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11. Access, Traffic and Transport

11.1 Introduction

- 11.1.0 This chapter considers the potential effects of the proposed Glenouther Wind Farm (the Proposed Development) and a high-level assessment of the Likely Grid Connection Route (including in combination with the Proposed Development) on Access, Traffic and Transport. 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 assessment;
 - Assess the likely significant effects, including direct, indirect and any potential cumulative effects;
 - Describe the mitigation measures proposed to address likely significant effects (if required); and
 - Assess the residual significant effects remaining following the implementation of mitigation (if required).
- 11.1.1 The Access, Traffic and Transport assessment was undertaken by Pell Frischmann. Further details are included in **Technical Appendix 1.1: Statement of Expertise**.
- 11.1.2 This chapter is supported by the following figures which are referenced throughout the text and which can be found at **Volume 3a: Figures**:
- **Figure 11.1: Study Area;**
 - **Figure 11.2: Traffic Count Locations;**
 - **Figure 11.3: Personal Injury Accident Plan;** and
 - **Figure 11.4: Abnormal Indivisible Load Delivery Route.**
- 11.1.3 The following appendices are also referred to throughout the chapter and can be found in **Volume 4: Technical Appendices**:
- **Technical Appendix 11.1: Transport Assessment** (including **High Level Access Review** at **Annex A**).
- 11.1.4 The following terminology is referred to throughout this chapter and included in the Glossary at the end of this chapter:
- Abnormal Indivisible Load (AIL);
 - Construction Traffic Management Plan (CTMP);
 - Heavy Goods Vehicle (HGV);
 - Light Goods Vehicle (LGV);
 - National Road Traffic Forecast (NRTF); and
 - High-Level Access Review.
- 11.1.5 It should be noted that while consent / planning permission is not sought for the Likely Grid Connection Route as part of the Proposed Development application, a high-level assessment of its likely significant effects is provided as part of this Chapter to inform East Ayrshire Council (EAC) if it were to be constructed concurrently with the Proposed Development.

11.2 Assessment Methodology

Legislation, Policy and Guidance

Legislation

- 11.2.1 The assessment has been undertaken in accordance with the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017. There is, however, no legislation which is specific to transport assessments, that is required to be considered as part of this assessment.

Policy

11.2.2 The following policies of relevance to the assessment have been considered:

- National Planning Framework 4 (NPF4)¹ (2023); and
- East Ayrshire Local Development Plan 2 (LDP2)² (2024).

Guidance

11.2.3 This assessment is carried out in accordance with the principles contained within the following guidance:

- Institute of Sustainability and Environmental Professionals (ISEP) (formerly Institution of Environmental Management and Assessment (IEMA)) 'Guidelines for Environmental Impact Assessment' (2005)³;
- Institute of Environmental Assessment, Guidelines for the Environmental Assessment of Road Traffic (1993)⁴;
- Environmental Assessment of Traffic and Movement (ISEP), (2023)⁵;
- LA104, Environmental assessment and monitoring, the Design Manual for Roads and Bridges (DMRB) (2020)⁶;
- Table 2.2 of Volume 11, Section 2, Part 5 of the Design Manual for Roads and Bridges (DMRB) (2008)⁷;
- Design Manual for Roads and Bridges, Volume 15, Part 5 "The NESAs Manual" (2013)⁸; and
- Transport Assessment Guidance (2012)⁹.

Consultation

11.2.4 In undertaking the assessment, consideration has been given to the consultation which has been undertaken as detailed in **Table 11.1**.

Table 11.1 Consultation responses

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
East Ayrshire Council 10 th of July 2025	Pre-Application Written Response	EAC consulted Transport Scotland as part of our assessment of the pre-application request, given that one option proposed involves forming a new, temporary slip road from the M77 to allow access for abnormal loads. Their response states that they would not support the formation of a temporary slip road from a motorway, compounded by the fact the applicant has intimated there are other viable options	Comment noted. A slip road will not be provided as part of the Proposed Development. The Site will be accessed via Floak Road and the existing M77 service road and has been assessed on that basis.

¹ Scottish Government (2023), National Planning Framework 4. Available at: <https://www.transformingplanning.scot/national-planning-framework/approved-npf4>

² East Ayrshire Council (2024) Adopted Local Development Plan 2. Available at: <https://www.east-ayrshire.gov.uk/PlanningAndTheEnvironment/development-plans-and-policies/ldp2/ldp2.aspx>

³ Institute of Sustainability and Environmental Professionals (2005), Guidelines for Environmental Impact Assessment.

⁴ Institute of Sustainability and Environmental Professionals (1993), Guidelines for the Environmental Assessment of Road Traffic.

⁵ Institute of Sustainability and Environmental Professionals (2023), Environmental Assessment of Traffic and Movement

⁶ Highways England, Transport Scotland, Welsh Government & Department for Infrastructure (2020), LA104, Environmental assessment and monitoring, the Design Manual for Roads and Bridges (DMRB).

⁷ Highways England, Transport Scotland, Welsh Government & Department for Infrastructure (2008), DMRB Volume 11, Section 2, Part 5 (HA 205/08)

⁸ Department for Transport (2013), Design Manual for Roads and Bridges, Volume 15, Part 5 "The NESAs Manual". Available at: <http://www.sias.com/2013/TS/201303NesaManual.pdf>

⁹ Transport Scotland (2012), Transport Assessment Guidance. Available at: https://www.transport.gov.scot/media/4589/planning_reform_-_dpmtag_-_development_management_dpmtag_ref_17_-_transport_assessment_guidance_final_-_june_2012.pdf

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
		available for delivery routes/methods.	
East Ayrshire Council 10 th of July 2025	Pre-Application Written Response	The Council have consulted our colleagues in ARA, who would control any required measures and impacts on the local road network. At the time of writing, no response has yet been received. We will follow up and provide supplementary feedback to you on this aspect, once we have received their comments.	Noted.
East Ayrshire Council 10 th of July 2025	Pre-Application Written Response	Again, the EIA would cover traffic and transport issues, and a Construction Traffic Management Plan would be required (which would likely be controlled by condition, if any approval was granted).	This Chapter addresses potential traffic and transport issues associated with the Proposed Development. An outline CTMP is provided as mitigation. A detailed CTMP will be secured through an appropriately worded planning condition.
East Ayrshire Council 11 December 2025	Scoping	At the time of writing neither Ayrshire Roads Alliance (ARA), nor Transport Scotland (TS) have provided a consultation response. It should be noted however that TS provided an initial response at the pre-application stage, which remains relevant.	Comment noted.
East Ayrshire Council 11 December 2025	Scoping	In terms of the specific Consultee questions contained in this section of the report, it is difficult for the Planning Authority to answer these with any degree of certainty, given the lack of expert input from the relevant bodies. Therefore, I would refer you back to the comments made in the pre-application response and also advise engaging directly with both ARA and TS at an early stage, to gain further insight and advice in regards these issues. (If/when we receive a response from either, we shall forward this on).	Comment noted. Transport Scotland were consulted regarding the proposed access strategy. No further response has been received from the ARA.
East Ayrshire Council 11 December 2025	Scoping	In terms of more general advice, the Planning Authority can offer the following;	

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
		The EIA Report should identify potential sources of materials (e.g. stone quarries) if these are offsite and consider the impacts of those routes to site, including communities along those routes. Such assessment should also include cumulative impacts with other developments. Should any borrow pits be proposed, appropriate environmental and/or supporting information should be submitted to justify the need for borrow pits.	Potential quarries have been identified in Technical Appendix 11.1 . The impact of construction traffic associated with the Proposed Development on nearby roads and local communities has been assessed in this chapter and a high-level review has been undertaken on the Likely Grid Connection Route. No borrow pits are proposed as part of the Proposed Development.
East Ayrshire Council 11 December 2025	Scoping	A cumulative traffic assessment will be required which should consider any proposed in-planning / consented / under construction developments likely to generate notable volumes of traffic. This should not necessarily be limited to other wind farms as any traffic generating developments using the same local road network as the proposed wind farm have the potential to contribute to cumulative traffic impacts regardless of the nature of the development. The Applicant is advised to keep abreast of the cumulative situation and development applications in and around the area / using the same road network to inform the cumulative traffic assessment nearer the time, prior to submission of the application to ensure the cumulative assessment is up to date as this is a constantly evolving situation.	A sensitivity review has been undertaken as part of the 'Cumulative Effects During Construction' section of this Chapter. Further details of other considered schemes, including non-energy related schemes, are provided in Technical Appendix 11.1 .
East Ayrshire Council 11 December 2025	Scoping	The EIA Report should detail the port of entry and the delivery route for turbines and components to site. The Planning Authority would advise that the decommissioning phase of the development can be scoped out of the traffic assessment as such impacts are likely to be similar to those during construction, as can the operational period	A High-Level Access Review is provided in Technical Appendix 11.1, Annex A which provides details on the delivery route from the proposed Port of Entry (PoE) at King George V (KGV) Docks to the Site, as well as information on turbine components. Noted. The Operational and Decommissioning Phases

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
		be scoped out. Any new or upgraded accesses on the road network will need to include any required visibility splays within the application site boundary so that any works necessary to form and maintain these can be included as part of the development.	are scoped out of the traffic assessment. The site access is located on the M77 service road which is used for the operation and maintenance of the M77. A visibility splay is therefore not necessary. The site access and approach to the site access will be managed through the detailed CTMP.
Fenwick Community Council 15 November 2025	Scoping	Cumulative Impact We note that the cumulative assessment will consider “whether there are any other large-scale developments which are the subject of a submitted application or consented and not constructed, which need to be taken into account”. At this early stage of assessing the site, we would identify but not restrict evaluation of cumulative impact to the following consented planning applications. NOD-190-001 (Notification Direction) Erection And Operation Of A Maturation Warehousing Facility, Spirit Supply, With Adjoining Office, And All Associated Ancillary Development Including Demolition Of Existing Farm Buildings.	TA Guidance¹⁰ advises that only those projects with extant planning permission or local development plan allocations within an adopted or approved plan require to be included in any assessment. Those projects in scoping or at the application stage should not be included in cumulative assessments as they have yet to be determined. When considering traffic impacts specifically in relation to the construction phase of a project, the potential traffic impact is highly speculative and as such, cannot be included in the assessment.[A review of the Transport Statement associated with consented planning application 23/0370/PP found that during operation, the development will generate a total of 88 two-way car trips and 40 two-way HGV trips per day. The inclusion of these trips in the baseline would dilute the impact of the Proposed Development, as such in order to provide a robust assessment, these have not been added to the baseline. There is no traffic information associated with the construction phase available on the planning portal at the time of writing. Should the development and the Proposed Development be constructed concurrently,

¹⁰ <https://www.gov.uk/guidance/travel-plans-transport-assessments-and-statements>

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
		CIN-190-001 (Called-in application) Application For Planning Permission For Erection Of Green Hydrogen Production Facility With Associated Temporary Laydown Area And Ancillary Infrastructure Including Substation, Various Plant And Perimeter Security Fencing ECU00002198 Land Adjacent to Whitelee Wind farm - Solar PV Farm, Battery Energy Storage System, HV cabling and associated access(es), link road and ancillary infrastructure 23/0398/HS Application for hazardous substance consent (comprising the storage, handling, processing and transportation of hazard category P5C flammable liquids)	it is suggested this would be mitigated through the use of an overarching Traffic Management and Monitoring Plan (TMMP). A review of the online planning information associated with planning application 21/0261/PP (ECU CIN-190-001) suggests that the overall peak week for total traffic generation occurs in week 10 when there are 64 two way HGV movements and 57 two-way LGV movements which results in a total of 121 two-way movements per day for all traffic. This will be included in a sensitivity review undertaken as part of the cumulative assessment to inform the planning authorities of possible issues if all consented developments were to be constructed concurrently. A review of the online planning information associated with planning application ECU00002198 suggests that during operation the green hydrogen production facility would result in 16 light vehicle movements and 40 HGV movements per day. The inclusion of these trips in the baseline would dilute the impact of the Proposed Development, as such in order to provide a robust assessment, these have not been added to the baseline. A review of the online planning information associated with planning application 23/0398/HS suggests that during operation there will be 4 two-way movements per day. The increase in traffic movements is not significant and is below daily variations on the road network. As such, it is assumed that these trips are included within the National Road

Consultee and Date	Scoping/Other Consultation	Issue Raised	Response/Action Taken
		25/0022/PP Installation of water mains pipework and associated ancillary infrastructure to support a Green Hydrogen Production Facility at an integrated energy development project on land adjacent to Whitelee Wind Farm. In addition, the cumulative impact of current proposals for repowering Whitelee Wind Farm should be considered.	Traffic Forecast (NRTF) growth factored future trips and will not be included as part of the sensitivity review. The 25/0022/PP planning application documents do not include information regarding traffic trips and as such it is assumed that these trips are included within the National Road Traffic Forecast (NRTF) growth factored future trips and will not be included as part of the sensitivity review. As the repowering of Whitelee Wind Farm does not have planning permission, it cannot be included as part of the sensitivity review.

Study Area

- 11.2.5 The study area has been based on the public 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 cumulative 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.
- 11.2.6 General construction vehicles (Heavy Goods Vehicles (HGVs) and staff vehicles) will travel from the north and south and will enter the Site via the existing junction off the A77 to the west of North Drumboy Quarry. These vehicles will then use the minor road (Floak Road) and existing bridge (Floak Bridge) crossing the M77 which provides access to nearby farms (Floak, Mid Floak and Townhead of Floak), as well as Floak Quarry. From there, vehicles will use the existing M77 service road (which is a private road) to travel south-west into the Site. Where feasible, local materials will be sourced which will avoid traffic impacting on local communities, as far as practicable.
- 11.2.7 As previously stated, the likely Port of Entry (PoE) used for the discharging of wind turbine components will be Glasgow King George V (KGV) Docks. AIL vehicles will travel from the PoE via Kings Inch Road, M8, M74 and M77, exiting at Junction 6 of the M77 and travelling back north via the A77. AIL vehicles will leave the A77 and travel into the Site via Floak Road, crossing Floak Bridge and the existing M77 service road. Full details of the AIL route are provided later in the report and within **Technical Appendix 11.1 Annex A**.
- Based on the above, the study area for the assessment is therefore as follows: Floak Road, between Floak Quarry access and the A77;
 - The A77, between M77 Junctions 5 and 8; and
 - The M77, between Junctions 5 and 8.
- 11.2.8 Whilst the Proposed Development will be accessed from the existing M77 service road which ties into Floak Road, this has not been considered within the study area as the road is gated and forms a part of the infrastructure for maintenance of the motorway network.
- 11.2.9 The study area is presented in **Figure 11.1 Volume 3a**.
- 11.2.10 Note that the study area chosen relates to those roads likely to be subject to the biggest increase in construction traffic i.e. those closest to the Site for which their users could experience significant effects and does not include all roads used in the movement of construction materials and AIL traffic or for the construction of the Likely Grid Connection Route.

- 11.2.11 Effects associated with construction traffic generated by the Proposed Development would be most pronounced in close proximity to the Site and on the final approaches to the Site. As vehicles travel away from the Proposed Development, they would disperse across the wider road network, thus diluting any potential effects. It is therefore expected that the effects relating to construction traffic are unlikely to be significant beyond the study area identified above.

Desk Based Research and Data Sources

- 11.2.12 To inform the baseline assessment and to establish the nature of the surrounding road and footway infrastructure, the following desktop reviews have been undertaken:
- Review of relevant transport planning policy;
 - Consideration of potential origin locations of construction staff and potential supply locations for construction materials to inform extent of local area roads network to be considered in the assessment;
 - Collection of existing traffic flow information;
 - Review of the relevant roads hierarchy;
 - Review of personal injury accident data;
 - Identification of sensitive locations within study area (as defined by ISEP such as settlements, schools, tourist attractions etc.) using freely available online mapping;
 - Identification of any other traffic sensitive receptors in the area (Core Paths, Public Rights of Way (PRoW), routes, communities, etc.) using freely available online mapping and relevant agency websites;
 - Review of OS plans;
 - Review of cumulative development information – EAC¹¹ and East Renfrewshire Council (ERC)¹² planning portals and the Scottish Government's Energy Consents Unit¹³ portal; and,
 - Identification of constraints to the movement of AILs through a High-Level Access Review including swept path assessments – OS plans, video footage and Google Streetview.

Field Survey

- 11.2.13 The following field surveys were carried out to inform the assessment:
- A site visit was undertaken in June 2026 to review the proposed access route and potential constraints for both general construction traffic and AILs – see **Technical Appendix 11.1 Annex A**.
 - The collection of traffic flows and speed data through automated traffic count (ATC) surveys was undertaken on Floak Road to establish a traffic flow baseline at these points. These were undertaken over a seven-day period in June 2025 – see **Figure 11.2**.

Assessing Significance

Sensitivity

- 11.2.14 The ISEP 'Guidelines for Environmental Impact Assessment' (2005) notes that the separate ISEP Guidelines 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 the ISEP, 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 guidelines intend to complement professional judgement and the experience of trained assessors.

¹¹ EAC 2026. Available at: <https://www.east-ayrshire.gov.uk/PlanningAndTheEnvironment/Planning-applications/Planning-applications.aspx>

¹² ERC 2026. Available at: <https://eastrenfrewshire.gov.uk/search-planning-applications>

¹³ Energy Consents Unit 2026. Available at: <https://www.energyconsents.scot/>

- 11.2.15 In terms of traffic and transport impacts, the receptors are the users of the roads within the study area and the locations through which those roads pass.
- 11.2.16 The ISEP Guidelines include guidance on how the sensitivity of receptors should be determined. Using that as a starting point, a classification of sensitivity for users based on the characteristics of roads and locations has been developed. This is summarised in **Table 11.2**.

Table 11.2 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 are 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 Loads and new strategic trunk road junctions capable of accommodating Abnormal Loads.
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.

- 11.2.17 It is acknowledged that there will be locations both in terms of users of roads and users / residents of locations that may not fit within one of the sensitivity classifications highlighted in **Table 11.2**. In these situations, professional judgement has been applied and justification for any changes provided.
- 11.2.18 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.

Magnitude

- 11.2.19 The magnitude of change has been assessed in accordance with the following rules which are outlined in the 2023 ISEP Guidelines, and are used to inform a screening exercise to determine which roads 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 heavy goods vehicles (HGVs) is predicted to increase by more than 30%); and
 - Rule 2 – Include any other specifically sensitive areas where total traffic flows are predicted to increase by 10% or more.
- 11.2.20 Examples of sensitive areas are presented in the 2023 ISEP Guidelines as hospitals, churches, schools, historical buildings and tourist attractions etc. These locations are to be assessed in relation to “Rule 2”.
- 11.2.21 The 2023 ISEP 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 ISEP Guidance advises 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 ISEP 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 ISEP Guidance advises 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 guidance advises 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 ISEP Guidance advises 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 ISEP Guidance, those areas of collision clusters would be subject to detailed review.
- Road safety audits – It would be proposed to undertake any necessary Road Safety Audits (RSA) post consent and it is considered that this can be secured via a planning condition.
- Large loads – The movement of the AILs associated with the construction of the proposed development have been considered in full, within a separate High-Level Access Review (see **Annex A of Technical Appendix 11.1**), which identifies physical mitigation measures required to accommodate the predicted loads and the risks associated with these. Additional mitigation in terms of addressing potential impacts on sensitive receptors are included as standard within the **Committed Additional Mitigation** section.

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

11.2.23 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 these impacts should be assessed – major, moderate, minor and negligible. The impacts and levels of magnitude are discussed below in **Table 11.3**.

Table 11.3 Magnitude of Effect

Magnitude	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.

Magnitude	Description
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.

Significance

- 11.2.24 The predicted significance of the effect in EIA terms was determined through a standard method of assessment based on professional judgement, considering both sensitivity and magnitude of change as detailed in **Table 11.4** below.

Table 11.4 Significance criteria

Receptor Sensitivity	Magnitude of Change			
	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

- 11.2.25 Significance is categorised as major, moderate, minor or negligible. Effects judged to be of **major** or **moderate** significance are considered to be **significant** in the context of the EIA Regulations and require mitigation.
- 11.2.26 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 the EIA Regulations.

Assessment Assumptions

- 11.2.27 The following assumptions have been made when undertaking the assessment of effects:
- A construction programme of 20 months has been assumed as detailed in **Chapter 4**.
 - Ready-mix concrete will be delivered to the Site. For the purpose of this assessment, it is assumed that this will be delivered from Kilmarnock via the A77.
 - All construction traffic enters the Site via the existing M77 service road, which is accessed via Floak Road.
 - As a robust assessment and to assess the potential impact on Floak Road, it is assumed that 100% of stone aggregate will be delivered from North Drumboy Quarry.
 - Staff working at the Site are likely to be based locally. It is assumed that 50% will come from the north near Glasgow and Newton Mearns via the A77 and the remaining 50% will come from the south near Fenwick and Kilmarnock via the A77.
 - General site deliveries are assumed to be delivered from the north via the A77 and Floak Road and via the existing M77 service road.
 - The year of construction is assumed to be 2030 and has been used for the basis of the assessment within this chapter.

- Assumptions on the original points for materials have been made to provide a worst-case assessment scenario. Should these origin points change, the effects on the study area may alter to those presented in the assessment.

11.2.28 Further details on assumptions made, including construction traffic routing and distribution and where raw material will be sourced, is included in **Technical Appendix 11.1**.

Assessment Limitations

11.2.29 The following assessment limitations have been identified:

- Construction material estimates set out in **Technical Appendix 11.1** are based on past experience of what is likely to be required for a project of this size and are considered to be appropriate for enabling a robust assessment of effects to be made. Where necessary, conservative estimates have been made.

11.2.30 Whilst limitations have been identified; it is considered that there is sufficient information to enable an informed decision to be taken in relation to the identification and assessment of likely significant environmental effects associated with traffic and transport.

11.3 Existing Conditions

Active Travel Network

11.3.1 There are no dedicated pedestrian facilities in the immediate vicinity of the Site, reflecting its rural setting.

11.3.2 A review of the EAC Core Path network¹⁴ and ERC Core Path network¹⁵ indicates that there are no Core Paths within the immediate vicinity of the Site, with the closest Core Path located to the east, running adjacent to the A77, as shown in **Technical Appendix 11.1 Figure 6**.

11.3.3 With regards to cycling, a review of Walk Wheel Cycle Trust (formerly Sustrans) map¹⁶ indicates that there are no cycle routes within the vicinity of the Site or study area. There is however a shared path / cycleway which runs adjacent to the A77 within the study area.

Road Access

M77 Service Road

11.3.4 The M77 service road comprises a narrow single-track road, which is maintained by Connect / Balfour Beatty on behalf of TS. This is a private, gated road which forms a part of the road network for the purpose of maintenance of the M77 only.

Floak Road

11.3.5 Floak Road is a two-way single carriageway road which connects to the A77, to the east of the Site access. To the west of the Site access, the road narrows on approach to the access to Floak Quarry, which is served by the road, in addition to areas of agricultural land and a small number of dwellings and farms. Within the study area, Floak Road appears to be in mainly good condition and is maintained by ERC.

The A77

11.3.6 Within the study area, the A77 is a two-way single carriageway road which is mainly subject to the national speed limit, however, this reduces to 40 miles per hour (mph) approximately 450 metres (m) to the north-west of its junction with Blacklock Road for the remainder of the northern section of the A77 within the study area. The A77 appears to be in reasonable condition, however there are locations where deterioration appears to be present from online imagery. Within the study area, the A77 is maintained by both Renfrewshire Council and the Ayrshire Roads Alliance (ARA). A shared path is located along the western side of the A77.

¹⁴ East Ayrshire Council, Core Path Plan: <https://webgis.east-ayrshire.gov.uk/webGISv3/> [Accessed May 2026]

¹⁵ East Renfrewshire Council Core Path Plan: https://eastrenfrewshire.gov.uk/media/8508/Core-Path-Plan-Proposals-Map/pdf/Core_Path_Plan_Proposals_Map.pdf?m=1669736492567 [Accessed May 2026]

¹⁶ Walk Wheel Cycle Trust: <https://www.walkwheelcycletrust.org.uk/> [Accessed May 2026]

The M77

- 11.3.7 The M77 is a motorway which operates with two lanes in each direction within the study area. The M77 is mainly subject to the national speed limit within the study area however, this reduces to 60 mph on approach to Junction 5. It forms part of the trunk road network and is maintained by Connect / Balfour Beatty on behalf of Transport Scotland (TS).

Road Suitability

- 11.3.8 The Agreed Timber Route Map¹⁷ 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'.
- 11.3.9 '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.
- 11.3.10 The section of the A77 within EAC's administrative area forms part of the agreed route network used for the extraction of timber and are therefore regularly used by HGV traffic.

Existing Traffic Conditions

- 11.3.11 In order to assess the impact of the Proposed Development construction traffic on the study area, an ATC was undertaken on Floak Road, over a seven-day period in June 2025. To complement the ATC survey, existing traffic count data was obtained from the Department for Transport (DfT)¹⁸ database and the TS¹⁹ database, with 2024 and 2025 data utilised, respectively.
- 11.3.12 The traffic count sites used were as follows:
- 11.3.13 Floak Road (ATC Survey);
- (i) A77, south-west of junction with Mearns Road (DfT Count Point 30755);
 - (ii) A77, south of Floak Bridge (DfT Count Point 74352);
 - (iii) A77, south-west of junction with A719 (DfT Count Point (DfT Count Point 90195);
 - (iv) A77, south-west of M77 Junction 7 on-slip road (DfT Count Point 50704);
 - (v) M77, between Junctions 5 and 6 (TS Count Points CTC01014 and CTC01015); and
 - (vi) M77, near Junction 7 (TS Count Points CTC01023 and CTC01024).
- 11.3.14 DfT and TS traffic data allow the traffic flows to be split into vehicle classes. The data was summarised into Cars/Light Goods Vehicles (LGVs) and HGVs (all goods vehicles >3.5tonnes gross maximum weight including buses).

¹⁷ <https://timbertransportforum.org.uk/> [Accessed May 2026]

¹⁸ <https://roadtraffic.dft.gov.uk/#6/55.254/-11.096/basemap-regions-countpoints> [Accessed May 2026]

¹⁹ <https://ts.drakewell.com/multinodemap.asp> [Accessed May 2026]

- 11.3.15 A NRTF low growth factor was applied to the survey data, to bring the traffic data up to the base year of 2026. The NRTF low growth factors for 2024 to 2026 and for 2025 to 2026 are 1.011 and 1.005, respectively.
- 11.3.16 **Figure 11.2 Volume 3a** shows the location of the ATC, DfT and TS survey points, while **Table 11.5** summarises the Annual Average Daily Traffic (AADT) data collected and used in this assessment.

Table 11.5 24-hour Average Traffic Data (2026)

No.	Survey Location	Data Source	Car & LGV	HGV	Total
1	Floak Road	ATC	152	38	191
2	A77, south-west of junction with Mearns Road	DfT Count Point 30755	1,522	326	1,847
3	A77, south of Floak Bridge	DfT Count Point 74352	1,189	132	1,321
4	A77, south-west of junction with A719	DfT Count Point 90195	2,716	103	2,819
5	A77, south-west of M77 Junction 7 on-slip road	DfT Count Point 50704	4,351	400	4,752
6	M77, between Junctions 5 and 6	TS Count Points CTC01014 and CTC01015	46,370	5,136	51,505
7	M77, near Junction 7	TS Count Points CTC01023 and CTC01024	42,074	4,913	46,988

Please note minor variances due to rounding may occur.

- 11.3.17 The ATC and TS survey locations which provided traffic volume data were also used to obtain speed statistics. The two-way seven-day average and 85th percentile speeds observed at the count sites are summarised in **Table 11.6**.

Table 11.6 Speed Summary

No.	Survey Location	Data Source	Mean Speed (mph)	85thile Speed (mph)	Speed Limit (mph)
1	Floak Road	ATC	23.9	26.8	60.0
2	A77, south-west of junction with Mearns Road	DfT Count Point 30755	No data available.		40.0
3	A77, south of Floak Bridge	DfT Count Point 74352	No data available.		60.0
4	A77, south-west of junction with A719	DfT Count Point 90195	No data available.		60.0
5	A77, south-west of M77 Junction 7 on-slip road	DfT Count Point 50704	No data available.		60.0
6	M77, between Junctions 5 and 6	TS Count Points CTC01014 and CTC01015	67.1	75.0	70.0
7	M77, near Junction 7	TS Count Points CTC01023 and CTC01024	67.0	74.7	70.0

No speed data available from DfT database, ATC speed data from 2024 and TS speed data from 2025.

- 11.3.18 Speed information from **Table 11.6**, suggests that the recorded speeds are broadly being adhered to within the study area, with only the 85th percentile speeds recorded marginally above the speed limits at the M77 count point locations. Police Scotland may wish to consider enforcement spot checks in these areas, if deemed necessary.

Accident Review

- 11.3.19 Personal Injury Accident (PIA) data for the five-year period covering January 2020 to December 2024 was obtained from the online resource CrashMap²⁰ which uses data collected by the police about road traffic crashes occurring on British roads, where someone is injured. TA Guidance²¹ requires an analysis of the PIA on the road network in the vicinity of any development to be undertaken for at least the most recent three-year period. Whilst the study area has not been identified as having a high accident rate, a five-year review has been undertaken to ensure a comprehensive assessment has been undertaken.
- 11.3.20 The PIA statistics are categorised into three categories, namely:
- A “Slight” PIA, examples include a sprain, bruise or cut which is not considered to be severe, or slight shock requiring roadside attention;
 - A “Serious” PIA, examples include fractures, concussion, internal injuries, crushings, severe cuts and lacerations, severe general shock requiring treatment; and
 - A “Fatal” PIA, for those accidents that result in a death.
- 11.3.21 The locations and severity of the recorded accidents within the study area are summarised in **Table 11.7**, while **Figure 11.3 Volume 3a** shows their locations.

Table 11.7 Personal Injury Accident Summary

Location	Slight	Serious	Fatal	HGV Incidents
A77 (within Study Area)	6	7	3	1
M77 (within Study Area)	3	5	0	8
Total	9	12	3	9
Percentage of total accidents	38%	50%	13%	38%

- 11.3.22 A summary analysis of the incidents indicates that:

A77 (within the Study Area)

- A total of 16 accidents were recorded along the A77 (within the Study Area) within the five-year period;
- Of those 16 accidents, six were classed as “slight”, seven as “serious” and three that resulted in fatalities;
- Two of the accidents that resulted in fatalities were recorded as single vehicle accidents, one of which involved a motorcycle and one which involved a van;
- The third accident resulting in a fatality involved a collision between a van and a bus;
- A total of three accidents involved motorcycles, two of which were single vehicle accidents (one of which resulted in a fatality as detailed above) and one involved an accident with a car;
- Three accidents involved cyclists, of which one was classified as “serious” and two were classified as “slight”;
- One accident involved a pedestrian which was classified as “serious”; and
- One accident involved a collision between an HGV and a car and was classified as “serious”.

M77 (within the Study Area)

- A total of eight accidents were recorded along the M77 (within the Study Area) within the five year period;
- Of those eight accidents, three were classed as “slight”, five as “serious” and none resulted in fatalities;

²⁰ CrashMap 2026. Available at: <https://www.crashmap.co.uk/> [Accessed April 2026]

²¹ Transport Scotland (2012) Transport Assessment Guidance Available at; https://www.transport.gov.scot/media/4589/planning_reform_-_dpmtag_-_development_management_dpmtag_ref_17_-_transport_assessment_guidance_final_-_june_2012.pdf [Accessed April 2026]

- A total of two accidents involved motorcycles. Both were single vehicle accidents that resulted in “slight” accidents;
- No accidents involving HGVs were recorded along the M77 (within the Study Area); and
- No accidents involving pedestrians or cyclists were recorded along the M77 (within the Study Area).

- 11.3.23 In general, there are no clusters of PIAs at any location in the assessed area or high numbers of accidents involving HGVs for example. The majority of PIAs recorded on the local road network occurred at or on approach to junctions / access to properties, where there is an increased interaction between vehicles and on bends.
- 11.3.24 Based on the information available, it has been established that there are no specific road safety issues within the immediate vicinity of the Proposed Development or within the study area that currently require to be addressed or would be exacerbated by the construction of the Proposed Development.

Future Baseline

- 11.3.25 Construction of the Proposed Development is estimated to commence during 2030 if planning permission is granted and is anticipated to last approximately 20 months depending on weather conditions and ecological considerations.
- 11.3.26 To assess the likely effects during the construction, base year traffic flows were determined by applying a NRTF low growth factor to the surveyed traffic flows. The NRTF low growth factor for 2026 to 2030 is 1.021. These factors were applied to the survey data to estimate the 2030 base traffic flows, as shown in **Table 11.8**. This forecast forms the baseline for the assessment of Access, Traffic and Transport related effects within this chapter.

Table 11.8 24-hour Average Traffic Data (2030)

No.	Survey Location	Car & LGV	HGV	Total
1	Floak Road	155	39	194
2	A77, south-west of junction with Mearns Road	1,552	332	1,884
3	A77, south of Floak Bridge	1,213	135	1,348
4	A77, south-west of junction with A719	2,770	105	2,875
5	A77, south-west of M77 Junction 7 on-slip road	4,438	408	4,847
6	M77, between Junctions 5 and 6	47,297	5,238	52,535
7	M77, near Junction 7	42,916	5,012	47,928

Please note minor variances due to rounding may occur.

11.4 Implications of Climate Change for Existing Conditions

- 11.4.1 It is considered that climate change projections will not have a discernible impact on the baseline conditions for road traffic within the timescales of the Proposed Development.
- 11.4.2 It is assumed that, at regional level, appropriate measures will be put in place to ensure flood risk is managed and does not have long term effects on transport infrastructure.

11.5 Future Baseline in the Absence of the Proposed Development and Likely Grid Connection Route

- 11.5.1 As noted above, the assessment has been undertaken on the basis of a future baseline of conditions in 2030, with growth factors applied. In the absence of the Proposed Development, it is anticipated that traffic growth will occur throughout the study area as a result of cumulative development pressures, tourism and population flows.

11.6 Embedded Design Mitigation

- 11.6.1 One of the key infrastructure design principles was to keep overall new track length to a minimum thereby reducing stone imports and associated potential environmental effects. This principle has been followed as far as possible taking into account other environmental and technical constraints.

11.7 Scope of the Assessment

Effects Assessed in Full

- 11.7.1 This assessment focusses on the effects of construction of the Proposed Development upon those receptors identified during the review of desk-based information and field surveys given that this phase will result in the generation of most traffic and highest level of change compared to baseline traffic levels across the study area for the Proposed Development.
- 11.7.2 The following potential effects are considered in this assessment:
- Direct effects on road/path users during construction due to changes in traffic flows and transport of AILs in the surrounding study area for the Proposed Development; and
 - Direct effects on local residents as a result of increased traffic during construction of the Proposed Development.
- 11.7.3 The assessment scenarios used for this topic are as follows:
- Future Baseline Flows (2030) – which are estimated by applying NRTF low growth factors to existing traffic flow information;
 - Future Baseline + Development Flows (2030) – which are estimated by applying the distributed development trips to the future baseline traffic flow information: and,
 - Future Baseline + Development Flows + Cumulative Development Flows (2030) – which are estimated by applying the distributed development trips plus cumulative development flows to the future baseline traffic flow information.
- 11.7.4 A high-level review of the Likely Grid Connection Route (including in-combination with the Proposed Development) has been undertaken.

Effects Scoped Out

- 11.7.5 On the basis of the desk based and field survey work undertaken, the professional judgement of the EIA team, experience from other relevant projects and policy guidance or standards, and feedback received from consultees, the following topic areas have been 'scoped out' of detailed assessment:
- Operational Phase: The traffic effects during the operational phase of the Proposed Development will be low, with on average two vehicles per week for maintenance purposes, far below the recognised thresholds for triggering a formal transport assessment. As such, the effects during the operational phase are scoped out of the assessment and are not assessed further.
 - Decommissioning Phase: The traffic effects during the decommissioning phase can only be fully assessed closer to that period, 35 years on from the completion of the Proposed Development. As elements of the Proposed Development are likely to remain in-situ (such as cable trenches, some access tracks, etc.), the traffic flows associated with the decommissioning works will be lower than those associated with the construction phase. The construction phase therefore represents a worst-case assessment, and as such decommissioning effects of the Proposed Development are considered to be less than the predicted construction phase effects and are not assessed further.

11.8 Assessment of Effects

- 11.8.1 The assessment of effects is based on the project description as outlined in **Chapter 4: Development Description**. Unless otherwise stated, potential effects identified are considered to be adverse.

- 11.8.2 A review of sensitive receptors has been undertaken within the study area. **Table 11.9** details the receptors and their sensitivities for use within the following assessment. A justification for the sensitivity has been provided, based upon the details contained in **Table 11.2**.

Table 11.9 Receptor Sensitivity Summary

Receptor	Sensitivity	Justification
Floak Road Users	High	Where the road is a minor rural road*.
Floak Road Residents	Low	Where a location is a small rural settlement, few community or public facilities or services.
A77 Users	Medium	Where the road is a local A or B class road, capable of regular use by HGV traffic.
A77 Residents	Low	Where a location is a small rural settlement, few community or public facilities or services.
M77 Users	Negligible	Where roads have no adjacent settlements.

* Note, as a worst-case assessment, Floak Road is considered high sensitivity, although it currently accommodates HGV traffic associated with Floak Quarry

- 11.8.3 As no sensitive areas were identified, all locations within the study area are subject to 'Rule 1' and are assessed if traffic flows (or HGV flows) on road links increase by more than 30%.
- 11.8.4 Please note that users of the existing M77 service road are not considered as receptors for this assessment as this is a private, gated road.

Construction Effects

The Proposed Development

Predicted Construction Effects

- 11.8.5 The assessment is based upon the construction effects that may occur within the study area during the 20-month construction programme. To assess the effects, it is necessary to determine the likely traffic generation associated with the Proposed Development during the peak construction month.
- 11.8.6 During the 20-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 and crushed rock;
 - Forestry vehicles;
 - Abnormal loads consisting of the wind turbine blades, towers, nacelle and a heavy lift crane; and,
 - Components relating to the substation and associated infrastructure.
- 11.8.7 Average monthly traffic flow data was used to establish the construction trips associated with the Proposed Development and these are detailed in **Technical Appendix 11.1**. The trip estimates have been based upon first principle estimates of traffic movements to and from the Site, having established the likely volumes of construction materials, resources and components.
- 11.8.8 Except for the turbine components, most traffic will be HGVs and normal construction plant, including grading tractors, excavators, high-capacity cranes, forklifts and dumper trucks. Most will arrive to the Site on low loaders.
- 11.8.9 The turbines will be delivered in component sections for transport and will be assembled within the turbine array. The nacelle, hub, drive train, blade, tower sections are classified as AILs due to their weight and/or length, width and height when loaded. The components can be delivered on a variety of transport platforms with typical examples illustrated in **Technical Appendix 11.1**.

- 11.8.10 In addition to the turbine deliveries, up to two high-capacity erection cranes will be needed to offload components and erect the turbines. The cranes are likely to be mobile cranes with a capacity up to 1,000 tonnes that will be escorted by boom and ballast trucks to allow full mobilisation onsite. A smaller erector / assist crane will also be present to allow the assembly of the main cranes and to ease overall erection of the turbines.
- 11.8.11 The resulting traffic generation profile is presented in **Technical Appendix 11.1**. The maximum traffic volume associated with construction of the Proposed Development is predicted to occur in month nine when there will be a total of 2,464 movements or on average 112 vehicle movements per day, comprising 86 two-way HGV movements and 26 two-way car / LGV movements per day to transport construction workers to and from the Site.
- 11.8.12 This is based on a flat construction profile that assumes 22 working days per month with the construction activities spread equally throughout the month. This, however, is unlikely to be the case given that ready-mix concrete is proposed to be used in the turbine foundations and each of the foundations will be constructed by means of a continuous pour.
- 11.8.13 It is therefore assumed that the concrete pour for each turbine foundation would occur over one day and as such, the traffic movements associated with this element of the construction activities is considered to be the most onerous in terms of traffic impacts, with 414 HGV movements (207 inbound trips and 207 outbound trips) per turbine and 26 two way car / LGV movements (13 inbound trips and 13 outbound trips) for staff. Assuming a worst case whereby foundation concrete would be delivered on a single day in order to achieve a continuous pour, this would equate to approximately 35 two-way HGV movements per hour over the course of a typical 12 hour shift onsite. All other deliveries on this day will be suspended to allow unrestricted access for concrete deliveries.
- 11.8.14 This peak of construction activity would occur on a total of five days over the construction phase and as such any disruption would be short-lived. Following this, the number of HGV vehicle movements will decrease significantly over the remainder of the 20-month construction programme.
- 11.8.15 The distribution of development traffic on the network will vary depending on the types of loads being transported. The assumptions for the distribution of construction traffic during the peak month are presented in **Technical Appendix 11.1** and are also noted above.
- 11.8.16 The most appropriate PoE for the delivery of wind turbine components will be KGV Docks in Glasgow. AIL vehicles will travel from the PoE via Kings Inch Road, M8, M74 and M77, exiting at Junction 6 of the M77 and travelling back north via the A77. AIL vehicles will leave the A77 and travel into Site via Floak Road, crossing Floak Bridge and the along existing M77 service road.
- 11.8.17 For the purposes of preparing this chapter and **Technical Appendix 11.1**, it has been assumed that all AIL traffic will access the Site via the following route:
- Loads would depart the KGV Docks and proceed to exit the roundabout onto Kings Inch Drive;
 - At the roundabout loads would take the second exit and stay on Kings Inch Drive;
 - Loads would merge onto the M8 via the ramp to Glasgow;
 - Blade loads will continue east on the M8 before departing at Junction 4 and continue northbound on the M73, continuing to Junction 8 between the M73 and M8;
 - At Junction 8, the loads will circumnavigate the roundabout, before rejoining the M73 southbound;
 - Loads will then rejoin the M74 at Junction 4 continuing westbound. They will travel west before joining the southbound carriageway of the M77 at Junction 22 of the M8;
 - Non-blade loads will use the Seaward Street Interchange to U turn and access the M77 from the M8;
 - Loads will continue south on the M77 and will depart at Junction 6 where they will join the A77 eastbound;
 - Loads would continue on the A77 northbound and will turn left at Floak Road and over Floak Bridge; and,
 - After Floak Bridge will turn left and will then use the existing M77 service road to travel south-west into the Site.
- 11.8.18 The above route is shown in **Figure 11.4 Volume 3a**.
- 11.8.19 Following the distribution and assignment of traffic flows to the Study Area network, the resultant daily traffic during the peak day of construction, which is the delivery of ready-mix concrete for the turbine foundations, is summarised

in **Table 11.10**. Note, where road links show no assignment of traffic flows, this is due to no construction traffic associated with the peak month routing to the Site via this route.

Table 11.10 Peak Daily Construction Traffic

No.	Survey Location	Car & LGV	HGV	Total
1	Floak Road	26	414	440
2	A77, south-west of junction with Mearns Road	13	0	13
3	A77, south of Floak Bridge	13	414	427
4	A77, south-west of junction with A719	13	414	427
5	A77, south-west of M77 Junction 7 on-slip road	13	414	427
6	M77, between Junctions 5 and 6	0	0	0
7	M77, near Junction 7	0	0	0

Please note minor variances due to rounding may occur.

- 11.8.20 The peak day construction traffic was compared against the future baseline traffic to estimate the percentage increase in traffic associated with this phase of the Proposed Development in accordance with the ISEP Guidelines. **Table 11.11** illustrates the potential traffic impact at the peak day of construction activity during a turbine foundation continuous pour of ready-mix concrete.

Table 11.11 2030 Future Baseline + Construction Traffic – Peak Day Impact Summary

No.	Survey Location	Car & LGV	HGV	Total	Cars & LGV % Increase	HGV % Increase	Total Traffic % Increase
1	Floak Road	181	453	634	16.8%	1053.8%	226.2%
2	A77, south-west of junction with Mearns Road	1,565	332	1,897	0.8%	0.0%	0.7%
3	A77, south of Floak Bridge	1,226	549	1,774	1.1%	306.2%	31.7
4	A77, south-west of junction with A719	2,783	519	3,302	0.5%	393.2%	14.8%
5	A77, south-west of M77 Junction 7 on-slip road	4,451	822	5,273	0.3%	101.3%	8.8%
6	M77, between Junctions 5 and 6	47,297	5,238	52,535	0.0%	0.0%	0.0%
7	M77, near Junction 7	42,916	5,012	47,928	0.0%	0.0%	0.0%

Please note minor variances due to rounding may occur.

- 11.8.21 The total traffic movements are predicted to increase by a maximum of 226.2% on Floak Road which provides access to the M77 Service Road, which leads through to the Site and as such all construction traffic will use. On the rest of the study area, the highest total traffic increase is 31.7%, which occurs on the A77, south of Floak Bridge.
- 11.8.22 **Table 11.11** shows that highest HGV traffic movements increase will occur on the Floak Road, where it is estimated to increase by 1053.8%. To put the increase into perspective, Floak Road will see an additional 414 HGV movements per day or 35 HGV movements per hour over the course of a typical 12-hour shift during continuous concrete pours. As this section of road already services an operational quarry (Floak Quarry), the increase in HGVs is not considered substantial in terms of overall traffic flows. It should be noted; this will occur on a maximum of five

single days during the pouring of the turbine foundation and the percentage increase in HGVs will fall significantly outwith this period.

- 11.8.23 The next highest HGV traffic movement increase would occur on the A77 with increases of 393.2%, 306.2% and 101.3% increases to the south-west of the junction with the A719, south of Floak Bridge and south-west of M77 Junction 7 on-slip road, respectively. There is also an operational quarry located on the A77 (North Drumboy Quarry) and as such HGV traffic comprises part of the typical composition of traffic along the A77.
- 11.8.24 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 results are summarised in **Table 11.12**.

Table 11.12 2030 Peak Traffic Flow Capacity Review

No.	Survey Location	2030 Baseline Flow (total traffic)	2030 Base + Development Flows (total traffic)	Theoretical Road Capacity (12hr)	Spare Road Capacity %
1	Floak Road	194	634	19,200	97%
2	A77, south-west of junction with Mearns Road	1,884	1,897	28,800	93%
3	A77, south of Floak Bridge	1,348	1,774	28,800	94%
4	A77, south-west of junction with A719	2,875	3,302	28,800	89%
5	A77, south-west of M77 Junction 7 on-slip road	4,847	5,273	28,800	82%
6	M77, between Junctions 5 and 6	52,535	52,535	91,200	42%
7	M77, near Junction 7	47,928	47,928	91,200	47%

Please note minor variances due to rounding may occur.

- 11.8.25 The results indicate there are no road capacity issues with the addition of construction traffic associated with the Proposed Development and significant spare capacity exists within the trunk and local road networks to accommodate all construction phase traffic.
- 11.8.26 In accordance with the ISEP Guidelines Rules 1 and 2, detailed assessments have been undertaken on the following receptors within the study area. Note all receptors fall within Rule 1:
- Floak Road Users (High Sensitivity);
 - Floak Road Residents (Low Sensitivity);
 - A77 Users (Medium Sensitivity); and
 - A77 Residents (Low Sensitivity).
- 11.8.27 For the purposes of undertaking the assessment, where both the users of a road and residents in the vicinity of the road require to be assessed, these have been done together to avoid repetition.

Table 11.13 Construction Phase Effects Summary

Receptor	Potential Effect	Magnitude of Effect	Significance of Effect	Comment
Floak Road Users / Residents	Severance	Major	Major (Significant)	With regards to potential impacts on other road users, the predicted increase in total traffic during the peak day is 226.2%.

Receptor	Potential Effect	Magnitude of Effect	Significance of Effect	Comment
				It is estimated that HGV traffic movements will increase on Floak Road by 1053.8%. To put the increase into perspective, Floak Road will see an additional 414 HGV movements per day or 35 HGV movements per hour over the course of a typical 12-hour shift. As this section of road already services an operational quarry (Floak Quarry), the increase in HGVs is not considered substantial in terms of overall traffic flows. It should be noted; this will occur on a maximum of five single days during the pouring of the turbine foundation and the percentage increase in HGVs will fall significantly outwith this period. When looking at the theoretical road capacity of the road in Table 11.12, it can be seen that there is approximately 97% spare capacity. The base plus development trips accounts for a total of 634 peak daily vehicular trips, assuming the majority of these occur between 07:00 and 19:00 for example, this would equate to approximately 53 vehicle movement per hour. As noted above, this would only happen on concrete foundation pour days which will happen for a total five days over the entire construction programme. The effect of severance is therefore considered to be major (significant).
	Driver Delay	Moderate	Major / Moderate (Significant)	When considering the effects purely in numerical terms based on the assessment criteria, there is ample spare capacity on the road (approximately 97%), with the addition of construction traffic. This, however, does not take cognisance of the character of the road and the potential for other road users to become frustrated by the increase in traffic. Given that there is significant spare capacity on the road and improvements will be made to the road to accommodate the AILs, driver frustration would be expected to be minimal. The effect on driver delay is therefore considered moderate (significant).
	Pedestrian Delay	Minor	Moderate / Minor (Not Significant)	There is no pedestrian facilities located along Floak Road within the study area. The effect on pedestrian delay is therefore considered to be minor (not significant).

Receptor	Potential Effect	Magnitude of Effect	Significance of Effect	Comment
	Non-motorised User Amenity	Moderate	Major / Moderate (Significant)	With regards to potential impacts on non-motorised user amenity, the predicted increase in HGV traffic is 1053.8%. As this section of road already services an operational quarry (Floak Quarry), HGV traffic is already present on this road. It should be noted; this will occur on a maximum of five single days during the pouring of the turbine foundation and the percentage increase in HGVs will fall significantly outwith this period. The effect on non-motorised user amenity is therefore considered to be moderate (significant).
	Fear & Intimidation	Major	Major (Significant)	With regards to potential impacts on other road users, the predicted increase in total traffic during the peak day is 226.2%. It is estimated that HGV traffic movements will increase on Floak Road by 1053.8%. To put the increase into perspective, Floak Road will see an additional 414 HGV movements per day or 35 HGV movements per hour over the course of a typical 12-hour shift. As this section of road already services an operational quarry (Floak Quarry), the increase in HGVs is not considered substantial in terms of overall traffic flows. It should be noted; this will occur on a maximum of five single days during the pouring of the turbine foundation and the percentage increase in HGVs will fall significantly outwith this period. When looking at the theoretical road capacity of the road in Table 11.12, it can be seen that there is approximately 97% spare capacity. The base plus development trips accounts for a total of 634 peak daily vehicular trips, assuming the majority of these occur between 07:00 and 19:00 for example, this would equate to approximately 53 vehicle movement per hour. As noted above, this would only happen on concrete foundation pour days which will happen for a total five days over the entire construction programme. The effect of fear and intimidation is therefore considered to be major (significant).
	Road Safety	Moderate	Major / Moderate (Significant)	The peak daily increase in traffic on Floak Road is 226.2% however it should be noted that no accidents were

Receptor	Potential Effect	Magnitude of Effect	Significance of Effect	Comment
				recorded on the Floak Road within the study area over the last 5-year period. Therefore the effect of road safety is considered moderate (significant) .
	Large Loads	Major	Major (Significant)	It is anticipated that the Proposed Development will require 19 AIL convoys to be delivered to Site over a three month period. These loads will be delivered in convoys of three AILs per convoy and will be accompanied by three escort vehicles and Police escort. The effect is therefore considered major (significant) .
A77 Users / Residents	Severance	Minor	Minor (Not Significant)	With regards to potential impacts on other road users, the overall maximum increase in traffic on the A77 is forecast to be 31.7%. Specifically in relation to the Proposed Development, the daily peak of construction activity is expected to occur during the continuous pour of the concrete foundations, which will occur five times during the duration of the construction programme, when there will be a total of 440 vehicle movements per day, comprising 414 two-way HGV movements and 26 two-way car / LGV movements. This would equate to approximately 37 two-way total vehicle movements across a typical 12-hour day, assuming a flat traffic profile. The effect of severance is therefore considered to be minor (not significant) .
	Driver Delay	Minor	Minor (Not Significant)	When considering the effects purely in numerical terms based on the assessment criteria, there is ample spare capacity on the road with the addition of construction traffic. It should however be noted that it is estimated that an additional 440 two-way vehicle movements (220 inbound and 220 outbound) would occur during the peak day during the construction phase when concrete is being delivered for the turbine foundations. The effect on driver delay is therefore considered minor (not significant) .
	Pedestrian Delay	Minor	Minor (Not Significant)	The path running adjacent to the A77 is a segregated path.

Receptor	Potential Effect	Magnitude of Effect	Significance of Effect	Comment
				The effect on pedestrian delay is therefore considered to be minor (not significant) .
	Non-motorised User Amenity	Minor	Minor (Not Significant)	With regards to potential impacts on non-motorised user amenity, the path running adjacent to the A77 is a segregated path The increase of 440 vehicle movements per day would be unlikely to affect non-motorised user amenity as HGV traffic is already present on the A77. The effect on non-motorised user amenity is therefore considered to be minor (not significant).
	Fear & Intimidation	Minor	Minor (Not Significant)	With regards to potential impacts on other road users, the overall increase in traffic is forecast to be 31.7%. Specifically in relation to the Proposed Development, the daily peak of construction activity is expected to occur during the continuous pour of the concrete foundations, which will occur five times during the duration of the construction programme, when there will be a total of 440 vehicle movements per day, comprising 414 two-way HGV movements and 26 two-way car / LGV movements. This would equate to approximately 37 two-way total vehicle movements across a typical 12-hour day, assuming a flat traffic profile. The effect of fear and intimidation is therefore considered to be minor (not significant).
	Road Safety	Moderate	Moderate (Significant)	Over the latest available 5-year period, a total of 13 PIAs (comprising 2 fatal PIAs, 7 serious PIAs and 4 slight PIAs) were recorded on the A77 within the section of the study area to the south of Floak Bridge. Therefore, the effect of road safety is considered moderate (significant).
	Large Loads	Major	Major (Significant)	It is anticipated that the Proposed Development will require 19 AIL convoys to be delivered to Site over a three-month period. These loads will be delivered in convoys of three AILs per convoy and will be accompanied by three escort vehicles and Police escort. The effect is therefore considered major (significant).

- 11.8.28 The assessment suggests that the following receptors are considered likely to experience **Significant** effects in accordance with the EIA Regulations, prior to the application of mitigation measures:
- Floak Road Users / Residents – Severance, Driver Delay, Non-motorised User Amenity, Fear and Intimidation, Road Safety and Large Loads; and
 - A77 Users / Residents – Road Safety and Large Loads.
- 11.8.29 It should be noted that the impacts relate solely to the peak of construction activities and that the construction period is short lived and the effects are temporary in nature. Whilst it is acknowledged that other months within the construction programme may cause Significant effects, these would be less than those assessed and for which mitigation measures have been proposed.

Committed Additional Mitigation

- 11.8.30 The following Committed Additional Mitigation will be provided to address adverse impacts associated with the Proposed Development's construction traffic.

Construction Traffic Management Plan (CTMP)

- 11.8.31 The following measures will be implemented during the construction phase through the CTMP, secured via a planning permission condition:
- Agree AIL route modifications and improvements with ARA and TS and other relevant stakeholders. Works which will be required to facilitate turbine deliveries are outlined in the High-Level Access Review, which is presented in **Annex A of Technical Appendix 11.1**;
 - Where possible, the detailed design process will minimise the volume of material to be imported to Site to help reduce HGV numbers;
 - A Staff Travel Plan, including transport modes to and from the worksite (including pick up and drop off times);
 - A Transport Management Plan for AIL deliveries;
 - 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 TS and the local authority;
 - Normal Site working hours will be limited to between 0700 and 1900 Monday to Friday and 0700 and 1300 on Saturdays though component delivery and turbine erection may take place outside these hours i.e. depending on when police escort is available;
 - Appropriate traffic management measures will be put in place on Floak Road and the A77 leading through to the Site, to avoid conflict with general traffic including Floak Quarry traffic and Floak residents, subject to the agreement of ARA and ERC. 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, social media feeds and a newsletter to be distributed to residents within an agreed distance of the Site;
 - Adoption of voluntary reduced speed limits, for example on the Floak Road in the vicinity access junction to the existing M77 service road and at other locations to be agreed with ARA and ERC; and
 - All drivers will be required to attend an induction to include:
 - A toolbox talk safety briefing;
 - The need for appropriate care and speed control (in particular along Floak Road);
 - 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.

Offsite Mitigation

- 11.8.32 ARA, ERC and TS 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 condition of the road prior to any construction work commencing. This baseline will provide evidence of any change in the road condition during the construction phase. Any necessary repairs will be coordinated with ARA, ERC and TS. 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.
- 11.8.33 Damage to road infrastructure caused directly by construction traffic will be remediated, and street furniture that is removed on a temporary basis will be fully reinstated.
- 11.8.34 There will be a regular road condition review, and any debris and mud will be removed from the carriageway using an onsite road sweeper to ensure road safety for all road users.

Specific Abnormal Load Mitigation

- 11.8.35 There are a number of traffic management measures that could help reduce the effect of AIL convoys.
- 11.8.36 All AIL deliveries will be undertaken at appropriate times (to be discussed and agreed with EAC, TS and the police) with the aim to minimise the effect on the local road network. It is likely that the abnormal load convoys will travel in the early morning periods before peak times while general construction traffic will generally avoid the morning and evening peak periods.
- 11.8.37 The majority of potential conflicts between construction traffic and other road users will occur with abnormal load traffic. General construction traffic is not likely to come into conflict with other road users as the vehicles are smaller and road users are generally more accustomed to them.
- 11.8.38 Potential conflicts between the abnormal loads and other road users can occur at a variety of locations and circumstances. The main potential conflicts are likely to occur:
- On sections of single carriageway road or narrow road sections, for example on the Floak Road, Floak Bridge and the A77;
 - At locations where there are significant changes in the horizontal alignment of the carriageway, requiring the loads to use the full carriageway width;
 - Where traffic turns at a road junction, requiring other traffic to be restrained on other approach arms; and,
 - In locations where high speeds of general traffic are predicted.
- 11.8.39 Advance warning signs will be installed on the approaches to the affected road network. Information signage could be installed to help improve driver information and allow other road users to consider alternative routes or times for their journey (where such options exist).
- 11.8.40 The location and numbers of signs will be agreed post consent and would form part of the wider traffic management proposals for the Proposed Development.
- 11.8.41 Information on the wind turbine convoys will be provided to local media outlets such as local papers and local radio to help assist the public. Information will relate to expected vehicle movements from the port of entry through to the Site access junction. This will assist residents becoming aware of the convoy movements and may help reduce any potential conflicts.
- 11.8.42 The Applicant will also ensure information is distributed through its communication team via the project website, local newsletters, and social media.
- 11.8.43 A police escort will be required to facilitate the delivery of the AILs. The police escort will be further supplemented by a civilian pilot car to assist with the escort duty. It is proposed that an advance escort will warn oncoming vehicles ahead of the convoy, with one escort staying with the convoy at all times. The escorts and convoy will remain in radio contact at all times where possible.
- 11.8.44 The abnormal loads convoys will be no more than three AILs long, or as advised by the police, to permit safe transit along the delivery route and to allow limited overtaking opportunities for following traffic where it is safe to do so.

- 11.8.45 The times in which the convoys will travel will need to be agreed with Police Scotland who have sole discretion on when loads can be moved.

AIL Transport Management Plan

- 11.8.46 An Abnormal Load Transport Management Plan will be prepared to cater for all movements to and from the Site. This will include:
- Procedures for liaising with the emergency services to ensure that police, fire and ambulance vehicles are not impeded by the loads. This is normally undertaken by informing the emergency services of delivery times and dates, and agreeing communication protocols and lay over areas to allow overtaking;
 - A diary of proposed delivery movements to liaise with the communities to avoid key dates such as local events;
 - A protocol for working with local businesses to ensure the construction traffic does not interfere with deliveries or normal business traffic; and
 - Proposals to establish a construction liaison group to ensure the smooth management of the project / public interface with the Applicant, the construction contractors, the local community, and if appropriate, the police forming the committee. This committee would form a means of communicating and updating on forthcoming activities and dealing with any potential issues arising.

Staff Travel Plan

- 11.8.47 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.

Residual Construction Effects

- 11.8.48 The identification of residual construction effects considers the assessment of traffic effects following the incorporation of the identified mitigation measures above. An evaluation of the potential effects of the temporary increase in traffic on the study area roads used for the construction traffic has been undertaken and is presented in **Table 11.16**, with the summary of the results provided below:
- Floak Road Users / Residents – Minor (Not Significant); and
 - A77 Users / Residents – Minor (Not Significant).
- 11.8.49 The assessment confirms the temporary construction stage effects will be minor in nature and not significant. The traffic effects are transitory in nature, and appropriate mitigation measures such as a comprehensive CTMP, an Abnormal Load Transport Management Plan and Staff Travel Plan are proposed to reduce the potential impacts. No long-term detrimental transport or access issues are associated with the construction phase of the Proposed Development.

The Likely Grid Connection Route

Predicted Construction Effects (including In-Combination Effects with the Proposed Development)

- 11.8.50 The likely Point of Connection (PoC) to the grid for the Proposed Development is to be at made at Crookston Substation. The route for the Likely Grid Connection Route is as follows: A736 Glasgow Road, A736 Dovecothall Street, Aurs Road, B769 Stewarton Road, B769 Dodside Road, Malletsheugh Road, A77 Ayr Road, Floak Road (including Floak Bridge) and the M77 service road. The works associated with the Likely Grid Connection Route could result in additional impacts on Floak Road and the A77 (near North Drumboy Quarry).

- 11.8.51 The construction of the Likely Grid Connection Route will require temporary access to each construction location in the road or roadside verge along the route. This will involve the use of a tracked excavator and delivery vehicles at each point of construction. Delivery of construction materials to cable locations will be achieved by access from public roads to the roadside verge at the point of construction.
- 11.8.52 Due to the nature, design and rate of construction of the Likely Grid Connection Route, it is anticipated that vehicle movements at any one location would be limited to approximately three or four visits per day over the course of the construction period which will not lead to any noticeable increase in traffic volumes on the surrounding road network, albeit there will be a slight change in traffic composition as more HGVs will be required to deliver materials for the underground cable. Assuming that they are constructed concurrently, traffic movements associated with the Likely Grid Connection Route works will interact with the traffic generated by the construction of the Proposed Development on the A77. However, the numbers of traffic movement associated with the Likely Grid Connection Route works will only add a negligible amount of additional traffic movements.
- 11.8.53 The New Roads and Street Works Act 1991 will apply to the works in the road and roadside verge. Works will be carried out either through a Section 109 application which will apply standard conditions to the carrying out of the works including consideration of a CTMP, or through notices under Sections 113–115 relating to co-operation, timing directions, and apparatus placement, including the duties in Code of Practice for the Co-ordination of Works in Roads, all managed via the Scottish Road Works Register (SRWR) to manage traffic movements on the surrounding public road network. This would be coordinated through the controls which will apply to the construction of the Proposed Development should construction works overlap which would allow management of any combined effects.
- 11.8.54 The timescales for the Likely Grid Connection Route works are not yet determined; however, construction is assumed to take place over a period of up to nine months and may occur concurrently with construction of the Proposed Development. For typical projects, these connection works are generally scheduled towards the end of a wind farm project, outside of the peak of construction activity.
- 11.8.55 Given that there is no predicted increase in peak traffic and owing to notices under Sections 113–115 being implemented, no additional significant in-combination effects are predicted.
- 11.8.56 The operational phase will only result in very occasional traffic associated with general maintenance and monitoring.

Cumulative Effects During Construction

Predicted Cumulative Effects During Construction

- 11.8.57 A review of the consented cumulative developments considered significant in scale (i.e. has associated traffic impact of over 30%) which have been included are presented in **Technical Appendix 11.1**. This cumulative assessment considers both the peak construction day of the Proposed Development and Likely Grid Connection Route as a single project, which involves the delivery of ready-mix concrete materials for a turbine foundation plus approximate Likely Grid Connection Route trips which have been assumed to be eight two-way movements (four inbound trips and four outbound trips) comprising of six two-way HGV movements and two car/LGV movements.
- 11.8.58 As noted in **Technical Appendix 11.1**, two other energy-related cumulative developments have been granted planning permission and are anticipated to use part of the proposed construction and AIL delivery routes, within the Proposed Development's study area, during their peak construction periods. These are:
- Green Hydrogen Production Facility with associated temporary laydown area and ancillary infrastructure (EAC 21/0261/PP); and
 - Solar PV Farm, battery energy storage system, HV cabling and associated access(es), link road and ancillary infrastructure (ECU00002198).
- 11.8.59 As noted in **Technical Appendix 11.1**, the Green Hydrogen Production Facility and the Solar PV Farm are located within the same site and are part of a wider development. A review of traffic generation information for both the Green Hydrogen Production Facility and the Solar PV Farm note that as a robust assessment the construction trips (as outlined in the above paragraph) include trips associated with the Solar PV Farm, the Green Hydrogen Production Facility, BESS Scheme, Grid connection and site mobilisation and reinstatement. As such trip generation associated with the wider development has been included in the combined scheme sensitivity review peak traffic summary shown in **Table 11.14** below and then compared to the future baseline year in **Table 11.15**.

Table 11.14 Combined Scheme Sensitivity Review Peak Day Traffic Summary

No.	Survey Location	Proposed Development		Likely Grid Connection Route*		Green Hydrogen Production Facility and the Solar PV Farm Wider Development	
		Car & LGV	HGV	Car & LGV	HGV	Car & LGV	HGV
1	Floak Road	26	414	2	6	0	0
2	A77, south-west of junction with Mearns Road	13	0	2	6	0	0
3	A77, south of Floak Bridge	13	414	2	6	0	0
4	A77, south-west of junction with A719	13	414	2	6	57	64
5	A77, south-west of M77 Junction 7 on-slip road	13	414	2	6	57	64
6	M77, between Junctions 5 and 6	0	0	2	6	57	64
7	M77, near Junction 7	0	0	2	6	57	64

* As there are no available online planning documents associated with the Likely Grid Connection Route, trips associated with the scheme have been distributed throughout the network, as a worst-case assessment.

Table 11.15 Combined Scheme Sensitivity Peak Day Traffic Impact Summary

No.	Survey Location	Car & LGV	HGV	Total	Cars & LGV % Increase	HGV % Increase	Total Traffic % Increase
1	Floak Road	183	459	642	18.1%	1069.1%	230.3%
2	A77, south-west of junction with Mearns Road	1,567	338	1,905	1.0%	1.8%	1.1%
3	A77, south of Floak Bridge	1,228	555	1,782	1.2%	310.6%	32.2%
4	A77, south-west of junction with A719	2,842	589	3,431	2.6%	459.8%	19.3%
5	A77, south-west of M77 Junction 7 on-slip road	4,510	892	5,402	1.6%	118.4%	11.5%
6	M77, between Junctions 5 and 6	47,356	5,308	52,664	0.1%	1.3%	0.2%
7	M77, near Junction 7	42,975	5,082	48,057	0.1%	1.4%	0.3%

- 11.8.60 The combined traffic flows indicate an increase in traffic flows on the Floak Road and the A77 for total movements and HGV traffic. There would, however, be more than sufficient spare road capacity to accommodate this in the event of the two sites being constructed at the same time.
- 11.8.61 Any effects of all four developments being constructed at the same time would be mitigated through the use of an overarching Traffic Management and Monitoring Plan and by introducing a phased delivery plan which would be agreed with the local council roads department, TS and Police Scotland.
- 11.8.62 Furthermore, it is not predicted that the potential traffic flow increases could ever occur on the study area, as it is extremely unlikely that the peak traffic conditions would occur at the same time due to differences in construction programmes, material supplies and developer resources.

Predicted Cumulative Effects During Construction

- 11.8.63 While the sensitivity review undertaken as part of the Proposed Development's cumulative assessment did identify a Green Hydrogen Production Facility and Solar PV Farm which could be constructed concurrently with the Proposed Development. As such, an assessment was undertaken as part of the sensitivity review for the Proposed Development.
- 11.8.64 As noted earlier, any effects of multiple sites being constructed at the same time will be mitigated through the use of an overarching Traffic Management and Monitoring Plan and by introducing a phased delivery plan which would be agreed with the EAC roads department, TS and Police Scotland.

11.9 Interrelationship Between Effects

- 11.9.1 The ISEP Guidelines also refer to interrelationships with traffic and transport effects in relation to amenity including visual effects, noise and hazardous loads. Visual effects and noise are addressed in **Chapter 5: Landscape and Visual Impact Assessment** and **Chapter 10: Noise and Vibration**.

11.10 Further Survey Requirements and Monitoring

- 11.10.1 Site entrance roads will be maintained and monitored during the construction phase and operational life of the Proposed Development. With regards to the construction phase, this will be done as part of the CTMP and will involve monitoring the Site access junction and public road network in the vicinity of the Site to ensure mud and debris from construction activities are not tracked on to the road network. Furthermore, monitoring of the public road network will be undertaken as part of the road conditions surveys, that will likely be required as part of the planning conditions attached to the planning permission.

11.11 Summary of Likely Significant Effects

- 11.11.1 **Table 11.16** below summarises the predicted significant effects of the Proposed Development on Access, Traffic and Transport prior to mitigation.

Table 11.16 Summary of Likely Significant Effects

Predicted Effects	Significance	Committed Additional Mitigation	Significance of Residual Effect
Construction			
Floak Road Users and Residents			
Severance	Major (Significant)	CTMP – will be secured through a planning condition and delivered by the Contractor. Abnormal Load Transport Management Plan – will be prepared and delivered by the Abnormal Load supplier.	Minor (Not significant)

Predicted Effects	Significance	Committed Additional Mitigation	Significance of Residual Effect
		Staff Travel Plan – will be delivered by the Principal Contractor.	
Driver Delay	Moderate / Moderate (Significant)	CTMP – will be secured through a planning condition and delivered by the Contractor. Abnormal Load Transport Management Plan – will be prepared and delivered by the Abnormal Load supplier. Staff Travel Plan – will be delivered by the Principal Contractor.	Minor (Not significant)
Non-motorised User Amenity	Major / Moderate (Significant)	CTMP – will be secured through a planning condition and delivered by the Contractor. Abnormal Load Transport Management Plan – will be prepared and delivered by the Abnormal Load supplier. Staff Travel Plan – will be delivered by the Principal Contractor.	Minor (Not significant)
Fear and Intimidation	Major (Significant)	CTMP – will be secured through a planning condition and delivered by the Contractor. Abnormal Load Transport Management Plan – will be prepared and delivered by the Abnormal Load supplier. Staff Travel Plan – will be delivered by the Principal Contractor.	Minor (Not significant)
Road Safety	Major / Moderate (Significant)	CTMP – will be secured through a planning condition and delivered by the Contractor. Abnormal Load Transport Management Plan – will be prepared and delivered by the Abnormal Load supplier. Staff Travel Plan – will be delivered by the Principal Contractor.	Minor (Not significant)
Large Loads	Major (Significant)	Abnormal Load Transport Management Plan – will be prepared and delivered by the Abnormal Load supplier.	Minor (Not significant)

Predicted Effects	Significance	Committed Additional Mitigation	Significance of Residual Effect
A77 Users and Residents			
Road Safety	Moderate (Significant)	CTMP – will be secured through a planning condition and delivered by the Contractor. Abnormal Load Transport Management Plan – will be prepared and delivered by the Abnormal Load supplier. Staff Travel Plan – will be delivered by the Principal Contractor.	Minor (Not significant)
Large Loads	Major (Significant)	Abnormal Load Transport Management Plan – will be prepared and delivered by the Abnormal Load supplier.	Minor (Not significant)

Glossary/Abbreviations

Table 11.17 : Glossary

Term in Full	Abbreviation	Meaning
Ayrshire Roads Alliance	ARA	The public sector partnership that delivers shared roads and transportation services for East Ayrshire Council and South Ayrshire Council in Scotland.
Automatic Traffic Count	ATC	Data used to support transport planning and design.
Balance of Plant	BoP	Infrastructural components of a wind farm, except the turbine and its elements.
Construction Environmental Management Plan	CEMP	A project's document which outlines measures to achieve compliance with the environmental protection and mitigation requirements.
Construction Traffic Management Plan	CTMP	Document which outlines traffic management measures to mitigate adverse impacts associated with construction related traffic.
Department for Transport	DfT	Department for Transport
Design Manual for Roads and Bridges	DMRB	Design Manual for Roads and Bridges
East Ayrshire Council	EAC	Local Authority
East Renfrewshire Council	ERC	Neighbouring Authority
Electronic Service Delivery for Abnormal Loads	ESDAL	System that provides information on who to notify regarding a route to transport abnormal loads.
Heavy Goods Vehicle	HGV	All goods vehicles > 3.5 tonnes gross maximum weight.
The Institute of Sustainability and Environmental Professionals	ISEP	The Institute of Sustainability and Environmental Professionals
Light Goods Vehicles	Lights or LGV	All commercial vehicles < 3.5 tonnes gross maximum weight
National Cycle Network	NCN	Designated National Cycle Network Routes within the UK.
National Road Traffic Forecast	NRTF	Factors used to apply future year growth to traffic flows.
Ordnance Survey	OS	Great Britain's national mapping agency.
Port of Entry	PoE	Port from which AILs are to be delivered.
Trunk Road	T	Strategic road
Travel Plan Coordinator	TPC	Personal responsible for updating, promoting and implementing the Travel Plan
Transport Scotland	TS	Transport Scotland