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CRUACH CLENAMACRIE WIND FARM

CHAPTER 12:
TRANSPORT AND ACCESS

November 2024

RESPONSIBILITIES

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ABBREVIATIONS

ABBREVIATION	DESCRIPTION
ABC	Argyll and Bute Council
AIL	Abnormal Indivisible Load
ATC	Automatic Traffic Counter
BESS	Battery Energy Storage System
CTMP	Construction Traffic Management Plan
BoP	Balance of Plant
BHS	British Horse Society
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
ESDAL	Electronic Service Delivery for Abnormal Loads
EIAR	Environmental Impact Assessment Report
HGV	Heavy Goods Vehicle
IEMA	The Institution of Environmental Management and Assessment
LGV	Light goods vehicles
MPH	Miles per Hour
NCN	National Cycle Network
NRTF	National Road Traffic Forecast
OS	Ordnance Survey
OAMP	Outdoor Access Management Plan
PAN	Planning Advice Note
POE	Port of Entry
RSR	Route Survey Report
TS	Transport Scotland
T	Trunk Road

12 TRANSPORT AND ACCESS

12.1 Introduction

This Chapter considers the likely significant effects on receptors along the transport routes as a result of vehicle movements associated with the construction of the Proposed Development. The specific objectives of the chapter are to:

- Describe the existing access network and transport baseline;
- Describe the assessment methodology and significance criteria used in completing the impact assessment;
- Describe the traffic and transport baseline conditions (including future baseline);
- Describe any likely impacts and effects of the Proposed Development on the receptors identified through the baseline assessment;
- Describe the mitigation measures proposed to address any likely significant adverse effects; and
- Assess the residual effects remaining following the implementation of mitigation.

This Chapter is supported by **Appendix 12.1: Transport Assessment**.

12.2 Legislation, Policy and Guidance

The assessment has been undertaken in accordance with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. There is, however, no specific legislation considered to be applicable to the assessment of effects on traffic and transport.

12.2.1 Planning Policy and Guidance

The following planning policy and guidance documents have been used during the preparation of this chapter:

- Institution of Environmental Management and Assessment (IEMA) 'Guidelines for Environmental Impact Assessment' (2005) [1];
- IEMA 'Environmental Assessment of Traffic and Movement' (2023) [2];
- Institute of Environmental Assessment 'Guidelines for the Environmental Assessment of Road Traffic' (1993) [3];
- LA104, Environmental assessment and monitoring, the Design Manual for Roads and Bridges (DMRB) (2020) [4];
- National Planning Framework 4 (2024) [5];
- Planning Advice Note (PAN) 75 'Planning for Transport' (2005) [6];
- Transport Scotland, 'Transport Assessment Guidance' (2012) [7];
- Onshore Wind Turbines, Online Renewables Planning Advice (May 2014) [8];

[1] The Institution of Environmental Management and Assessment (2005) Guidelines for Environmental Impact Assessment
[2] Institute of Environmental Management and Assessment (2023) Environmental Assessment of Traffic and Movement
[3] The Institution of Environmental Management and Assessment. (1993) Guidelines for the Environmental Assessment of Road Traffic
[4] Highways England, Transport Scotland, Welsh Government & Department for Infrastructure (2020), LA104, Environmental assessment and monitoring, the Design Manual for Roads and Bridges (DMRB)
[5] Scottish Government. (2014) National Planning Framework 4: Available at: https://www.transformingplanning.scot/national-planning-framework/
[6] Scottish Government. Planning Advice Note (PAN) 75. Available at: https://www.gov.scot/publications/planning-advice-note-pan-75-planning-transport/,
[7] Transport Scotland (2012), Transport Assessment Guidance
[8] Scottish Government (2014), Onshore Wind Turbines: Planning Advice

- Scottish Government, Onshore Wind Policy Statement (December 2022) [9]; and
- Argyll and Bute Local Development Plan 2 (LDP2) (2024) [10].

12.3 Consultation

A Scoping Report, including a Transport and Access Chapter, was issued to all consultees prior to the assessment being finalised. Argyll and Bute Council (ABC) were consulted as part of the Scoping Opinion although no response was received. No additional consultation with ABC has been sought. The scoping comments received are noted in **Table 12.1**.

TABLE 12.1: CONSULTATION SUMMARY

CONSULTEE	RESPONSE	ACTION
Transport Scotland	Transport Scotland would state that any proposed changes to the trunk road network must be discussed and approved (via a technical approval process) by the appropriate Area Manager.	Noted
Transport Scotland	We note that the thresholds as indicated within the Institute of Environmental Management and Assessment (IEMA) Guidelines for the Environmental Assessment of Road Traffic are to be used as a screening process for the assessment. Transport Scotland is in agreement with this approach.	Noted
Transport Scotland	The SR states that it is proposed to utilise Low National Road Traffic Forecasts (NRTF) for the whole of the study. Transport Scotland is in agreement with this approach.	Noted
Transport Scotland	It is noted that any impacts associated with the operational phase of the development are to be scoped out of the EIA. We would consider this to be acceptable in this instance.	Noted
Transport Scotland	We would state that Transport Scotland will require to be satisfied that the size of loads proposed can negotiate the selected route and that their transportation will not have any detrimental effect on structures within the trunk road route path. The Abnormal Loads Assessment report should identify key pinch points on the trunk road network. Swept path analysis should be undertaken and details provided with regard to any required changes to street furniture or structures along the route.	An Abnormal Indivisible Load (AIL) Route Survey Report is provided in **Annex C of Appendix 12.1: Transport Assessment.**

[9] Scottish Government (2022), Onshore Wind: Policy Statement
[10] Argyll & Bute Council (2024) Adopted Local Development Plan 2 (LDP2)

CONSULTEE	RESPONSE	ACTION
Transport Scotland	We would advise that 1:500 scale plans of any new or modified access from the trunk road will require to be submitted along with visibility splay plans.	No land outside the application boundary is required in order to form or maintain the visibility splays. A reflective drawing is provided in **Annex A of Appendix 12.1: Transport Assessment.**
Transport Scotland	It would be helpful to engage with the Area Manager for the A85(T),	Noted.
Transport Scotland	Transport Scotland will require a Stage 1 Road Safety Audit (RSA) to be undertaken for the new or modified junction with the audit report submitted with the application. An Audit Brief should be forwarded to the network manager for approval before the audit commences.	A Stage 1 RSA is provided in **Annex B of Appendix 12.1: Transport Assessment**.

12.4 Methodology

12.4.1 Sensitivity

Sensitivity has been determined on the basis of the IEMA 'Guidelines for Environmental Impact Assessment' (2005) which notes that the separate IEMA Guidelines (2023) should be used for characterising the environmental traffic and transport effects (offsite effects) and the assessment of significance of major new developments.

Recent guidance published by IEMA, namely 'Environmental Assessment of Traffic and Movement' (2023) provides an update to the previously used guidance, 'Guidelines for the Environmental Assessment of Road Traffic' (1993) document, that should be used to characterise the environmental traffic and transport effects (offsite effects) and the assessment of significance of major new developments. The Guidance is intended to complement professional judgement and the experience of trained assessors.

In this Chapter, the term 'IEMA Guidelines' refers to the 'Environmental Assessment of Traffic and Movement' (2023) unless otherwise stated.

In terms of potential traffic and transport impacts, receptors are defined as the users of the roads within the Study Area and the locations through which those roads pass.

The IEMA Guidelines propose how the sensitivity of receptors should be determined. Using that as a guide, a classification of sensitivity for users, based on the characteristics of roads and locations has been developed. This assessment methodology is reflective of industry best practice. This is summarised in **Table 12.2**.

TABLE 12.2: CLASSIFICATION OF RECEPTOR SENSITIVITY

RECEPTOR	SENSITIVITY			
	HIGH	MEDIUM	LOW	NEGLIGIBLE
Users of Roads	Where the road is a minor rural road, not constructed to accommodate frequent use by HGVs. Includes roads with traffic control signals, waiting and loading restrictions, traffic calming measures.	Where the road is a local A or B class road, capable of regular use by HGV traffic. Includes roads where there is some traffic calming or traffic management measures.	Where the road is Trunk or A-class, constructed to accommodate significant HGV composition. Includes roads with little or no traffic calming or traffic management measures.	Where roads have no adjacent settlements. Includes new strategic trunk roads that would be little affected by additional traffic and suitable for Abnormal Indivisible Loads (AIL) and new strategic trunk road junctions capable of accommodating AIL.
Users / Residents of Locations	Where a location is a large rural settlement containing a high number of community and public services and facilities.	Where a location is an intermediate sized rural settlement, containing some community or public facilities and services.	Where a location is a small rural settlement, few community or public facilities or services.	Where a location includes individual dwellings or scattered settlements with no facilities.

It is acknowledged that there will be locations both in terms of users of roads or users / residents of locations that may not fit within one of the sensitivity classifications highlighted in **Table 12.2**. In these situations, professional judgement has been applied and justification for any changes provided.

Where a road passes through a location, users are considered subject to the highest level of sensitivity defined by either the road or location characteristics.

12.4.2 Magnitude

The magnitude of change has been assessed in accordance with the following rules which are outlined in the IEMA Guidelines, and are used to inform a screening exercise to determine which links within the Study Area are to be considered for detailed analysis in the assessment:

- Rule 1 – Include highway links where traffic flows will increase by more than 30% (or where the number of HGVs is predicted to increase by more than 30%); and
- Rule 2 – Include any other specifically sensitive areas where total traffic flows, including HGV movements, are predicted to increase by 10% or more.

Examples of sensitive areas are presented in the IEMA Guidelines as hospitals, churches, schools, historical buildings and tourist attractions etc. These locations are to be assessed in relation to 'Rule 2'.

The 2023 IEMA Guidelines identify the key impacts that are most important when assessing the magnitude of traffic impacts from an individual development; the impacts and levels of magnitude are discussed below:

- Severance – the IEMA Guidelines advise that, "The Department for Transport has historically set out a range of indicators for determining the significance of severance. Changes in traffic flow of

30%, 60% and 90% are regarded as producing 'slight', 'moderate' and 'substantial' changes in severance respectively. Although these thresholds no longer appear in Department for Transport guidance, they have not been superseded by subsequent changes to guidance and are established through planning case law. However, caution needs to be observed when applying these thresholds as very low baseline flows are unlikely to experience severance impacts even with high percentage changes in traffic." (Para 3.16). The Guidelines acknowledge that changes in traffic flows should be used cautiously, stating that "the assessment of severance should pay full regard to specific local conditions, e.g. sensitivity of adjacent land uses, prevalence of vulnerable people, whether or not crossing facilities are provided, traffic signal settings, etc." (Para 3.17).

- Driver delay – the IEMA Guidelines note that these delays are only likely to be "significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the system" (Para 3.20).
- Pedestrian delay (incorporating delay to all non-motorised users) – the IEMA Guidelines advise that "pedestrian delay and severance are closely related effects and can be grouped together. Changes in the volume, composition or speed of traffic may affect the ability of people to cross roads. In general, increases in traffic levels are likely to lead to greater increases in delay. Delays will also depend on the general level of pedestrian activity, visibility and general physical conditions of the development site." (Para 3.24). Furthermore, the guidelines advise that "…it is not considered wise to set down definitive thresholds. Instead, it is recommended that the competent traffic and movement expert use their judgement to determine whether pedestrian delay constitutes a significant effect." (Para 3.26).
- Non-motorised user amenity - the IEMA Guidelines advise that, "The 1993 Guidelines suggest that a tentative threshold for judging the significance of changes in pedestrian amenity would be where the traffic flow (or HGV component) is halved or doubled. Although these thresholds no longer appear in Department for Transport guidance, they have not been superseded by subsequent changes to guidance and are established through planning case law." (Para 3.30).
- Fear and intimidation – there are no commonly agreed thresholds for estimating levels of fear and intimidation, from known traffic and physical conditions. However, as the impact is considered to be sensitive to traffic flow, changes in traffic flow of 30%, 60% and 90% are regarded as producing minor, moderate and substantial changes respectively in the Guidelines, (Para 2.19). As such, this has been used to assess the potential impacts associated with construction activities around fear and intimidation on people in close proximity to the Proposed Development.
- Road safety – professional judgement would be used to assess the implications of local circumstances, or factors which may elevate or lessen risks of accidents. In line with the IEMA guidelines, those areas of collision clusters would be subject to detailed review.
- Road safety audits – It is proposed to undertake any necessary Stage 2 Road Safety Audits (RSA) post consent, and it is considered that this can be secured via a stand alone planning condition or via technical approval. A Stage 1 RSA has been undertaken and can be found in **Annex C** of **Appendix 12.1: Transport Assessment**.
- Large loads – The movement of the AILs associated with the construction of the Proposed Development have been considered in full, within a separate route survey report (see **Annex B** of **Appendix 12.1**, which identifies physical mitigation measures required to accommodate the predicted loads. Additional mitigation, in terms of addressing potential impacts on sensitive receptors are included as standard within Mitigation section.

While not specifically identified as more vulnerable road users, cyclists are considered in similar terms to pedestrians.

Table 3.7 of LA104 Environmental Assessment Methodology of the Design Manual for Roads and Bridges (DMRB) sets out four levels against which the magnitude of impacts should be assessed: Major, Moderate, Minor, and Negligible, as discussed in **Table 12.3**.

TABLE 12.3: MAGNITUDE OF IMPACT

MAGNITUDE OF IMPACT	DESCRIPTION
Major	These effects are considered to be material in the decision-making process.
Moderate	These effects may be important but are not likely to be material factors in decision making. The cumulative effects of such factors may influence decision-making if they lead to an increase in the overall adverse effect on a receptor.
Minor	These effects may be raised as local factors. They are unlikely to be critical in the decision-making process but are important in improving the subsequent design of the project.
Negligible	No effects or those that are imperceptible.

12.4.3 Significance

To determine the overall significance of effects, the results from the receptor sensitivity and magnitude of impact assessments are correlated and classified using a scale set out in DMRB LA 104 Environmental Assessment and Monitoring (Revision 1) and summarised in **Table 12.4**.

Consideration is given to scale, duration of impact / effect (e.g. for construction, short-term for 1-2 years, medium-term for 3-5 years, long-term for 5 years and greater, and permanent, dependent upon project timeframes), and the extent of the Proposed Development.

TABLE 12.4 : SIGNIFICANCE CRITERIA

RECEPTOR SENSITIVITY	MAGNITUDE OF IMPACT			
	Major	**Moderate**	**Minor**	**Negligible**
High	Major	Major / Moderate	Moderate / Minor	Minor
Medium	Major / Moderate	Moderate	Minor	Minor / Negligible
Low	Moderate / Minor	Minor	Minor	Minor / Negligible
Negligible	**Minor**	**Minor**	**Minor / Negligible**	**Negligible**

The significance of an environmental effect is categorised as Major, Moderate, Minor or Negligible resulting from a combination of receptor sensitivity and magnitude of impact using the matrix set out in **Table 12.3**. Major and Moderate effects are considered significant in the context of the EIA Regulations and require mitigation.

Where an effect could be one of Major / Moderate or Moderate / Minor significance, professional judgement is used to determine which option should be applicable. Effects judged to be of Minor or Negligible significance are considered not significant in the context of EIA Regulations.

12.4.4 Elements Scoped out of the Assessment

The operation and decommissioning phases of the Proposed Development have been Scoped out of the assessment.

During operation of the Proposed Development, there would be up to two vehicle movements per fortnight for maintenance purposes. This level of traffic is minor in nature and no operational traffic impact assessment is required. This approach has been agreed by Transport Scotland during the Scoping review.

When the Proposed Development is decommissioned, it is likely that elements of the Site such as access tracks will be retained. As such, the traffic generated by future decommissioning works would be less than that associated with the construction phase. Therefore, an assessment of these works has been Scoped out in agreement with Transport Scotland via their response to the formal Scoping process. It is assumed the impacts would be similar or less than those associated with the construction phase.

12.4.5 Assumption and Limitations

The assessment is based upon average traffic flows in one-month periods. During any given month, activities at the Site may fluctuate between one day and another and, at this stage, it is not possible to fully develop a day-by-day traffic flow estimate. This would be confirmed once a Balance of Plant (BoP) contractor has been appointed. However, it should be noted that external factors can also impact upon activities on a day-by-day basis, weather conditions, availability of materials, time of year, etc. It is assumed the average traffic flow approach is standard and is a sufficient basis for assessment.

The Future Baseline Year being assessed as part of the traffic and transport assessment is 2030, as this is the anticipated first year of construction, should the Proposed Development be granted consent.

It is considered that there is sufficient design and construction information to enable a robust assessment and an informed decision to be taken in relation to the identification and assessment of likely significant environmental effects on Transport and Access.

12.5 Baseline

12.5.1 Study Area

The Study Area has been based on those roads that are expected to experience increased traffic flows associated with the construction of the Proposed Development. The geographic scope was determined through a review of the other developments in the area, Ordnance Survey (OS) plans and an assessment of the potential origin locations of construction staff and supply locations for construction materials.

Strategic access to the Site is available from the A85 which forms part of the trunk road network. Access for construction materials would be predominantly from the north via the A82 or A828, followed by the A85.

All vehicular traffic will use the main Site access. Where feasible, local materials will be sourced which will avoid traffic impacting on local communities as much as possible.

Based on the above, the Study Area for this assessment is as follows:

- The A828, between Ledaig and Connel;
- The A85, between Oban and the Site access; and
- The A85, between Taynuilt and the Site access.

The Study Area is illustrated in **Figure 6 of Appendix 12.1: Transport Assessment**.

12.5.2 Active Travel Network

There are limited pedestrian facilities within the immediate vicinity of the Site, reflecting the rural nature of the location.

The closest Core Path to the Site is Path C160(k), Taynuilt to Oban, located approximately 500 metres (m) to the south of the southern boundary of the Site. The access track network does not interact with this Core Path.

Core Path C157(c), Taynuilt - Airds circular, runs parallel to the A85 at Taynuilt and Core Path C300(a), Kilchrenan to Taynuilt crosses the A85, also at Taynuilt. No significant Core Path conflicts are therefore anticipated.

Further details of the Core Path network are illustrated in **Figure 5.1.3 of Appendix 5.1: Socio-Economic Statement**.

The forestry tracks within Fearnoch Forest are however open to recreational use and interactions between traffic associated with the Proposed Development and other path users may occur. A further assessment of public rights of way in the vicinity of the Site is available within **Appendix 5.1: Socio-Economic Statement**.

A review of the Sustrans National Cycle Network map notes that the route of Core Path C160(k) is a recommended route for connections between National Cycle Route 78 between Crinnan and Oban. The route is not formally part of the National Cycle Network and is located to the south of the Proposed Development.

12.5.3 Road Network

It is expected that general construction traffic will access the Site via the A85. Access for construction materials would be predominantly from the north via the A82 or A828, followed by the A85.

12.5.3.1 A85

The Site is accessed via the A85 (T), a major road which runs east from Oban to Bridgend, passing through Perth. Within the Study Area, the A85 is a single carriageway road approximately 6.5m wide and is subject to a 60 miles per hour (mph) speed limit outwith settlements, where it generally reduces to 30mph.

Within the Study Area, the A85 forms part of the trunk road network and is maintained by BEAR Scotland on behalf of Transport Scotland and appears to be in good condition.

12.5.3.2 A828

The A828 is a trunk road which runs from South Ballachulish to the A85 at Connel. Within the Study Area, the A828 is a single carriageway road approximately 6.5m wide and is subject to a 60mph speed limit outwith settlements, where it generally reduces to 30mph.

Within the Study Area, the A828 forms part of the trunk road network and is maintained by BEAR Scotland on behalf of Transport Scotland and appears to be in good condition.

12.5.3.3 A82

The A82 is a trunk road which runs from Glasgow to Inverness via Fort William. The A82 is a single carriageway road approximately 6m wide and is subject to a 60mph speed limit outwith settlements, where it generally reduces to 30mph.

The A82 is maintained by Transport Scotland and appears to be in good condition.

12.5.3.4 Road Suitability

The Agreed Timber Route Map has been developed by The Timber Transport Forum who are a partnership of the forestry and timber industries, local government, national government agencies, timber hauliers and road and freight associations. One of the key aims of the forum is to minimise the impact of timber transport on the public road network, on local communities and the environment and a way of achieving this is to categorise the roads leading to forest areas in terms of their capacity to sustain the likely level of timber haulage vehicles i.e., HGVs. The routes are categorised into four groups, namely; 'Agreed Routes', 'Consultation Routes', 'Severely Restricted Routes' and 'Excluded Routes'.

'Agreed Routes' are categorised as routes used for timber haulage without restriction as regulated by the Road Traffic Act 1988. A-roads are classified as 'Agreed Routes' by default unless covered by one of the other road classifications. Those links classed as 'Consultation Routes' are categorised as a route which is key to timber extraction, but which are not up to 'Agreed Route' standard. Consultation with the local authority is required, and it may be necessary to agree limits of timing, allowable tonnage etc. before the route can be used. B-roads are classified as 'Consultation Routes' by default unless covered by one of the other classifications. 'Severely Restricted Routes' are not normally to be used for timber transport in their present condition. These routes are close to being Excluded Routes. Consultation with the local authority is required prior to use. Finally, 'Excluded Routes' should not be used for timber transport in their present condition. These routes are either formally restricted, or are close to being formally restricted, to protect the network from damaging loads.

A number of the roads within the Study Area form part of the agreed route network used for the extraction of timber and are therefore regularly used by HGV traffic. This includes sections of the A85, A828 and A82.

12.5.4 Accident Review

Personal Injury Accident (PIA) data for the five-year period covering January 2018 to December 2022 was obtained for the Study Area from the online resource CrashMap, which uses data collected by the police about road traffic crashes occurring on British roads, where someone is injured.

A detailed review of the accident statistics is presented in **Appendix 12.1: Transport Assessment**.

A general summary of the incidents is provided below:

- A total of 22 accidents were recorded within the Study Area roads during the five-year period;
- The majority of incidents occurred on the A85, mainly to the west of the Site access;
- The analysis indicates that most recorded accidents are categorised as being "Slight" (64%), with "Serious" accidents representing approximately 27% of all accidents. There were two "Fatal" (9%) accidents within the Study Area;
- There was a total of four incidents involving HGVs (18%), most of which occurred on the A85;
- 17 incidents involved more than one vehicle, with four involving a young driver;
- Both "Fatal" accidents involved a motorcyclist;
- No accidents took place within the immediate vicinity of the Site access junction; and
- There was a total of two incidents involving pedestrians and one involving a cyclist.

The analysis indicates that most recorded accidents are categorised as being "Slight" (64%) with "Serious" accidents representing approximately 27% of all accidents. In general, there are no clusters of a significant number of PIAs at any location in the assessed area. The majority of PIAs recorded occurred at or on approach to junctions/access to properties, where there is an increased interaction between vehicles and on bends.

12.5.5 Current Road Conditions

In order to assess the impact of development traffic on the Study Area, an Automatic Traffic Counter (ATC) was deployed on the A85, to the east of the proposed Site access over a 7-day period in June 2024, in order to collect vehicle volumes, composition and speed per direction per hour.

To complement the ATC surveys, existing traffic count data was obtained from the Department for Transport (DfT) database and the TS database, with 2023 and 2024 data utilised respectively.

The traffic count sites used are as follows:

- A828, between Ledaig and Connel (TS Counter: ATC08064);
- A85, between Oban and the Site access (DfT Counter: 40771); and
- A85, between Taynuilt and the Site access (ATC).

The traffic counters allowed the traffic flows to be split into vehicle classes and the data has been summarised into cars / Light Goods Vehicles (LGV) and HGV (all goods vehicles >3.5 tonnes gross maximum weight). The locations of the count sites are provided in **Appendix 12.1: Transport Assessment**.

A National Road Traffic Forecast (NRTF) low growth factor was applied to the 2023 flow obtained from the DfT database in order to estimate future year flows. The NRTF low growth from 2023 to 2024 is 1.007.

The 24-hour two-way average traffic flows for each of the traffic count locations are presented in **Table 12.5**.

TABLE 12.5: 24-HOUR TWO-WAY AVERAGE TRAFFIC DATA (2024)

SITE ID	SURVEY LOCATION	COUNT SOURCE	CARS & LGV	HGV	TOTAL
1	A828, between Ledaig and Connel	TS	5,807	546	6,353
2	A85, between Oban and the Site access	DfT	7,953	264	8,217
3	A85, between Taynuilt and the Site access	ATC	1,810	535	2,346

Please note minor variances due to rounding may occur.

12.5.6 Future Road Conditions

Construction of the Proposed Development is anticipated to commence in 2030, if consent is granted, and is expected to last up to 18 months depending on weather conditions and ecological considerations.

To assess the likely effects during the construction phase, base year traffic flows were determined by applying an NRTF low growth factor to the surveyed traffic flows. The NRTF low growth factor for 2024 to 2030 is 1.031. This factor was applied to the 2024 traffic data presented in Table 2 to estimate the 2030 Base traffic flows presented in **Table 12.6**.

TABLE 12.6: FUTURE BASELINE DAILY TWO-WAY TRAFFIC (2030)

SITE ID	SURVEY LOCATION	CARS & LGV	HGV	TOTAL
1	A828, between Ledaig and Connel	5,987	563	6,550
2	A85, between Oban and the Site access	8,200	272	8,472
3	A85, between Taynuilt and the Site access	1,866	552	2,419

The Site will be accessed via the A85 to the north of the Site where an access track will be constructed from an upgraded access junction through Fearnoch Forest to the area of the Site where the turbines are located. The access junction will provide access to the Site for all AIL deliveries associated with the turbine deliveries, as well as access for HGV delivering construction materials and general Site traffic.

An indicative layout of the proposed access junction is provided in **Annex A** of **Appendix 12.1: Transport Assessment**.

It is expected that AIL deliveries will access the Site from the Port of Entry (PoE) at Corpach Harbour via the A82 and A85. It should be noted that AILs will not be permitted to use Connel Bridge to reach the Site.

Within the Site itself, the Proposed Development will be served by a network of both new and upgraded on-site access tracks to enable construction and maintenance once operational. Existing access tracks will be re-used where possible and any new access tracks will seek to minimise impacts on soils and peat.

12.5.7 Receptor Summary

A review of receptors located within the Study Area has been undertaken. Receptors have been considered using the criteria noted in **Table 12.2**. The category of each receptor is noted in **Table 12.7**.

TABLE 12.7: RECEPTOR SENSITIVITY

RECEPTOR (USERS OF ROAD OR LOCATION)	SENSITIVITY	JUSTIFICATION
A85 (West of the Site access) Users	Low	Trunk or A-class road constructed to accommodate general and HGV traffic between primary destinations.
A85 (East of the Site access) Users	Low	Trunk or A-class road constructed to accommodate general and HGV traffic between primary destinations.
A828 Users	Low	Trunk or A-class road constructed to accommodate general and HGV traffic between primary destinations.
A85 Residents	Negligible	Locations include individual dwellings or scattered settlements with no facilities.

RECEPTOR (USERS OF ROAD OR LOCATION)	SENSITIVITY	JUSTIFICATION
A828 Residents	Negligible	Locations include individual dwellings or scattered settlements with no facilities.
Forest Path Users	High	Where the road is a minor rural road, not constructed to accommodate frequent use by HGVs.
Taynuilt Residents	Medium	Where a location is an intermediate sized rural settlement, containing some community or public facilities and services.
Connel Residents	Medium	Where a location is an intermediate sized rural settlement, containing some community or public facilities and services.
Dunbeg Residents	Low	Where a location is a small rural settlement, few community or public facilities or services located on the frontage of the A85.
Benderloch Residents	Medium	Where a location is an intermediate sized rural settlement, containing some community or public facilities and services.

In terms of sensitivity, Forest Path Users and residents of Taynuilt, Connel, and Benderloch are considered to be sensitive receptors. Taynuilt and Benderloch both feature Primary Schools located in close proximity to the Study Area roads, and as such the 'Rule 2' of the IEMA Guidelines which requires a full assessment of effects if locations are subject to a total traffic increase of 10% or more will be applied at these locations. All other locations within the Study Area are subject to 'Rule 1' and are assessed if total traffic flows (or HGV flows) on highway links increase by more than 30%.

It is acknowledged that there will be locations both in terms of users of roads or users / residents of locations that may not fit within one of the sensitivity classifications highlighted above. In these situations, professional judgement has been applied and justification for any changes provided.

Where a road passes through a location, users are considered subject to the highest level of sensitivity defined by either the road or location characteristics.

12.6 Likely Significant Effects

12.6.1 Construction

During the 18-month construction period, the following traffic will require access to the Site:

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

- Components relating to the Battery Energy Storage System (BESS), substation components and associated infrastructure; and
- AILs consisting of the wind turbine sections and heavy lift cranes.

Full details of the traffic generated during the construction phase are provided in **Appendix 12.1: Transport Assessment**.

The peak of construction occurs in month nine with a total of 84 vehicle movements per day comprising 40 two-way Car / LGV movements and 44 two-way HGV movements.

This would equate to approximately seven two-way total vehicles movements or approximately three two-way HGV movements per hour, across a typical 12-hour day, assuming a flat traffic profile, where traffic arrived and departed the Site equally throughout the working day.

The peak month (month nine) traffic data was combined with the future year (2030) 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 12.8**.

TABLE 12.8: PEAK DAILY CONSTRUCTION NETWORK IMPACT

SITE ID	SURVEY LOCATION	CARS & LGV	HGV	TOTAL	CARS / LGVS % INCREASE	HGV % INCREASE	TOTAL % INCREASE
1	A828, between Ledaig and Connel	5,991	605	6,596	0.07%	7.39%	0.70%
2	A85, between Oban and the Site access	8,232	314	8,545	0.39%	15.29%	0.87%
3	A85, between Taynuilt and the Site access	1,874	553	2,429	0.43%	0.33%	0.41%

The total traffic movements are not predicted to increase by more than 0.87% on all of the Study Area roads.

Table 12.8 shows that the highest HGV traffic movements increase will occur on the A85 between Oban and the proposed Site access junction will be located, where it is estimated to increase by 15.29%.

A review of existing theoretical road capacity has been undertaken using The NESA Manual, formerly part of the Design Manual for Roads and Bridges, Volume 15, Part 5. 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 B738 has been split into two distinct sections for the capacity assessment, to take account of the change in character of the road, primarily the reduction in width. The results are summarised in **Table 12.9**.

TABLE 12.9: PEAK TRAFFIC FLOW CAPACITY REVIEW

SITE ID	SURVEY LOCATION	2030 BASELINE TRAFFIC	2030 BASELINE + DEVELOPMENT FLOWS	THEORETICAL CAPACITY	SPARE ROAD CAPACITY %
1	A828, between Ledaig and Connel	6,550	6,596	19,200	66%
2	A85, between Oban and the Site access	8,472	8,545	21,600	60%
3	A85, between Taynuilt and the Site access	2,419	2,429	21,600	89%

The results indicate there are no road capacity issues with the addition of the construction traffic associated with the Proposed Development and ample spare capacity exists within the trunk and local road network to accommodate construction phase traffic.

The location with the greatest increase in traffic, as a result of construction traffic associated with the Proposed Development, is the A85 west of the Site access. This road section shows a high level of spare road capacity available after the addition of construction traffic.

The traffic impact on Forest Path users will exceed the 30% threshold and mitigation will be required.

The traffic impact on the A85, A828, and on the surrounding villages does not exceed 1%, and as such does not meet the 10% or 30% thresholds. No further assessment is therefore required.

A review of the potential effects on Forest Path users is provided in **Table 12.10**.

TABLE 12.10: CONSTRUCTION PHASE EFFECTS SUMMARY

RECEPTOR	POTENTIAL EFFECT	MANGITUDE OF IMPACT	SIGNIFICANCE OF EFFECT
Forest Path Users	Severance	Major	Significant
	Driver delay	Minor	Not significant
	Pedestrian delay	Minor	Not significant
	Non-motorised user amenity	Major	Significant
	Fear and intimidation	Major	Significant
	Road safety	Minor	Not significant

12.6.2 Operation

The operational phase of the Proposed Development has been scoped out of the assessment and no further assessment is required.

12.6.3 Decommissioning

The decommissioning phase of the Proposed Development has been scoped out of the assessment and no further assessment is required.

12.7 Mitigation

12.7.1 Construction Traffic Management Plan (CTMP)

Whilst the traffic impact thresholds were not met on public road sections, a Construction Traffic Management Plan (CTMP) will still be provided, to assist residents and road users.

The following measures will be implemented through a CTMP during the construction phase. The CTMP will be agreed with ABC and Transport Scotland prior to construction works commencing:

- Where possible, the detailed design process will minimise the volume of material to be imported to the Site to help reduce HGV numbers;
- A Site worker transport and travel arrangement plan, including transport modes to and from the worksite (including pick up and drop off times);
- All materials delivery lorries (dry materials) will be sheeted to reduce dust and stop spillage on public roads;
- Specific training and disciplinary measures will 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 Transport Scotland;
- Normal Site working hours will be limited to between 0700 and 1900 (Monday to Friday) and 0700 and 1300 (Saturday) with the exception of any emergency working or turbine deliveries. During the installation phase, there may be the requirement for extended working as some critical elements of installation cannot be stopped once started, such as concrete pouring. Activities outside of normal working hours, such as component delivery and turbine erection, would be discussed and agreed with ABC and Transport Scotland;
- Appropriate traffic management measures will be put in place on the A828 and on the A85 in the vicinity of the Site access junction to avoid conflict with general traffic, subject to the agreement of the roads authority. Typical measures will 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.
- All drivers will 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.

Transport Scotland may request that an agreement to cover the cost of abnormal wear and tear on its road network is made. Video footage of the pre-construction phase condition of the abnormal loads access route and the construction vehicles route will be recorded to provide a baseline of the state of the road prior to any construction work commencing. This baseline will inform any change in the road condition during the construction stage of the Proposed Development. Any necessary repairs will 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, will be repaired immediately.

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

There will be a regular road edge review, and any debris and mud will 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.

Other mitigation works to be implemented will include the following, that are detailed in **Appendix 12.1: Transport Assessment:**

- AIL Transport Management Plan;
- Public Information Campaign;
- AIL Convoy Management; and
- Road Signage.

To assist and manage the impacts on Forest Path users, additional mitigation is proposed as below:

- Outdoor Access Management Plan (OAMP); and
- Staff Travel Plan.

12.7.2 Outdoor Access Management Plan (OAMP)

Within the Site, consideration has been given to pedestrians and cyclists alike due to potential interactions between construction traffic and users of the forest paths. An OAMP will be developed and secured via a planning condition.

Users of the forest paths will be separated from construction traffic wherever possible. Crossing points will be provided where required, with path users having right of way and temporary diversions will be provided where necessary. Appropriate (Traffic Signs Manual [Chapter 8]) compliant temporary road signage will be provided to assist at these crossings for the benefit of all users.

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

Signage will be installed on the Site exits to make drivers aware of local speed limits and remind drivers of the potential presence of pedestrians and cyclists in the area. This will also be emphasised in the weekly toolbox talks.

No Scoping response has been received from The British Horse Society, however, measures implemented on similar schemes will be given consideration as part of the Proposed Development. These measures are predominantly focused 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 flight animals and will run away in panic if 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 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 has previously recommended 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 rider(s) are well clear of the back of the HGV;
- If drivers wish 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.

12.7.3 Staff Travel Plan

A Staff Travel Plan will be deployed where necessary, to manage the arrival and departure profile of staff and to encourage sustainable modes of transport, especially car-sharing. A package of measures could include:

- Appointment of a Travel Plan Coordinator (TPC);
- Provision of public transport information;
- Mini-bus service for transport of Site staff;
- Promotion of a car sharing scheme;
- Car parking management; and
- Restrictions on parking, for example on the public road network and verges in the vicinity of the Site entrance.

12.8 Residual Effects

12.8.1 Construction

A review of the potential effects has been undertaken and is reported in **Table 12.11**. All of the reported effects are classed as **Minor** and **Not Significant**.

12.8.2 Operation

There are **no significant** residual operational effects.

12.8.3 Decommissioning

There are **no significant** residual decommissioning effects.

12.9 Cumulative Assessment

12.9.1 Construction

A review of the consented significant developments, which have been considered as potential cumulative developments has been undertaken. The only significant wind farm committed development that is anticipated to use part of the proposed AIL delivery route, within the Proposed Development's Study Area, is Blarghour Wind Farm (Planning Ref. 23/00537/S36), located within 20km (60km by road) of the Proposed Development. This development is expected to be operational in 2027.

This development is expected to be operational by 2030 when construction commences on Proposed Development and as such, there is no need for any further cumulative assessments.

The only other potential cumulative scheme is the Cruachan Expansion project (Planning Ref. ECU00004492), located approximately 13km to the east of the Site. A review of the Transport Assessment for this project notes that the scheme will take up to six years to construct and that the peak of construction traffic will occur in 2026. No detailed construction programme for the proposed Pumped Storage Hydro project is included in the Transport Assessment.

The Proposed Development is predicted to commence construction in 2030, four years into the proposed Cruachan Expansion timescale. The peak of construction traffic for the Proposed Development will occur in month 9, in a period where works at Cruachan Expansion will be starting to conclude or will be finished. Given that that the Cruachan Expansion project has not provided a detailed traffic generation profile over its construction period, it is not possible to accurately assess any potential cumulative issues.

The imposition of any cumulative traffic from the Cruachan Expansion project however would dilute the traffic impact of the Proposed Development. Given that the trunk road network is operating well below its link capacity, there is no further assessment required.

Should construction traffic for both projects occur in significant numbers at the same time, the relevant scheme promoters could act to share common traffic management measures.

12.9.2 Operation

The cumulative operational phase has been scoped out of the assessment.

12.9.3 Decommissioning

The cumulative decommissioning phase has been scoped out of the assessment.

12.10 Summary

The Proposed Development would lead to a temporary increase in traffic volumes on roads in the Study Area during the construction phase, compared to the future baseline. Traffic volumes would fall considerably outside the peak period of construction.

The maximum traffic impact associated with construction is predicted to occur in month nine of 18 of the indicative construction programme.

The traffic associated with the Proposed Development, at the peak of construction, would result in an additional 84 total movements which comprises 44 HGV movements per day (22 inbound and 22 outbound) and 40 Cars \ LGVs (20 inbound and 20 outbound).

The greatest impact on the public road would occur along the A85, to the west of the proposed Site access junction, with an increase in traffic of less than 0.9%. Users of the Forest Path network are considered to be those most affected by construction traffic.

With the implementation of appropriate mitigation, **no significant residual effects** are anticipated in respect of transport and access issues. The residual effects are all assessed to be **Minor.** As residual Minor effects will occur during the construction phase only and are considered **temporary and reversible**.

TABLE 12.11: SUMMARY OF EFFECTS

RECEPTOR	RECEPTOR SENSITIVITY	DESCRIPTION OF POTENTIAL IMPACT	PROPOSED MITIGATION	RESIDUAL EFFECT	SIGNIFICANT / NOT SIGNIFICANT
Construction Phase					
Forest Path Users					
Severance	Major	The increase in traffic levels may see delays in crossing tracks increase.	OAMP measures, CTMP measures, AIL Transport Management Plan and Staff Travel Plan.	Minor	Not Significant
Non-motorised user amenity	Major	Active travellers could be affected by increase traffic, affecting the environment for walking and cycling in the area.	OAMP measures, CTMP measures, AIL Transport Management Plan and Staff Travel Plan.	Minor	Not Significant
Fear and intimidation	Major	Road users will notice a temporary rise in traffic flows, potentially affecting the desirability of using these roads.	OAMP measures, CTMP measures, AIL Transport Management Plan and Staff Travel Plan.	Minor	Not Significant
Operational Phase					
None	N/A	N/A	N/A	N/A	N/A
Decommissioning Phase					
None	N/A	N/A	N/A	N/A	N/A