Section 12
TRAFFIC & TRANSPORT ASSESSMENT

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Glossary

Term	Definition
Abnormal Load	An 'abnormal load' is a vehicle that exceeds standard vehicle dimensions and weights; and is typically the turbine towers, blades and other components.
Local Development Plan	Document produced by the Local Authority setting out how the Council wants to see their area develop over the next 20 years.
Environmental Impact Assessment Report	The process of evaluating the likely environmental impacts of a proposed project or development.
Swept Path Analysis	The calculation and analysis of the movement and path of different parts of a vehicle when that vehicle is undertaking a manoeuvre; typically carried out using dedicated Vehicle Tracking Software.
Transport Assessment	A study undertaken to assess the transport effects of a proposed development.

Abbreviations

Abbreviation	Description
CTMP	Construction Traffic Management Plan
DGC	Dumfries and Galloway Council
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
HGV	Heavy Goods Vehicle
LDP	Local Development Plan
PRA	Primary Route Assessment
SPA	Swept Path Analysis
TMP	Traffic Management Plan
TS	Transport Scotland
ALTMP	Abnormal Loads Traffic Management Plan

Section 12: Traffic & Transport Assessment

12.1 Introduction

12.1.1 This section will consider the potential impact of the construction, operation and eventual decommissioning of the proposed Scoop Hill Community Wind Farm on the regional and local transport network. It outlines the methodology and criteria used to assess the significance of potential impacts and what measures will be taken to mitigate any significant impacts.

12.1.2 An assessment has been made on the magnitude of the residual impact combined with receptor sensitivity to determine the significance of the impact.

12.1.3 The assessment of significance of impact involves both the assessment of the baseline data and the use of professional judgment.

12.2 Traffic & Transport Assessment

12.2.1 This section of the Environmental Impact Assessment Report (EIAR) estimates the volume and type of traffic generation related to the proposed development and considers the likely effects of this traffic. Road traffic generated by the proposal will arise primarily during the construction phase of the wind farm development. Details of the proposed construction process can be found in Section 2: Detailed Project Description of this EIAR.

12.2.2 This Traffic & Transport Assessment considers:

- The potential routes to the proposed development area;
- Any modifications required to the local road network to allow the abnormal load deliveries of the wind turbine components;
- Volumes of traffic;
- Potential effects on traffic as a result of the proposed development; and
- Required mitigation to minimise any impact and a description of any residual effects.

12.3 Methodology

12.3.1 The general approach to the assessment of effects outlined in Section 1: Introduction of this EIAR and the *Environmental Impact Assessment (Scotland) Regulations (2017)* have been followed in order to identify environmental effects that are significant in terms of the Environmental Impact Assessment (EIA) regulations. Section 12.11 details the magnitude and receptor sensitivity to impact.

12.3.2 The traffic and transport assessment is predominantly desk-based with field and site visits carried out where necessary. Traffic generation figures are primarily calculated based on the quantity of materials and equipment required at the site. CWL and the Applicant's previous experience in constructing wind farms has further informed the process.

12.3.3 The assessment also included desk-based and site-based surveys of the potential access routes which assessed:

- Public roads that may require modification;
- The position of likely obstacles;
- Watercourse and river crossings (where visible and accessible); and
- Any other obvious impediments to the passage of abnormal load vehicles carrying wind turbine components.

12.3.4 The baseline conditions have been established using relevant data, mapping, visual surveys, consultation with statutory consultees such as Transport Scotland and D&G Roads, discussions with Transport Consultants and Road Hauliers, and consultation with landowners who have a thorough understanding of their land.

12.4 Policy Guidance

12.4.1 Relevant transport and traffic guidance described in the following planning advice and guidance documents have been taken into account for this assessment:

Scottish Planning Policy (SPP) 17: Planning for Transport

12.4.2 Paragraphs 72 and 73 state:

'Safe and appropriate access design should reflect the type of road involved, the scale of the development, the nature of the area, and the volume and character of traffic likely to use both the road and access. Direct access on to strategic roads should be avoided as far as practicable.

Following full Transport Assessment, the residual traffic impact of developments on the strategic road network should be mitigated to achieve "no net detriment" to the flow and safety of traffic on the network. It will be appropriate to require the developer to fund major road or junction improvements where the volume or character of traffic or type of road warrants it'.

PAN 75: Planning for Transport

12.4.3 Paragraphs 40 and 41 state:

'SPP17 requires a transport assessment to be produced for significant travel generating developments. Transport Assessment is a tool that enables delivery of policy aiming to integrate transport and land use planning…

All planning applications that involve the generation of person trips should provide information which covers the transport implications of the development. The level of detail will be proportionate to the complexity and scale of impact of the proposal…'

Guidelines for the Environmental Assessment of Road Traffic, Institute of Environmental Assessment, 1993

12.4.4 The *'Guidelines for the Environmental Assessment of Road Traffic'* produced by the Institute of Environmental Management and Assessment (IEMA, 1993) have been consulted for this assessment. The IEMA Guidelines suggest two broad rules can be used as a screening process to identify the appropriate extent of the assessment area. These are:

- Rule 1 - Include road links where traffic flows would increase by more than 30% (or the number of Heavy Goods Vehicles (HGVs) would increase by more than 30%); and

- Rule 2 - Include any other specifically sensitive areas where traffic flows would increase by 10% or more.

12.4.5 These guidelines are intended for the assessment of the environmental effect of road traffic associated with major new developments.

12.4.6 This assessment has also been undertaken in line with the Transport Assessment Guidance (2012) produced by Transport Scotland.

12.4.7 The guidance states in paragraph 5.54 that a "*Transport Assessment must cover traffic and road issues, parking and any particular impacts caused by abnormal loads*".

Development Plan Policy

12.4.8 The Planning Statement which accompanies this EIAR and Section 4: Planning Policy, both provide a detailed description of the planning and renewable energy policy context relevant to the application.

12.4.9 Relevant policy guidance applicable to traffic and transport from the Dumfries and Galloway Local Development Plan 2 (LDP2) has been considered and utilised during the design and evolution of the Scoop Hill Community Wind Farm, to ensure the proposal is compliant with these policies.

Dumfries and Galloway Draft Local Development Plan 2

Traffic and Transport Policy

12.4.10 The LDP2 Polices **T1: Transport Infrastructure** and **T2: Location of Development/Accessibility** relate to the strategic and regional transport network and require that new development should not, individually or incrementally, materially reduce the level of service or safety to the transport networks. Policy T2 also states that development proposals should *'give consideration to the provision of electric vehicle charging points, and other infrastructure that may be required to support other sustainable power sources, as part of the development.'*

12.4.11 Policy **CF4: Access Routes** specifically relates to *'Development Affecting Existing Access Routes'* and the '*Provision of New Access Routes'*. The Policy requires development proposals should not have an adverse impact on any access routes and Core Paths. New or alternative access routes and enhancements to existing routes will be supported, especially if these can form part of green networks. Policy T1 also reiterates that development of facilities for cyclists and pedestrians will be supported.

Wind Energy

Policy **IN2** of the LDP2 focuses on **Wind Energy** and states '*The Council will support wind energy proposals that are located, sited and designed appropriately'*. The acceptability of any proposed wind energy development will be assessed against a number of considerations including:

- *"The extent to which the proposal addresses any detrimental impact on road traffic, adjacent trunk roads and telecommunications, particularly ensuring transmission links are not compromised.*
- *The extent to which the proposal avoids or adequately resolves any other significant adverse impact on the natural environment, including biodiversity, forests and woodland, carbon-rich soils, hydrology, the water environment and flood risk, the historic environment, cultural heritage, tourism and recreational interests and public access.*
- *The extent to which the proposal addresses any physical site constraints and appropriate provision for decommissioning and restoration."*

12.5 Scoping Consultation

12.5.1 During the Scoping process with the Energy Consents Unit (ECU), the Scoping Opinion dated August 2019 included comments relating to access, traffic and transport matters for the Scoop Hill Community Wind Farm proposal. Details of this scoping consultation is summarised in Table 12.1, along with commentary regarding the actions undertaken by CWL and the Applicant and the work provided in this EIAR assessment which are relevant to transport and traffic associated with the construction and operation of the proposed wind farm. It should be noted that there were no objections to the project on transport related matters.

Table 12.1 Transport Assessment Scoping Opinion Responses

Consultee	Issues raised	Action taken
Dumfries and Galloway Roads	Given the geographical constraints within the proposed site, in order to provide the proposed internal track layout, there will either have to be significant engineering works or consideration given to alternative means of accessing the north western part of the site. It should be noted that if alternative access is required to this north-western area, the surrounding public road network is likely to be via generally weak rural roads, restricted in geometry and width.	Routes of access to the whole wind farm have been reviewed to ensure that access to all parts (including the North Western Section) is achievable and safe. By utilising a combination of upgraded existing forestry tracks and the construction of new tracks this will be achieved, with the preference of using existing tracks wherever possible. Routes into the actual wind farm using the public road network have been reviewed and take into account the limitations of the existing rural road network.
	Should any access be required from any other route other than the B723, we would advise that discussions are held at an early stage to discuss any engineering requirements.	Meeting held with D&G Roads on 03/10/2019 to discuss the use of the B7076 to gain access on to the wind farm site from the West. CWL further discussed the potential routes with D&G as described with this Section of the EIAR.
	The duration of the construction phase should be provided.	A detailed description of the construction phase is provided in Section 2:

		Detailed Project Description of the EIAR
	It would be appropriate that any future application identify the full extent of proposed off-site road accommodation and mitigation works including passing place provision, carriageway strengthening, widening and alterations to road boundaries all along any proposed access routes necessary to permit construction traffic and the passage of component delivery vehicles (this may require land outwith the public road boundary and a separate planning consent may be required in respect of these works) and the potential impacts on utility services lying within the public road boundary.	Information relating to access requirements will be included within this section of the EIAR. Final details will be discussed and agreed with D & G Roads and Transport Scotland post consent.
	All accommodation works must be designed and constructed to the satisfaction of the Planning Authority in consultation with the Roads Authority and will require appropriate permits and consents to have been issued.	Noted and agreed
	Proposals for all accommodation works should be supported by swept path tracks.	SPA to be provided as part of any post consent TMP
	Where public road boundaries are to be altered either for the formation of temporary accesses or for accommodation works, these should be reinstated in their original position at the conclusion of construction works (unless prior agreements have been secured with the Planning and Road Authorities).	External public roads will be assessed before and after the construction period and will be restored to their original state. Certain sections of the public road may also require upgrades or improvements before construction starts. This will be agreed with D&G Roads.
	Where an access route crosses bridges and culverts, the applicant will require to get approvals (in respect of those structures) from the Council's Engineering Design Bridges and Structures Unit.	Bridges and culverts will be assessed post consent and prior to any use and relevant approvals secured.

	It would be appropriate that any future submission/Environmental Statement include reference to a Traffic Management Plan (to be agreed in writing with the Police and the Roads Authority prior to any works commencing on site) that should include a programme of projected traffic movements associated with the project by programme month and vehicle type, details of all proposed mitigation measures, agreed and excluded access routes, enforcement measures (vehicle badging, driver code of conduct and disciplinary action) and details of measures that will be implemented to ensure that no stacking of delivery vehicles occur on any part of the public road network.	Traffic counts and estimated vehicle movements will be included as part of the Traffic & Transport Chapter of the EIAR. A TMP will be provided post consent, that will include detailed design details not covered in this Traffic & Transport. CWL request that the requirement to prepare a TMP is included as part of the planning conditions, to include details as requested. It is also requested that two separate TMP's (and conditions) are produced, one to include details of construction traffic and the second to included details of Abnormal Loads.
	Whilst it is accepted that the intention is that normal and abnormal loads will take access and egress via an 'agreed' route, there is likely to be some increase in traffic using other minor roads. There is also the possibility of other unrelated windfarm projects being constructed in the vicinity concurrently with this project. Therefore, it would be appropriate that the TMP acknowledge that co-ordination phasing may be required to mitigate against the cumulative traffic impact.	It is agreed that reference will be made to other unrelated projects in the vicinity to the wind farm.
	In the event that suitable and sufficient aggregate is not available from onsite Borrow Pits, any future submission/ES should include details of tonnages and vehicle movements so that the potential impact of importing aggregate from elsewhere via the public road network be assessed	Assessments undertaken to date indicate that all aggregate will be won on site. Notwithstanding this, the vehicle movements referred to in this chapter capture the number of vehicle movements that would be required if the aggregate could not be won onsite. This has been done to show the 'worst case scenario', however unlikely.
	It would be appropriate that there should be consultation with nearby forest managers and timber hauliers through the office of the South of Scotland Timber Transport Officer to co-ordinate timber haulage operations that may use the access route during	Consultation will be sought with South of Scotland Timber Transport Officer, post

	the construction period to minimise the cumulative impact on communities and road users.	consent, if planning permission is granted.
	The developer will be held responsible for the immediate execution of and repairs and will be required to meet the cost of above average maintenance to the public road network arising from the concentration of heavy traffic associated with this development. This to be secured by legal agreement (Section 96)	Noted and agreed
	The installation of the grid connection will have an impact upon public roads where the route follows a road, crosses a road or crosses a bridge on the road.	Noted; however, the grid connection works is dealt with under a separate Section 37 application – and the proposed route does not follow the public road network.
Transport Scotland	No mention was made within the Scoping Report of an abnormal load assessment or SPA. Transport Scotland will require to be satisfied that the size of turbine components proposed can negotiate the selected route without having a detrimental effect on the trunk road route path.	CWL are consulting with Transport Scotland on the proposed access routes. Road upgrades have already been made between the A74(M) and Breckenry Road (B723) to accommodate other wind farm developments abnormal load deliveries. This includes work to south bound exit slip road at Junction 17, A74(M).
	A full Abnormal Loads Assessment report should be provided to identify any pinch points and details in relation to any required changes to street furniture or structures along the route.	CWL propose that separate Abnormal and Construction Traffic Management Plans are created. More information can be found in section 12.15.
	The EIAR should comprise: • Determination of the baseline traffic and transportation conditions, and the sensitivity of the site and existence of any receptors likely to be affected in proximity of the trunk road network; • Review of the development proposals to determine the predicted construction and operational requirements; and • Assessment of the significance of predicted impacts from these transport requirements, taking into account impact magnitude (before and after mitigation) and baseline environmental sensitivity.	Noted.

12.6 Proposed Access to Site Entrance

12.6.1 In order to safely assess access to the proposed development site, consideration has to be given to the anticipated vehicles likely to be using the access route. For instance, abnormal loaded vehicles will need to be able to access the site to deliver the turbine components, these are generally described as vehicles which have a:

- A weight of more than 44,000 kilograms;
- An axle load of more than 10,000 kilograms for a single non-driving axle and 11,500 kilograms for a single driving axel;
- A width of more than 2.9 metres;
- A rigid length of more than 16.5 metres.

12.6.2 It should be noted that the precise specifications of turbine components and associated abnormal loads are dictated by the turbine type and manufacturer. Discussions with the turbine manufacturers would typically commence following the granting of planning permission and will have a bearing on the final selection of a suitable access route, and the extent of any highway modifications required. A final decision on the abnormal load access route and the preparation of the abnormal load TMP will therefore be made in collaboration with the turbine manufacturers, Transport Scotland and Dumfries and Galloway Council Roads Department (DGC Roads) and Dumfries and Galloway Police.

12.6.3 Turbine manufacturers have a preferred port of delivery, therefore until a decision has been made on the turbine supplier and their preferred port for delivery is confirmed, it has been assumed by the Applicant that either the Forth Port of Grangemouth or the Port of Glasgow will be used. This may change.

12.6.4 The Port of Grangemouth is situated approximately 135 km north of the development site, midway between Glasgow and Edinburgh, and is served by the M9 motorway, which links it to the M74 and A74(M). The King George V Dock in Glasgow is located approximately 153km north west of the proposed development site and is served by the M8, which also links to the M74 and A74(M). Both of these potential ports will utilise the A74(M) when approaching the wind farm site; both would travel to Junction 17 on the A74(M) before then exiting the motorway and travel to site. The route from the two ports to Junction 17 are illustrated on Figure 12.1.

12.6.5 The abnormal loads should be considered in two separate categories;

Category 1: The wind turbine blades; and
Category 2: The wind turbine tower sections and nacelle components.

12.6.6 The blades are the longest fixed length component and the overall vehicle length (including tractor unit and 'wing' carrier) carrying them is expected to be around 90-100m in length. The turbine tower sections, and nacelle components are shorter in length, but generally slightly wider, up to 5m for the base tower.

12.6.7 From the southbound slip road at Junction 17 off the A74(M) to the development site boundary, a number of access routes have been considered following review and discussion with various consultees.

12.6.8 There are several viable access route options being considered for both the abnormal loads and construction related traffic, together with routes that would be utilised for emergency vehicle access (whilst construction is underway). These routes can be seen in Figure 12.2.

12.6.9 It may be that these routes are utilised and promoted as a one-way route in and out of site. This would reduce the amount of traffic on each section or route (as there would only be one-way traffic flows) and avoid any potential congestion of vehicles trying to access and exit the site at any one time. This one-way system is being explored and if suitable and acceptable to all, would be highlighted in both the construction and abnormal load TMP. However, for the purposes of vehicle numbers within this document, any one-way system has not been considered.

12.6.10 Following a detailed feasibility study, site review and discussions with consultees, multiple access points, suitable for both abnormal loads (turbine component delivery) and construction traffic, have been identified. There are three main routes options; 1, 2 and 3. Within Option 2 , there are further options to gaining access to the site. Option 1 and 2 are suitable for all abnormal loads and construction traffic, Option 3 is suitable for abnormal loads except the blade vehicles, and construction traffic.

12.6.11 Option 1 (For Abnormal loads and Construction related traffic) will exit the A74M using the southbound exit slip road at Junction 17:

- Turn left onto B7068;
- At the roundabout, take the 1st exit onto the B7076;
- Turn right towards Breckenry Road;
- Turn right onto Breckenry Road;
- Continue onto B723; and
- Turn left onto C102A before Boreland.

12.6.12 Option 2 (For Abnormal loads and Construction related traffic) will exit the A74M using the southbound exit slip road at Junction 17:

- Turn left onto B7068;
- At the roundabout, take the 1st exit onto the B7076;
- Continue along the B7076 until either;
    - Turn right after Cogrieburn Farm, towards Cogrie Farm and Cottages, over the existing A74(M) bridge;
        - After Cogrie Cottages , turn left along a stone track toward the existing old quarry road and over the existing railway bridge heading to Murthat Bank (old Quarry);
        - Cross the River Annan with a new bridge;
        - and, cross the B707 at the site entrance; or
    - Turn right along the old quarry road, which travels under the A74(M);
        - Continue along this private track, over the existing railway bridge heading towards Murthat Bank (old Quarry);
        - Cross the River Annan with a new bridge;
        - and, cross the B707 at the site entrance; or
    - Turn right towards Mid Murthat Farm, over the existing A74(M) bridge;
        - Before the railway turn right, along an existing stone track heading south alongside the railway;
        - Swing left on to the existing old quarry road and over the existing railway bridge heading to Murthat Bank (old Quarry)
        - Cross the River Annan with a new bridge;
        - and, cross the B707 at the site entrance.

12.6.13 Option 3 (For Abnormal loads (except Blade vehicles) and Construction related traffic) will exit the A74M using the southbound exit slip road at Junction 17:

- Turn left onto B7068;
- At the roundabout, take the 1st exit onto the B7076;
- Turn right towards Breckenry Road;
- Turn right onto Breckenry Road;
- Continue onto B723; and
- Turn left before Sandyford Water treatment plant, at the entrance to Silton Forestry.

12.6.14 The final choice of access route for abnormal loads and construction traffic will be made post consent. However, it is important that all various options are viable and useable; particularly given the possibilities of utilising a one-way system.

12.6.15 There are also viable access points proposed for emergency vehicles only during both construction and operation of the wind farm. These retained access points will be accessed from various routes depending on where the vehicle is coming from. These access points are shown in Figure 12.3.

12.7 Public Highways

12.7.1 Initial swept path analysis using a candidate turbine has been undertaken to confirm that the access options are viable. The Applicant has applied a worst-case scenario when undertaking the SPA in order to ensure access on to site can be achieved. Once a final turbine manufacturer has been confirmed, further swept path analysis may be required to confirm initial assessments remain accurate. The SPA completed at this stage of the planning process confirms that abnormal loads can safely negotiate all specific sections of the proposed access route, and, what if, any modifications are required within the highway boundary.

12.7.2 Following an assessment of the public road network, it is anticipated that only minor road modifications would be required in order to accommodate the turbine delivery vehicles, such as the temporary removal of street furniture and reinforcement or ‘plating’ of minor overrun areas.

12.7.3 More major road modifications have already been completed in the local area, including the exit slip road at Junction 17 A74(M), and B7076/B723 junction, to accommodate the delivery of the wind turbine components for other large wind farms within the local area.

12.7.4 Prior to any delivery of components, a ‘trial run’ would be conducted with the chosen haulage contractor to confirm the route can be negotiated safely. Representatives from the relevant Local Roads Departments will be invited to attend the ‘trial run’.

12.7.5 All details relating to SPA and proposed construction specifications would be agreed and approved by the relevant Local Roads Department and Transport Scotland.

12.7.6 Traffic Management Plans (TMP) will be agreed with the relevant Local Authority Roads Departments, Transport Scotland and the Police prior to construction commencing; this would be for both the abnormal loads and the construction traffic. The content of the TMPs is discussed in more detail in Section 12.13.

12.7.7 A minimum of two weeks notification will be given to DGC as where necessary prior to the commencement of any works.

12.7.8 Local Council Structures Divisions will be consulted, and any structures identified on the proposed abnormal load route will be assessed to ensure they are suitable for the transportation of abnormal load components.

12.7.9 Any structure assessments that may be required would be commissioned once the abnormal load vehicle configurations were established.

12.8 On Site Access

12.8.1 Access on to the Scoop Hill development site from the public highway will be via a new bell mouth entrance at option 1 and 2; this would lead on to the B707. Option 3 already has a bell mouth entrance, but this may require to be upgraded. From these points CWL will use a combination of existing tracks, upgrading existing tracks and new track construction to connect to the existing forest access tracks further into the site and on to the individual turbine locations proposed. These new access tracks would be constructed using site-won stone from a number of onsite borrow pits to ensure tone and character of the tracks are in keeping with the local area. More information on the proposed borrow pits are detailed in Section 2 and in Appendix 2.3 of this EIAR.

12.8.2 The final route of the on-site access tracks will be determined by the finalised turbine locations and onsite ground conditions. A micro-siting allowance of up to 100 m in all directions from each original turbine and access track position will be required to accommodate actual ground conditions. The alignment of the turbine access tracks as shown in Section 2 in Figure 2.1, may need altering accordingly to accommodate micro-siting requirements.

12.8.3 On-site access tracks have been designed to avoid any sensitive environmental receptors identified during the Environmental Impact Assessment process. Although, the exact route would be determined once the exact locations of the turbines are fixed and the baseline conditions are established, and in consultation with the appointed ECoW.

12.9 Construction Vehicle Specification

12.9.1 During the construction of the development, the following vehicles are likely to use the access routes:

- Mobile cranes;
- Low loaders delivering plant and equipment
- Flat-back delivery lorries; and
- Light vehicles for construction personnel.

12.9.2 All vehicles selected and used will be dependent on the chosen contractor's construction methodology. In addition to the vehicles listed above, specialist delivery vehicles (abnormal loads) will be utilised by the turbine manufacturer to deliver the turbine components to the site. The exact vehicle specifications will be dependent upon the chosen haulage contractor which will be decided post planning consent. The movement of the cranes required will be carefully considered ensuring that they only use permitted routes.

12.9.3 The abnormal load delivery vehicles often have active rear-wheel-steering, which enables the tail-end of the trailer to negotiate corners much more efficiently. All of the vehicles, being classed as 'abnormal load', will be accompanied to the site by either a police escort or abnormal loads escort, arranged at the Applicant's expense and with prior consultation with Transport Scotland and the relevant Local Authority Roads Department.

12.10 Vehicle Movements

12.10.1 The predicted vehicle movements generated from the construction of the wind farm are outlined in the following paragraphs. The number of deliveries has been calculated based on the expected quantities of material and equipment required, together with CWL and the Applicant's previous experience in wind farm construction.

12.10.2 The figures within the tables also include a worst-case scenario which assumes that 100% of stone for the construction of the tracks, hardstands, foundations and onsite concrete production (via the batching plant) needs to be transported onto site; similarly a scenario of 25% of stone to be imported has also been included. Both these scenarios have been completed at the request of Dumfries and Galloway Roads department. However, we are confident, following collection of rock samples from existing borrow pits, that all stone for the access tracks, hardstands, foundations and onsite concrete production will be won from both existing and proposed borrow pits.

12.10.3 Due to the location and size of the development area it is assumed that all concrete batching will be undertaken on site, which will significantly reduce the number of vehicle movements needed during the construction process. Further details of the projected vehicle movements are presented below in Tables 12.2, 12.3 and 12.4.

Preliminaries

12.10.4 Prior to the start of the main construction works, a small number of HGVs will access the site, transporting construction equipment and site accommodation. It is estimated that this would consist of approximately 40 deliveries transporting excavators, dumpers, compactors and site offices, welfare facilities and supplies. These deliveries are envisaged to be no greater than typical deliveries already taking place in the area and would therefore not significantly increase traffic flow in the area.

Track Construction/Upgrade

12.10.5 Site access tracks and widening of existing tracks will be constructed using stone sourced from the borrow pits located on site. Associated equipment such as dumpers, excavators and a stone crusher would be required. It is estimated that this would result in approximately 120 deliveries in the first few months of construction.

12.10.6 The Applicant is confident that they will be able to source all stone required for access track construction from the on-site borrow pits.

12.10.7 There is approximately 56km of new access tracks to be built and 40km of existing access tracks to be upgraded for Scoop Hill scheme. Tracks will be constructed typically 5m in width and 1m deep.

12.10.8 CWL and the Applicant commissioned a series of site walkovers and Peat Probing exercises across the proposed Scoop Hill development site.

12.10.9 They also discussed and agreed with DGC Roads to include a sensitivity assessment regarding stone importation, thus ensuring a robust assessment of the potential traffic impact. For this exercise, The Applicant has assumed that 100% of the stone required will have to be imported, this is highly unlikely given all the existing tracks within site have been constructed using site won stone.

12.10.10 Based on this assumption, the total amount of stone required to be imported being c. 350,000 m^3 (100% of the total stone required). Any stone imports would likely be brought to site in 20T and 30T tippers (equalling

26,250 vehicles). The anticipated construction programme is expected to be 18 months long, equating to 1,458 vehicles a month, or 365 HGV's a week, or 73 per day (assuming a 5-day working week).

12.10.11 It should be noted that this represents a worst-case scenario and the Applicant believes this is an overly robust assessment and very unlikely to become a reality. It is more likely that a borrow pit yielding better stone would be expanded to negate the need for any stone importation.

Turbine Foundation Construction

12.10.12 As described in Section 2 of this EIAR, each of the 75 turbines will have a concrete foundations. Turbine foundations typically consist of either a square, circular or octagonal reinforced concrete base usually over 18m in diameter and founded approximately 3.5 m below the ground surface

12.10.13 Concrete deliveries represent the largest volume of traffic generated during the construction stage. To mitigate against this, on-site ready-mix batching options will be explored and will help reduce the potential impact on the local road network. This would need to be agreed with the appointed civil contractor prior to the commencement of construction. However, for the purpose of the EIAR, a worst-case scenario has been captured that would require all material to be brought onto site.

12.10.14 Steel reinforcement will also be required for each turbine foundation. Each foundation will require roughly three deliveries of reinforcement. Therefore 225 deliveries of steel will be required during the construction period; these are likely to be in the first 9 months of construction.

12.10.15 Foundation bolts or inserts may also be required. These are steel sections which are cast into the concrete foundation and used for connecting the foundation to the wind turbine tower; 38 vehicle journeys are likely to be generated by this.

Turbine Component Delivery

12.10.16 Each turbine tower will be delivered in sections and assembled on site. It is anticipated that each tower will consist of between 4 and 7 sections (depending on the hub height of the turbine) that will need to be transported to site and therefore will generate approximately 417 deliveries. Tower section design will be finalised post consent once a turbine manufacturer has been appointed.

12.10.17 The nacelles are delivered as 2 units, requiring 150 deliveries. The blades will be transported one at a time therefore 225 deliveries will be generated.

12.10.18 One delivery of cables, switchgear, transformers, spare equipment and controllers would be required per turbine, totalling 75 deliveries.

12.10.19 For the turbines to be erected, three cranes will be required on site: a primary sized crane capable of lifting 800 tonnes and two secondary '100/200 tonne' sized crane. It is anticipated this will generate 30 deliveries to site.

12.10.20 The turbine hubs will require 75 deliveries.

12.10.21 Of these deliveries, only the turbine towers, blades and nacelles would be classed as abnormal loads (longer than 17 m and/or wider than 4 m) and all other loads would be classed as normal loads.

12.10.22 A police escort, or other escort approved by the Police, will accompany the abnormal vehicle movements. It is estimated that in total, 873 escort vehicles will be required and a number of police vehicles for the convoys.

12.10.23 All abnormal load deliveries will take place at night time with a Police escort, to avoid disruption to users of the roads during the daytime. The timing of deliveries with a Police escort are dictated by the Police themselves and if a serious incident was to occur elsewhere abnormal deliveries would be postponed.

12.10.24 All components will be off-loaded within the site boundary.

Other Activities

12.10.25 Additional vehicle movements to site will be generated by the delivery of fuel and other consumables. It is estimated that over the construction period, approximately 1410 journeys will be required.

12.10.26 For the substation/control room building and compound, it is estimated that there will be 100 deliveries of various materials and components associated with the construction of this element of the wind farm.

Construction Personnel Transit

12.10.27 The number of construction personnel working on site at any one time will be approximately 100 (although numbers will vary throughout the construction phase). Site personnel will be transported to and from the site by private, light vehicles. It is estimated that this will average 20 journeys per day as staff usually meet and travel together to site in vans.

Construction Programme

12.10.28 The traffic movements will be over an 18-month construction period with the majority of the abnormal loads occurring in months 9 to 18 of the construction period.

12.10.29 The anticipated number of vehicle movements during the wind farm construction are summarised in Tables 12.2, 12.3 and 12.4. Inevitably the precise number of vehicle movements will be determined by the amount of aggregate that can be sourced from within the site, as this will negate the need for aggregate deliveries via the public highway. Based on the assessment of the existing borrow pits, within the site boundary, the Applicant is confident that 100% of aggregate can be sourced from within the site. Table 12.2 therefore shows the overall vehicle movements associated with the scheme if 0% of stone has to be imported to site. Table 12.3 shows the overall vehicle movements if 25% of stone has to be imported to site, this would be the case if the onsite borrow pits could not provide the full amount of stone required. Table 12.4 shows the overall vehicle movements that would be required if 100% of stone had to be imported to site, this is the worst-case scenario.

Table 12.2 – Estimated Vehicle Movements During Construction – no stone imported (18 months)

Construction Element		Vehicle Movements (2 –way)
Building Materials	Concrete	2363
	Cables	154
	Sub Station	100
	Reinforcement	225
	Preliminaries	70
	Consumables	720
	Containers & tools etc.	225
	Stone Import	0
Turbine Components	Foundation Insert	38
	Tower Sections	417
	Nacelle	150
	Hub	75

	Blades	225
	Crane	30
	Switchgear etc.	75
	Abnormal load escorts	873
Light vehicles	Site Personnel etc.	5400
Total Estimate	**over an 18-month period**	**11,139**
of which HGVs		3,993
of which Abnormal		873
of which Light		6273

Table 12.3 – Estimated Vehicle Movements During Construction – 25% stone imported (18 months)

Construction Element		Vehicle Movements (2 –way)
Building Materials	Concrete	2363
	Cables	154
	Sub Station	100
	Reinforcement	225
	Preliminaries	70
	Consumables	720
	Containers & tools etc.	225
	Stone Import	6563
Turbine Components	Foundation Insert	38
	Tower Sections	417
	Nacelle	150
	Hub	75
	Blades	225
	Crane	30
	Switchgear etc.	75
	Abnormal load escorts	873
Light vehicles	Site Personnel etc.	5400
Total Estimate	**over an 18-month period**	**17,702**
of which HGVs		10,556
of which Abnormal		873
of which Light		6273

Table 12.4 – Estimated Vehicle Movements During Construction – 100% stone imported (18 months)

Construction Element		Vehicle Movements (2 –way)
Building Materials	Concrete	2363
	Cables	154
	Sub Station	100
	Reinforcement	225
	Preliminaries	70
	Consumables	720
	Containers & tools etc.	225
	Stone Import	26,250
Turbine Components	Foundation Insert	38
	Tower Sections	417
	Nacelle	150
	Hub	75
	Blades	225
	Crane	30
	Switchgear etc.	75
	Abnormal load escorts	873
Light vehicles	Site Personnel etc.	5400
Total Estimate	**over an 18-month period**	**37,389**
of which HGVs		30,243
of which Abnormal		873
of which Light		6,273

12.11 Operation

12.11.1 During the operation of the wind farm, it is anticipated that there will be no deliveries of fuel or the removal of waste products to be transported. Traffic to the site during operation will be limited to maintenance vehicles and can therefore be considered negligible. Site engineers will be based locally and will be required to make site visits to undertake routine maintenance; however, this traffic will almost entirely be limited to standard cars or vans. Operational vehicle movements will on average be between 3 and 10 movements a week.

12.12 Decommissioning

12.12.1 The wind farm will be decommissioned, and the site reinstated at the end of its 40 year operational life. Decommissioning of the wind farm will necessitate the dismantling and removal of the wind turbines from the site. This work is estimated to take up to 24 months to complete, based on today's current working practices.

12.12.2 The dismantling of the turbines will require a crane to be transported to the site and removed on completion of the dismantling.

12.12.3 The decommissioning of a wind farm will result in the turbines, energy storage units and substations being removed but access tracks and crane hardstands will remain in situ to be used by the landowners for agricultural purposes and forestry works. All other above ground installations will be removed from the site.

12.12.4 It is estimated that the total traffic movements associated with decommissioning will be less than 30% of the traffic movements required during the construction period. It is difficult to predict the transport effects of decommissioning, however, prior to decommissioning, a revised Transport Assessment would be incorporated into an updated Traffic Management Plan (TMP), which would be produced with due regard to the local highway network, best practice and legislation at that time.

12.13 Assessment of Significance

12.13.1 The *Guidelines for the Environmental Assessment of Road Traffic* (IEMA, 1993) states that two broad rules can be used as a screening process to delimit the scale and extent of the assessment.

12.13.2 The IEMA guidelines identify general thresholds for traffic flow increases of 10% and 30%. When the traffic flow change is less than 10%, IEMA guidelines state that it would not be appropriate to consider these traffic changes unless there is a significant change in the composition of the traffic. IEMA guidelines also explain that a 30% change in traffic flow represents a ‘slight’ impact on traffic changes in an area. Where the predicted

increase in traffic flow is lower than the thresholds, the guidelines suggest that the significance of the effects can be stated to be low or insignificant and further detailed assessments are not warranted.

12.13.3 However, to ensure a relative assessment of the increase in road traffic in environmental terms, the following criteria, outlined in Tables 12.5 and 12.6, are used to determine the magnitude of impact and receptor sensitivity respectively.

Table 12.5 – Magnitude of Impact Criteria

Magnitude of Impact	Change in Traffic Flow
Large	Change in total traffic or HGV flows over 90%
Medium	Change in total traffic or HGV flows of 60 - 90%
Small	Change in total traffic or HGV flows of 30 – 60%
Negligible	Change in total traffic or HGV flows of 10% – 30%
Not considered	Change in total traffic or HGV flows of less than 10%

Table 12.6 – Receptor Sensitivity

Receptor Sensitivity	Receptor Type
High	Receptors of greatest sensitivity to traffic flow: schools, colleges, playgrounds, accident blackspots, retirement homes, urban/residential roads without footways that are used by pedestrians. (Paragraph 2.5 IEMA Guidelines, 1993)
Medium	Traffic flow sensitive receptors including congested junctions, doctors' surgeries, hospitals, shopping areas with roadside frontage, roads with narrow footways, unsegregated cycle ways, community centres, parks, recreation facilities.
Low	Receptors with some sensitivity to traffic flow: places of worship, public open space, nature conservation areas, listed buildings, tourist attractions and residential areas with adequate footway provision.
Negligible	Receptors with low sensitivity to traffic flows and those sufficiently distant from affected roads and junctions.

12.13.4 The magnitude of impact and the sensitivity of the receptor were then assessed. Potential effects are therefore concluded to be of Major, Moderate, Minor or Negligible significance. Major and Moderate significance represent effects considered to be significant in terms of the EIA guidance.

12.14 Statement of Significance

Construction Period

12.14.1 If 100% of stone has to be imported to site, the construction of the proposed wind farm is estimated to lead to around 37,389 deliveries by HGV, abnormal load vehicles and other private/light vehicles. Approximately 81% of these are HGV movements, 2% are abnormal loads and 17% are light vehicles. This is the worst case scenario and it is expected that all stone will be able to be won on site meaning there will be no stone imported into site.

12.14.2 Since construction is likely to last for a period of typically 18 months, this would lead to an average increase in overall traffic movements of approximately 104 deliveries per working day with 84 of these deliveries being made by HGV vehicles.

12.14.3 In the event that on-site concrete batching isn't the method used, the peak construction traffic flows would occur when concrete is being delivered to site, which is likely to be spread over an eight-month period. A turbine foundation is typically poured in one or two days. However, it is important to note that concrete deliveries would be limited to a 75 - 150 days period out of the total construction period of 18 months. A delivery schedule would also be made available to local residents, prior to the commencement of construction activities.

12.14.4 In the most likely scenario, that 0% of stone is imported, the construction of the proposed wind farm is estimated to lead to around 11,139 deliveries by HGV, abnormal load vehicles and other private/light vehicles. Approximately 36% of these are HGV movements, 8% are abnormal loads and 56% are light vehicles.

12.14.5 Since construction is likely to last for a period of typically 18 months, this would lead to an average increase in overall traffic movements of approximately 31 deliveries per working day with 11 of these deliveries being made by HGV vehicles.

12.14.6 Whilst we are convinced that all stone will be won on site , we have considered the worst-case scenario of 100% of stone being imported, for the increase of traffic. This has been assessed against the baseline traffic data available from the Department for Transport. The latest data available is from 2019 and is presented in Table 12.7. Estimated traffic movement increase is based from data provided for the A74(M) near Junction 17 as this is the junction that the abnormal loads will leave the motorway. Rural roads leading to site such as the B7076 and the B723 do not have baseline traffic data from the Department for Transport. Baseline traffic data for Breckenry Road and the B7068 near Grange Quary is also not available from the Department for Transport, however the Crossdykes Wind Farm ES (2015) and Addendum (2016) has a traffic count data for those locations . Therefore, this has been considered in Table 12.7 also.

Table 12.7 – Baseline and Estimated Traffic Flows along the A74 (M) if 100% of Stone was Imported

Location	Description	Source	AADF	Average Daily Traffic Increase*	Percentage Daily Traffic Increase
A74(M) (Ref. 80551)	A74(M) between junction 16 and 17	DfT 2019	33,492	104	0.31%
Breckenry Road	Road running east of the B7076	Crossdykes Wind Farm ES (2015)	792	104	13.1%
B7068	Near Grange Quarry	Crossdykes Wind Farm ES (2015)	385	104	27.01%

Notes:
AADF – Average Annual Daily Traffic Flow
Data from Department for Transport (2019), Crossdykes Wind Farm ES (2015) and Addendum (2016)
Source:

https://roadtraffic.dft.gov.uk/manualcountpoints/80551 *based on 100% stone imported as a worst-case scenario

12.14.7 The results in table 12.7 show that there would be an average increase of less than 1% in traffic movements on the A74(M) as a result of the construction of the wind farm. The potential impact on traffic and transport is so low that based on the IEMA guidance this impact does not need to be considered.

12.14.8 The results in table 12.7 also show that there would be an average increase of 13.1% in traffic movements on Breckenry Road as a result of the construction of the wind farm. The potential impact on traffic and transport during the construction phase is short-term, involving negligible magnitude of effect, and low impact on sensitive receptors, and therefore the overall significance would be low.

12.14.9 The results in Table 12.7 also show that there would be an average increase of 27.01% in traffic movements on the B7068 near Grange Quarry as a result of the construction of the wind farm. The potential impact on traffic and transport during the construction phase is short-term, involving negligible magnitude of effect, and low impact on sensitive receptors, and therefore the overall significance would be low.

Table 12.8 – Baseline and Estimated Traffic Flows along the A74(M) if no stone import is required.

Location	Description	Source	AADF	Average Daily Traffic Increase*	Percentage Daily Traffic Increase
A74(M) (Ref. 80551)	A74(M) between junction 16 and 17	DfT 2019	33,492	31	0.09%
Breckenry Road	Road running east of the B7076	Crossdykes Wind Farm ES (2015)	792	31	3.91%
B7068	Near Grange Quarry	Crossdykes Wind Farm ES (2015)	385	31	8.05%
Notes: AADF – Average Annual Daily Traffic Flow Data from Department for Transport (2019), Crossdykes Wind Farm ES (2015) and Addendum (2016) Source: https://roadtraffic.dft.gov.uk/manualcountpoints/80551 *based on 0% stone imported					

12.14.10 The results in table 12.8 show that there would be an average increase of less than 1% in traffic movements on the A74(M) as a result of the construction of the wind farm. The potential impact on traffic and transport is so low that based on the IEMA guidance this impact does not need to be considered.

12.14.11 The results in table 12.8 also show that there would be an average increase of 3.91% in traffic movements on Breckenry Road as a result of the construction of the wind farm. The potential impact on traffic and transport during the construction phase is short-term, involving negligible magnitude of effect, and low impact on sensitive receptors, and therefore the overall significance would be low.

12.14.12 The results in Table 12.7 also show that there would be an average increase of 8.05% in traffic movements on the B7068 near Grange Quarry as a result of the construction of the wind farm. The potential impact on traffic and transport during the construction phase is short-term, involving negligible magnitude of effect, and low impact on sensitive receptors, and therefore the overall significance would be low.

12.14.13 The civil works contractor will be required to implement a Drivers Code of Conduct and badging system to help enforce speed and routing requirements.

Operational Period

12.14.14 Throughout the operational life of the wind farm, there would be infrequent traffic movements consisting almost entirely of cars or vans that would be required for the service and maintenance of the turbines and site. The magnitude of their impact is considered to be negligible, resulting in a low significance. Operational traffic is therefore not considered to be significant with regards to the EIA Regulations.

Decommissioning Period

12.14.15 During the decommissioning period, which is anticipated to last up to 24 months, HGV traffic to and from the site is likely to be less than 50% of that experienced during the construction period, therefore it is envisaged that decommissioning will not result in a significant impact.

12.14.16 Baseline traffic flows on all of the affected roads may be different by the end of the 40-year operational life of the wind farm, leading to the possibility of a different impact due to traffic. However, any potential impacts would be mitigated in a similar way as for the construction phase. A decommissioning plan, incorporating an updated TMP, would be drawn up and agreed at least 12 months prior to decommissioning commencing.

12.15 Traffic Management Plan

12.15.1 It is proposed that there will be two separate Traffic Management Plans produced, these will cover the two main stages of the traffic and transportation requirements of the wind farm: Construction and Abnormal Loads as detailed below.

12.15.2 The Construction Traffic Management Plan (CTMP) will detail the measures to facilitate the efficient transportation of construction vehicles and materials to site, and this will be developed in consultation and agreement with the relevant Local Roads Department, prior to the commencement of construction. The CTMP aims to minimise congestion and disruption which might affect general traffic and in particular the emergency services.

12.15.3 The Construction Traffic Management Plan is likely to consist of:

- The final access routes for construction traffic;
- The potential effects of construction traffic on the local population;
- Construction traffic management measures including route enforcement;
- Emergency Services liaison procedures;
- Cumulative traffic impact of consented wind turbine schemes and forestry felling traffic;
- Details of additional speed restrictions through sensitive areas; and

- Details of any temporary signage to be installed.

12.15.4 The second TMP will be specifically focused on Abnormal Loads and will be referred to as the Abnormal Loads Traffic Management Plan (ALTMP) outlining the measures that will be undertaken to facilitate the efficient movement of abnormal loads that will be delivered to site. The ALTMP will be developed in consultation with the relevant Local Roads Department and Transport Scotland, prior to the commencement of the abnormal load deliveries. The aim of the ALTMP is to highlight what will be done to minimise the congestion and disruption caused by the abnormal load vehicles and would affect general road traffic, particularly the emergency services from the port to the development site entrance.

12.15.5 The Abnormal Loads Traffic Management Plan, is likely to detail and include:

- The final access route for all abnormal load vehicles and traffic;
- The potential effects of abnormal load traffic on the local population;
- The movement of these loads along the A74(M) which will be restricted to occur outside peak flow hours (8am - 9am and 5pm - 6pm), to minimise disruption to general traffic flows;
- Consideration given to scheduling abnormal loads in convoys of three, or as single units, scheduled over discrete non-peak times;
- A police escort, or a police-approved escort, will accompany all abnormal vehicle movements;
- The requirement for any temporary removal of street furniture to enable the smooth passage of the abnormal loads;
- Appropriate temporary signage to be installed to warn other motorists of the presence of the abnormal loads; and
- Road hauliers will be ordered to comply with an agreed code of conduct, considering other road users accordingly.

12.15.6 The two TMPs would be secured via planning condition attached to any consent that may be granted. Suggested wording for these conditions is as follows;

Condition one: Prior to commencement of construction deliveries to site, a Construction Traffic Management Plan will be submitted to and approved by [Transport Scotland/ local authority Roads Department] to ensure that general construction traffic can be transported along the [trunk road/ local public roads] network safely and efficiently.

Condition two: Prior to commencement of abnormal deliveries to site, the proposed route and Abnormal Load Traffic Management plan for any abnormal loads on the [trunk road/ local public roads] network will be approved by the [trunk roads authority/ local authority Roads Department] prior to the movement of any abnormal load. The complete report shall include swept path analysis and detail any accommodation measures required including the temporary removal of street furniture, junction widening, traffic management etc. to show that the transportation will not have any detrimental effect on structures within the route path.

12.16 Mitigation

12.16.1 The following mitigation methods are proposed to address and monitor the movements of all construction and abnormal load vehicles including:

- Prior to the commencement of construction, a routing strategy would be drawn up and agreed with the local Police and Local Authority Roads Departments;
- Local consultations would take place with the affected householders along the transportation route to inform and advise them of the traffic movements; and
- Limiting the number of vehicle movements during the peak flow hour periods (8am - 9am and 5pm - 6pm) and weekends. This would be specified in the Construction Traffic Management Plan that will be developed prior to construction.
- Abnormal load deliveries to the site would be made outside peak times under a police escort to reduce impact on the road network and local communities as per the Abnormal Loads Traffic Management Plan.

12.17 Residual Effects

12.17.1 Residual effects from the construction traffic are considered to be of very low significance. The nature of some of the construction and delivery vehicles will make them obvious on the highway network and very minor delays, due to slow-moving traffic, may be experienced. Compared to other power generation technologies, wind turbines can be easily and economically decommissioned and removed from the site at the end of their economic life.

12.17.2 The proposed wind farm will generate a slight temporary increase in HGV and light vehicle movements using the local network of roads throughout the anticipated 18-month construction period and during decommissioning of the wind farm. Any increase in traffic along the A74(M) is likely to be unnoticeable (Table 12.9). Traffic increase along Breckenry Road and the B768 is expected to be of low significance as minor modifications will be required along the access route and there will be an increase in traffic flows. It is expected that there will be some low to moderate impact on local residents, but this will only be temporary during the construction of the wind farm.

12.17.3 No residual negative impact is anticipated during the operation of the wind farm.

Table 12.9 – Summary of Residual Effects if 0% of stone is imported into site

Key Issues	Magnitude	Receptor Sensitivity	Significance
During Construction			
Traffic flow on the A74(M)	Negligible Increase in traffic flow out with peak times.	Negligible Increase in traffic flow is unlikely to affect residents or road users.	Insignificant No modification will be required along this part of the access route so therefore there will be minimal disruption.
Traffic flow on Brackenry Road	Negligible Increase in traffic flow out with peak times.	Low Increase in traffic flow mostly likely to affect residents. This will be dependent on the stage of the construction phase.	Low Minor modification to access routes may affect local residents.
Traffic flow on B7068	Negligible Increase in traffic flow out with peak times.	Negligible Increase in traffic flow is unlikely to affect residents or road users.	Low Minor modification will be required on this part of the access route, but disruption will be minimal.

Key Issues	Magnitude	Receptor Sensitivity	Significance
Post Construction			
Traffic flow on the A74(M)	Negligible Minimal disruption from site service vehicles	Negligible Increase in traffic flow is unlikely to affect residents or road users.	Insignificant Minimal disruption from site service vehicles.
Traffic flow on Brackenry Road	Negligible Increase in traffic flow out with peak times.	low Increase in traffic flow is unlikely to be noticeable.	Insignificant Minimal disruption from site service vehicles.
Traffic Flow on B7068	Negligible Minimal disruption from site service vehicles	Negligible Increase in traffic flow is unlikely to affect residents or road users.	Insignificant Minimal disruption from site service vehicles.

12.18 Conclusion

12.18.1 This Transport Assessment has studied the likely significance of effects of the traffic associated with the proposed wind farm during the construction, operation and decommissioning phases. It has also been calculated based on a worst-case scenario assumption that 100% of the stone material required for track construction would be imported to the development site. The applicant is confident that this will not be the case, and this is why traffic movement calculations have also been shown for 0% and 25% stone import as these are far more likely scenarios.

12.18.2 The A74(M) is frequently used by heavy vehicles. It is therefore considered that the additional temporary impact of wind farm construction traffic will be minimal on this route. Breckenry Road and the B7068 are also frequently used by heavy vehicles, such as timber haulage trucks. It is therefore considered that the additional temporary impact of wind farm construction traffic will be low to medium on this route, depending on the stage of the construction phase.

12.18.3 The assessment concludes that the construction of the proposed wind farm would result in a temporary, negligible/low increase in traffic levels on Breckenry Road and the B7068. In accordance with the IEMA Guidelines significance criteria, these increases are not significant.

12.18.4 Nonetheless, the implementation of mitigation measures such as an appropriate TMP and ALTMP in agreement with the Local Authority Roads Departments, will ensure any potential impact that may arise can be mitigated appropriately. Local residents will also be kept up to date during the entire construction process and post construction, this will mean they know when to expect increases in traffic or the delivery of the abnormal loads at night.

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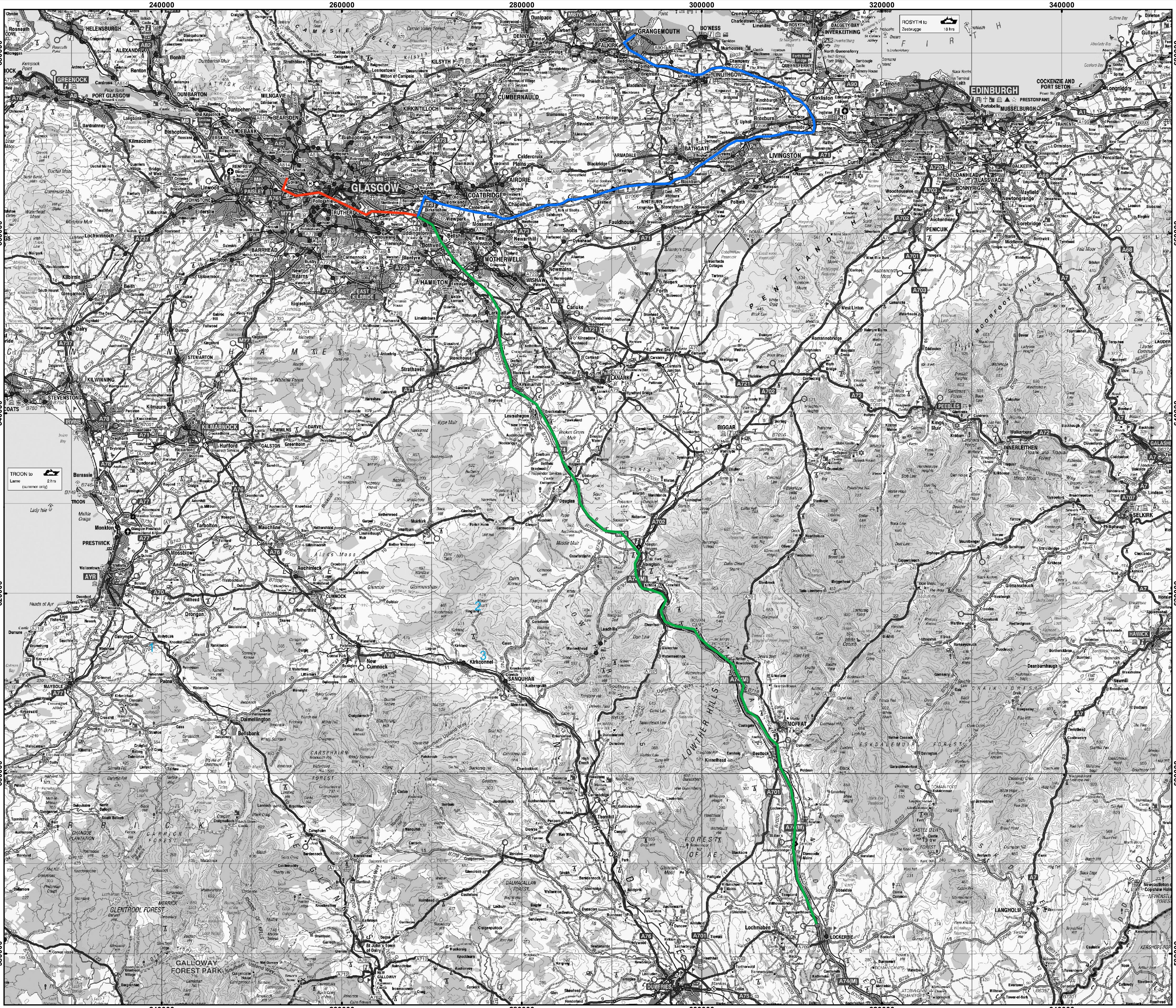


374 Scoop Hill

Legend

- Access Along A74(M)
- Route from Grangemouth Port
- Route from King George V Dock

Notes: N/A
Revisions: N/A

0 5 10 20 Km
N
Scale: 1:400,000 @ A3

Figure 12.1 - Proposed Abnormal Access Routes (Port to A74(M))

Date: 31/07/2020 Ref: 374-200608-7312
Produced: DR Reviewed: SM Approved: GC

community windpower
Godscroft Lane
Frodsham - WA6 6XU
t: 01928 734544 f: 01928 734790
e: info@communitywindpower.co.uk w: www.communitywindpower.co.uk

374 Scoop Hill

Legend

- Site Boundary
- Option 1
- Option 2
- Option 3

Notes: N/A
Revisions: N/A

0 1,000 2,000 4,000 m

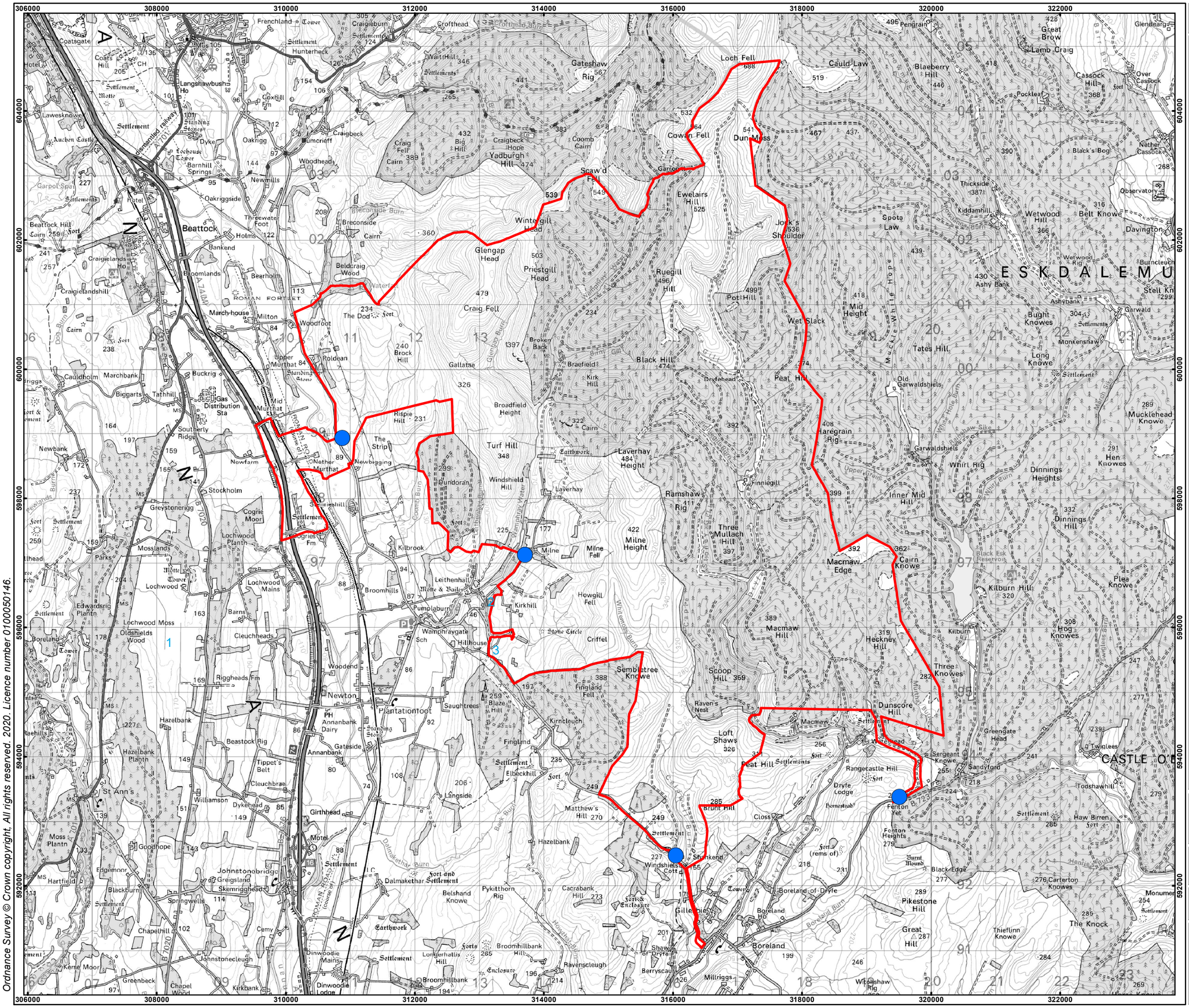
Scale: 1:85,000 @ A3

N

Figure 12.2 - Proposed Abnormal and Construction Access Routes

Date: 31/07/2020	Ref:374-200608-7313	
Produced: DR	Reviewed: SM	Approved: RF

community windpower
Godscroft Lane
Frodsham - WA6 6XU
t: 01928 734544 f: 01928 734790
e: info@communitywindpower.co.uk w: www.communitywindpower.co.uk



374 Scoop Hill

Legend

- Site Boundary
- Operational and Emergency Access Points

Notes: N/A
Revisions: N/A

0 500 1,000 2,000 m

Scale: 1:55,000 @ A3

N

Figure 12.3 - Proposed Operational and Emergency Access Points

Date: 02/06/2020 Ref: 374-200608-7314

Produced: DR Reviewed: SM Approved: GC

community windpower
Godscroft Lane
Frodsham - WA6 6XU
t: 01928 734544 f: 01928 734790
e: info@communitywindpower.co.uk w: www.communitywindpower.co.uk