National Cycle Route (NCR) map (<https://www.sustrans.org.uk/national-cycle-network>) indicates that NCR 78 forms The Caledonia Way and comprises a combination of traffic-free and on-road cycle

² The Highland Council, Paths in the Highlands
<https://highland.maps.arcgis.com/apps/webappviewer/index.html?id=2fd3fc9c72d545f7bcf1b43bf5c8445f>

route. Between Laggan and Fort Augustus, NCR 78 comprises a traffic-free route while a section of the cycle route through Laggan is on-road.

5.3 Road Access

A82 (T)

The A82 (T) is a two-way single carriageway which forms part of the trunk road network and provides a connection between Glasgow and Inverness, via Fort William. The A82 (T) is maintained by Bear Scotland and is generally subject to the national speed limit, which reduces when travelling through towns and villages. An advisory speed limit of 40 miles per hour (mph) is recommended along this route for vehicles which are 7.5 T and over.

A87 (T)

The A87 (T) is a two-way single carriageway which links Invergarry to Uig and forms part of the trunk road network. The A87 (T) is maintained by Bear Scotland and is generally subject to the national speed limit, however, this reduces when travelling through towns and villages.

U1163, to the west of the Great Glen Way, Fort Augustus

This is a narrow road which commences in Fort Augustus in a residential area. Within Fort Augustus the road is subject to a speed limit of 30 mph however outwith Fort Augustus to the west the road is subject to the national speed limit and has passing places.

5.4 Existing Traffic Conditions

Traffic data used in the assessment has been sourced from the assessment undertaken as part of the Skye Reinforcement Project (ECU Planning Ref: ECU000043395), promoted by SSEN Transmission and published in December 2022.

One Automatic Traffic Count (ATC) Site was used on the U1163 between Thursday 28 April and Thursday 12 May 2022. Other traffic data used in this assessment has been sourced from historic traffic count data provided by the UK Department for Transport (DfT). The count sites for the traffic data obtained from the DfT for 2019 are as follows:

1. A82, South of Invermoriston (DfT Count Point 50707);
2. U1663 (ATC Traffic Survey, 2022);
3. A82, Aberchalder (DfT Count Point 10760);
4. A82, Laggan (DfT Count Point 40762); and
5. A87, South of Bunloinn (DfT Count Point 30776).

The locations of the count points are shown in Plate 4. The DfT data was factored using NRTF growth factors to create the 2022 traffic flows.

The traffic count data allowed the traffic flows to be split into vehicle classes and the data has been summarised into cars / light goods vehicles (LGV) and heavy goods vehicles (HGVs) (i.e. all goods vehicles >3.5 tonnes gross maximum weight).

A summary of the 24-hour average daily traffic for each of the count sites is presented in Table 1.

Plate 4 Traffic Count Location Points

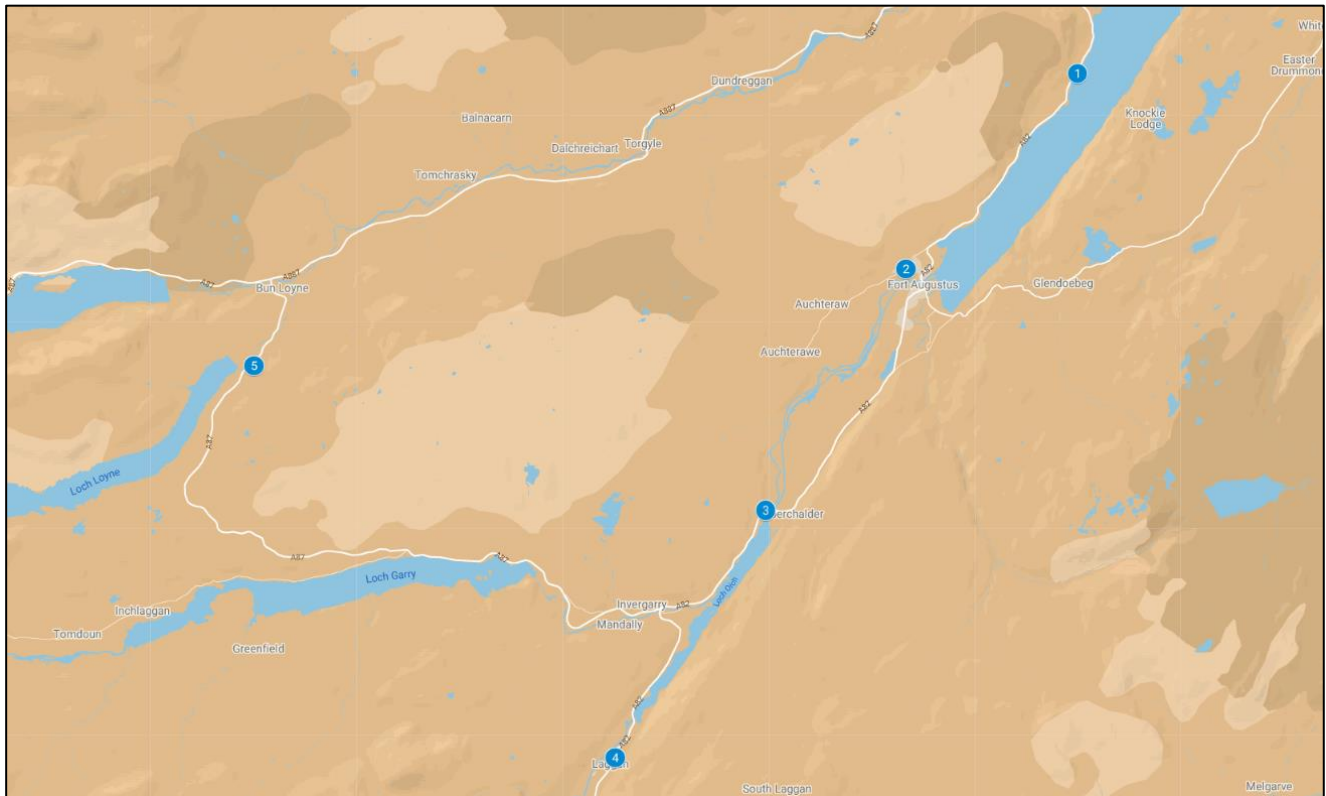


Table 1 24-hour Average Daily Traffic Data (2022)

| Site Ref. | Survey Location | Cars & LGV | HGV | Total |
|-----------|----------------------------|------------|-----|-------|
| 1 | A82 South of Invermoriston | 2608 | 183 | 2791 |
| 2 | U1663 | 329 | 71 | 400 |
| 3 | A82 Aberchalder | 2923 | 198 | 3121 |
| 4 | A82 Laggan | 4072 | 263 | 4334 |
| 5 | A87 South of Bunloinn | 1460 | 77 | 1537 |

The two-way five-day average and 85th percentile speeds were recorded on the U1163 where it was noted that the 85th percentile speeds were 1mph higher than the posted speed limit of 30mph at the survey site. This indicates that traffic management measures would be required at this location and that Police Scotland may wish to consider enforcement spot checks in this area.

5.5 Accident Review

Road traffic accident data for the five-year period commencing 01 January 2017 through to the 31 December 2021 was obtained from the online resource crashmap.co.uk which uses data collected by the police about road traffic crashes occurring on British roads.

The statistics are categorised into three categories, namely “slight” for damage only incidents, “serious” for injury accidents and “fatal” for accidents that result in a death. These are summarised in Table 2.

Table 2 Accident Summary

| Survey Location | Slight | Serious | Fatal | HGV Incidents |
|-------------------------------|--------|---------|-------|---------------------|
| A82 Invermoriston – Laggan | 13 | 6 | 0 | 1 serious, 1 slight |
| U1663 | 0 | 0 | 0 | 0 |
| A87 (A82 Junction – Bunloinn) | 15 | 9 | 1 | 1 slight |

No accidents have been recorded at the proposed access junction locations. One “slight” accident involving a motorcycle rider was reported near the junction of the A87 and Glengarry Timber Limited’s premises and involved a car in September 2017.

5.6 Future Baseline

Construction of the project is expected to commence in 2024, if consent is granted, and is anticipated to take 46 months, depending on weather conditions and ecological considerations.

To assess the likely effects during the construction and typical operational phase, base year flows were forecast by applying a NRTF low growth factor to the 2022 flows in Table 3. The NRTF low growth factor for 2022 to 2024 is 1.011. This will be used in the Construction Peak Traffic Impact Assessment.

Table 3 24-hour Average Daily Traffic Data (2024)

| Site Ref. | Survey Location | Cars & LGV | HGV | Total |
|-----------|----------------------------|------------|-----|-------|
| 1 | A82 South of Invermoriston | 2637 | 185 | 2822 |
| 2 | U1663 | 333 | 71 | 404 |
| 3 | A82 Aberchalder | 2955 | 200 | 3156 |
| 4 | A82 Laggan | 4116 | 266 | 4382 |
| 5 | A87 South of Bunloinn | 1477 | 77 | 1554 |

Please note minor variances due to rounding may occur.

6 Construction Trip Generation and Distribution

6.1 Trip Derivation

During the construction period, the following traffic will require access to the to the Proposed Development and Associated Development sites:

- Staff transport, in either cars or staff minibuses; and
- Construction equipment and materials, deliveries of machinery and supplies such as concrete and crushed rock.

SSEN Transmission civil engineers have undertaken a preliminary design of the Proposed Development and have advised on likely traffic movements based upon their recent experience of similar developments and on bulk materials that need to be imported.

Traffic flows have been estimated from the material requirements, staff movements and forestry extraction. This has been combined into the construction programme and is summarised in Table 4.

Table 4 Construction Traffic Programme

| Phase | Jul-24 | Aug-24 | Sep-24 | Oct-24 | Nov-24 | Dec-24 | Jan-25 | Feb-25 | Mar-25 | Apr-25 | May-25 | Jun-25 | Jul-25 | Aug-25 | Sep-25 | Oct-25 |
|-------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Mobilisation | 540 | 490 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Enabling Works | 0 | 0 | 1739 | 1739 | 1739 | 0 | 728 | 728 | 728 | 728 | 728 | 728 | 0 | 0 | 0 | 0 |
| OHL Construction | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 436 | 436 | 436 | 436 | 436 | 436 | 436 |
| OHL Commissioning | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reinstatement | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Decommissioning | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Phase | Nov-25 | Dec-25 | Jan-26 | Feb-26 | Mar-26 | Apr-26 | May-26 | Jun-26 | Jul-26 | Aug-26 | Sep-26 | Oct-26 | Nov-26 | Dec-26 | Jan-27 | Feb-27 |
|-------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Mobilisation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Enabling Works | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OHL Construction | 436 | 0 | 0 | 436 | 436 | 436 | 436 | 436 | 436 | 436 | 436 | 436 | 436 | 0 | 436 | 436 |
| OHL Commissioning | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reinstatement | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Decommissioning | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Phase | Mar-27 | Apr-27 | May-27 | Jun-27 | Jul-27 | Aug-27 | Sep-27 | Oct-27 | Nov-27 | Dec-27 | Jan-28 | Feb-28 | Mar-28 | Apr-28 |
|-------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Mobilisation | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 490 | 540 |
| Enabling Works | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OHL Construction | 436 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OHL Commissioning | 0 | 106 | 106 | 106 | 106 | 106 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reinstatement | 0 | 0 | 0 | 0 | 0 | 0 | 283 | 283 | 283 | 283 | 283 | 0 | 0 | 0 |
| Decommissioning | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 528 | 528 | 528 | 528 |

Peak traffic movements will occur during the import of material associated with the construction of the enabling works, namely the formation of the access tracks and the extraction of timber associated from the site. This occurs in Month 3 of the construction programme.

6.2 Peak Traffic Flows

The peak traffic flows indicate 26 Car / Light Goods Vehicle (LGV) and 54 Heavy Goods Vehicle (HGV) two way movements per day.

It is assumed that all aggregate materials for use in the construction of access tracks, hardstands and access junctions would be sourced from quarry suppliers located on the A82 to the south of the Proposed Development.

The extraction of timber from the site would be exported to Corpach for processing and onward export via ship.

Staff working during the construction programme have been assumed to be based equally to the north and south of the development area and it is assumed that 50% will access the site from the A82 to the north, with the remaining half accessing from the south.

Using the access junctions illustrated in Annex A, construction traffic has been assigned to the study area network. The resulting traffic flows are summarised in Table 5.

Table 5 Peak Construction Traffic Flows

| Site Ref. | Survey Location | Cars & LGV | HGV | Total |
|-----------|----------------------------|------------|-----|-------|
| 1 | A82 South of Invermoriston | 12 | 0 | 12 |
| 2 | U1663 | 12 | 4 | 16 |
| 3 | A82 Aberchalder | 4 | 16 | 20 |
| 4 | A82 Laggan | 14 | 50 | 64 |
| 5 | A87 South of Bunloinn | 10 | 44 | 54 |

Please note minor variances due to rounding may occur.

7 Construction Traffic Impact Assessment

The peak month traffic data for the Proposed Development was combined with the future year (2024) traffic data to allow a comparison between the baseline results to be made. The increase in traffic volumes is illustrated in percentage increases for each class of vehicle. This is illustrated in Table 6.

Table 6 2024 Base + Development Traffic Volumes and Impact

| Survey Location | Cars & LGV | HGV | Total | Cars & LGV | HGV | Total |
|----------------------------|------------|-----|-------|------------|--------|-------|
| A82 South of Invermoriston | 2649 | 185 | 2834 | 0.46% | 0.00% | 0.43% |
| U1663 | 345 | 75 | 420 | 3.60% | 5.61% | 3.96% |
| A82 Aberchalder | 2959 | 216 | 3176 | 0.14% | 7.98% | 0.63% |
| A82 Laggan | 4130 | 316 | 4446 | 0.34% | 18.83% | 1.46% |
| A87 South of Bunloinn | 1487 | 121 | 1608 | 0.68% | 56.78% | 3.47% |

Please note minor variances due to rounding may occur.

The total traffic movements are not predicted to increase by more than 4% on the whole study area network. This is significantly less than the average daily variance in traffic flows (+ / -10%) that naturally occurs. The construction phase is transitory in nature and the peak of construction activities is short-lived.

A review of existing road capacity has been undertaken using the Design Manual for Roads and Bridges, Volume 15, Part 5 "The NESMA Manual". The theoretical road capacity has been estimated for each of the road links for a 12-hour period that makes up the study area. The results are summarised in Table 7.

Table 7 2024 Daily Traffic Capacity Review

| Site Ref. | Survey Location | 2024 Baseline Traffic Flows | 2024 Base + Development Traffic Flows | Theoretical Road Capacity (12hour) | Spare Road Capacity (%) |
|-----------|----------------------------|-----------------------------|---------------------------------------|------------------------------------|-------------------------|
| 1 | A82 South of Invermoriston | 2822 | 19200 | 2834 | 85.24% |
| 2 | U1663 | 404 | 3360 | 420 | 87.49% |
| 3 | A82 Aberchalder | 3156 | 21600 | 3176 | 85.30% |
| 4 | A82 Laggan | 4382 | 21600 | 4446 | 79.42% |
| 5 | A87 South of Bunloinn | 1554 | 21600 | 1608 | 92.56% |

The results indicate there are no road capacity issues with the combined development and ample spare capacity exists within the trunk and local road network to accommodate construction phase traffic.

Whilst no capacity issues are predicted, there are mitigation measures that can be used to reduce the impact of the construction traffic on other road users and nearby residents. These are outlined in the following chapter.

8 Proposed Traffic Mitigation Measures

8.1 Construction Phase

The following measures would be implemented through a Construction Traffic Management Plan (CTMP) during the construction phase. The CTMP would be agreed with THC prior to construction works commencing:

- Where possible the detailed design process would minimise the volume of material to be imported to Site to help reduce HGV numbers;
- A Site worker transport and travel arrangement plan, including transport modes to and from the work site (including pick up and drop off times);
- All materials delivery lorries (dry materials) should be sheeted to reduce dust and stop spillage on public roads;
- Specific training and disciplinary measures should be established to ensure the highest standards are maintained to prevent construction vehicles from carrying mud and debris onto the carriageway;
- Wheel cleaning facilities may be established at the Site entrance, depending on the views of THC;
- Normal Site working hours would be limited to between the following hours:
 - March to September – 07:00 to 19:00 Weekdays. Weekend working could also be proposed with slightly reduced working hours (i.e. works to cease at 16.00);
 - October to February – 07:30 to 17:00 (or within daylight hours) Weekdays. Weekend working could also be proposed with slightly reduced working hours (i.e. works to cease at 16.00);
- Appropriate traffic management measures would be put in place on the A87 and A82 to avoid conflict with general traffic, subject to the agreement of the TS. Typical measures would include HGV turning and crossing signs and / or banksmen at the Site access and warning signs;
- Provide construction updates on the project website and or a newsletter to be distributed to residents within an agreed distance of the Site;
- Adoption of a voluntary speed limit of 20 mph for all construction vehicles travelling through local villages and towns;
- Adoption of a maximum speed limit of 15 mph for all construction vehicles travelling on the U1163 and tracks;
- All drivers would be required to attend an induction to include:
 - A tool box talk safety briefing;
 - The need for appropriate care and speed control;
 - A briefing on driver speed reduction agreements (to slow Site traffic at sensitive locations through the villages); and
 - Identification of the required access routes and the controls to ensure no departure from these routes.

THC and TS may require an agreement to cover the cost of abnormal wear and tear on roads within the study area. Video footage of the pre-construction phase condition of the construction vehicles route would be recorded to provide a baseline of the state of the road prior to any construction work commencing. This baseline would inform any change in the road condition during the construction stage of the Proposed Development. Any necessary repairs would be coordinated with the Roads Authority. Any damage caused by traffic associated with the Proposed Development, during the construction period that would be hazardous to public traffic, would be repaired immediately.

Any damage to road infrastructure caused directly by construction traffic would be made good, and street furniture that is removed on a temporary basis would be fully reinstated.

There would be a regular road edge review and any debris and mud would be removed from the public carriageway to keep the road clean and safe during the initial months of construction activity, until the construction junction and immediate access track works are complete.

Overhead high voltage crossing points would be identified prior to the commencement of construction activities and appropriate actions would be undertaken to highlight these.

It is not anticipated that abnormal loads would be required to be delivered to the Site.

8.2 Access Improvements

All access junctions would be designed and constructed in accordance with TS and THC design standards.

8.3 Public Information

The Applicant would also ensure information was distributed through its communication team via the project website, local newsletters and social media.

8.4 Core Path Management Plan

Consideration would be given to pedestrians and cyclists alike due to potential interactions between construction traffic and users of the core path network. These measures would be formulated into an Outdoor Access Management Plan (see **Volume 4, Technical Appendix 15.3**).

The Principal Contractor would ensure that speed limits are always adhered to by their drivers and associated subcontractors. This is particularly important within close proximity to the core path network and at crossing points. Advisory speed limit signage would also be installed on approaches to areas where core path users may interact with construction traffic.

Signage would be installed on the Site exit that makes drivers aware of local speed limits and reminding drivers of the potential presence of pedestrians and cyclists in the area. This would also be emphasised in weekly toolbox talks.

The British Horse Society has made recommendations on the interactions between HGV traffic and horses. Horses are normally nervous of large vehicles, particularly when they do not often meet them. Horses are flighty animals and will run away in panic if really frightened. Riders will do all they can to prevent this but, should it happen, it could cause a serious accident for other road users, as well as for the horse and rider.

The main factors causing fear in horses in this situation are:

- Something approaching them, which is unfamiliar and intimidating;
- A large moving object, especially if it is noisy;
- Lack of space between the horse and the vehicle;
- The sound of air brakes; and
- Anxiety on the part of the rider.

The British Horse Society recommends the following actions that will be included in the Site training for all HGV staff:

- On seeing riders approaching, drivers must slow down and stop, minimising the sound of air brakes, if possible;
- If the horse still shows signs of nervousness while approaching the vehicle, the engine should be shut down (if it is safe to do so);
- The vehicle should not move off until the riders are well clear of the back of the HGV;
- If drivers are wishing to overtake riders, please approach slowly or even stop in order to give riders time to find a gateway or lay by where they can take refuge and create sufficient space between the horse and the vehicle. Because of the position of their eyes, horses are very aware of things coming up behind them; and

- All drivers delivering to the Site must be patient. Riders will be doing their best to reassure their horses while often feeling a high degree of anxiety themselves.

8.5 Operational Phase Mitigation

Site entrance roads would be well maintained and monitored during the operational life of the Proposed Development. Regular maintenance would be undertaken to keep the Site access track drainage systems fully operation and to ensure there are no run-off issues onto the public road network.

9 Summary & Conclusions

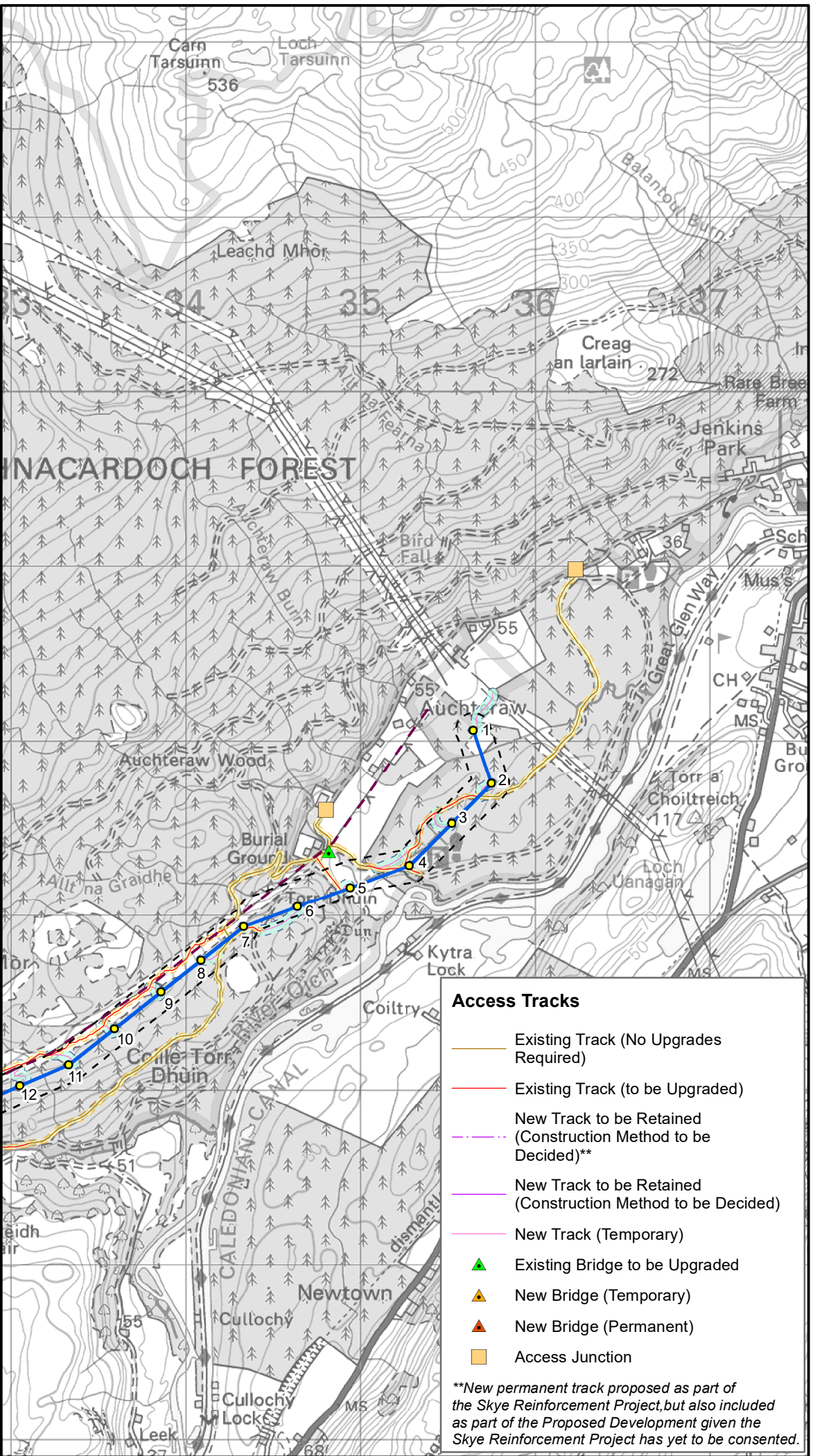
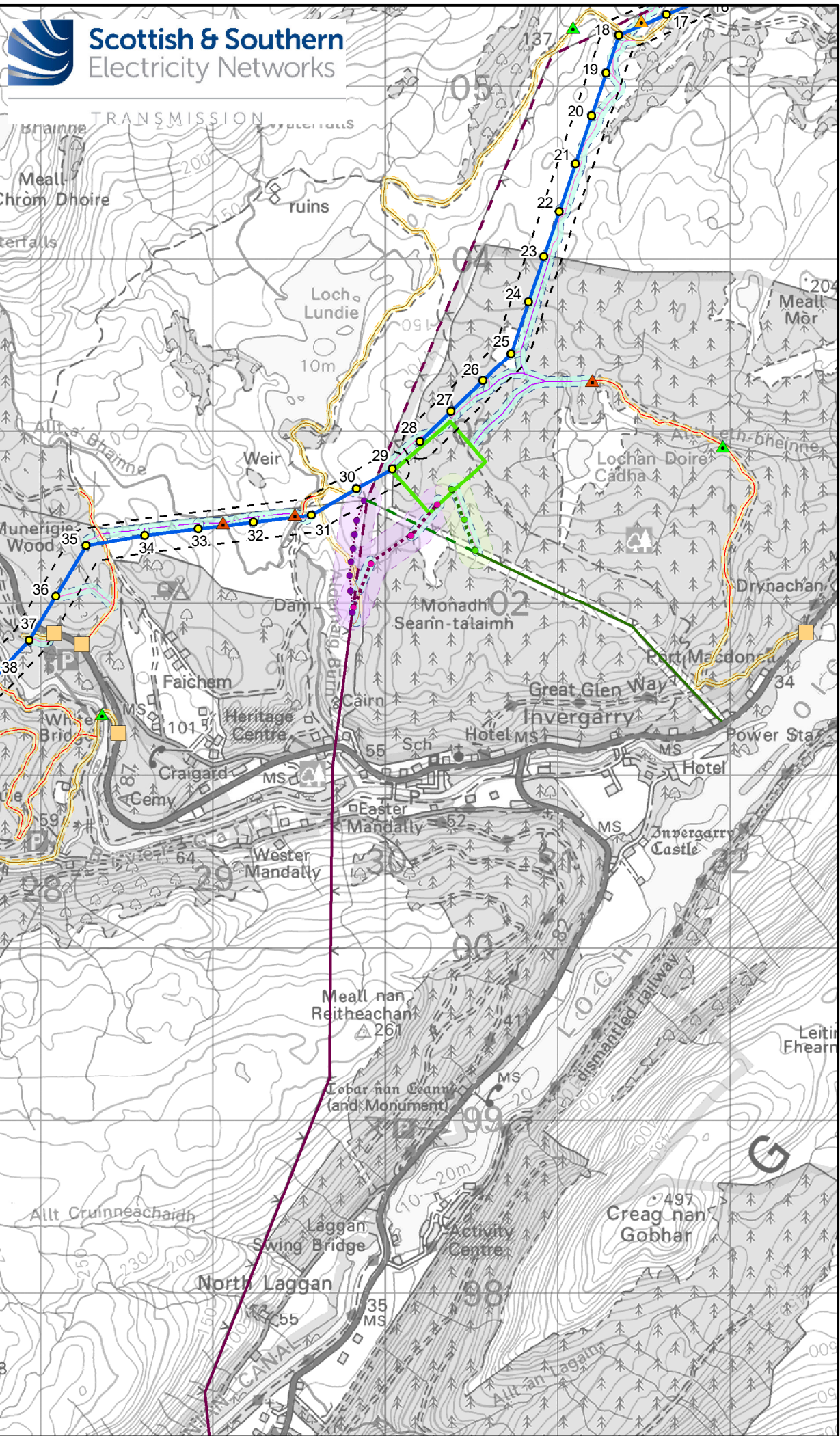
Pell Frischmann (PF) has been commissioned by ASH design+assessment, on behalf of SSEN Transmission, to undertake a Transport Assessment for the Proposed Development which comprises 13 km of new double circuit 400 kV OHL supported by steel lattice towers between the proposed Coire Glas Switching Station to and the existing Fort Augustus Substation (via the proposed new Loch Lundie Substation).

An assessment of average daily development trips is considered an appropriate method of assessing the impacts of the Proposed Development on the study area roads. The construction traffic would result in a temporary increase in traffic flows on the road network surrounding the Proposed Development.

A series of mitigation measures and management plans have been proposed to help mitigate and offset the impacts of both the construction and operational phase traffic flows.

No link capacity issues are expected on any of the roads assessed due to the additional movements associated with the Proposed Development. The effects of construction traffic are temporary in nature and are transitory.

Annex A: Access Junction Locations



Scottish & Southern Electricity Networks

Legend

- Proposed OHL Alignment (Steel Lattice Towers)
- Proposed Steel Lattice Tower
- Proposed Coire Glas Switching Station Platform*
- Proposed Loch Lundie Substation Platform*

Limits of Deviation (LOD)

- OHL Alignment LOD
- Existing Access Track LOD
- New Access Track LOD
- Invergarry Tee OHL Diversion LOD
- Fort Augustus to Fort William OHL Diversion LOD

Existing 132 KV Fort Augustus to Fort William OHL (Steel Lattice Towers)

- temporary Trident Wood Pole locations
- temporary OHL diversion
- new permanent Steel Lattice Tower location
- to be retained
- to be diverted into the proposed Loch Lundie Substation
- to be dismantled

Existing 132 KV Invergarry Tee OHL (Steel Lattice Towers)

- new permanent Trident Steel Pole location
- to be retained
- to be diverted into the proposed Loch Lundie Substation
- to be dismantled

Access Tracks

- Existing Track (No Upgrades Required)
- Existing Track (to be Upgraded)
- New Track to be Retained (Construction Method to be Decided)**
- New Track to be Retained (Construction Method to be Decided)
- New Track (Temporary)
- Existing Bridge to be Upgraded
- New Bridge (Temporary)
- New Bridge (Permanent)
- Access Junction

Scale
0 0.25 0.5 1 1.5 km
Scale - 1:30,000 @ A3

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Project: Coire Glas Grid Connection Project – 400 kV OHL EIA Report

Title: Annex A - Access Junctions

Drawn by: KM Date: 31/03/2023

**New permanent track proposed as part of the Skye Reinforcement Project, but also included as part of the Proposed Development given the Skye Reinforcement Project has yet to be consented.