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Beauly BESS

Transport Statement & Construction Traffic Management Plan

December 2024

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1 Introduction

1.1 Purpose of the Report

Pell Frischmann has been instructed by TNEI on behalf of Field Beauly Limited (the Applicant) to produce a combined Transport Statement and Construction Traffic Management Plan (CTMP) to support a planning application for the creation of a Battery Energy Storage System (BESS) and associated development at a site to the west of the A862 and east of the River Beauly and Beauly Substation, in The Highland Council (THC) administrative area.

The planning application is for a proposed BESS (the Proposed Development). This covers the construction, operation and maintenance of a BESS of up to 100 MW with associated infrastructure, access and ancillary works (including landscaping and biodiversity enhancement).

This report provides an overview of the Proposed Development in relation to construction traffic and sets out the proposed mitigation measures for use at the site. Once operational, the Proposed Development will generate minimal levels of maintenance traffic and no specific traffic measures are required for the operational phase.

1.2 Report Structure

Following this introduction, the report is structured as follows:

- Section Two describes the Proposed Development, including access arrangements;
- Section Three details the existing transport conditions in the vicinity of the site;
- Section Four details the types of construction traffic likely to be used on the site, including estimated delivery volumes;
- Section Five outlines the proposed construction traffic management measures to be used on the site; and
- Section Six provides a summary of the report.

2 Development Description

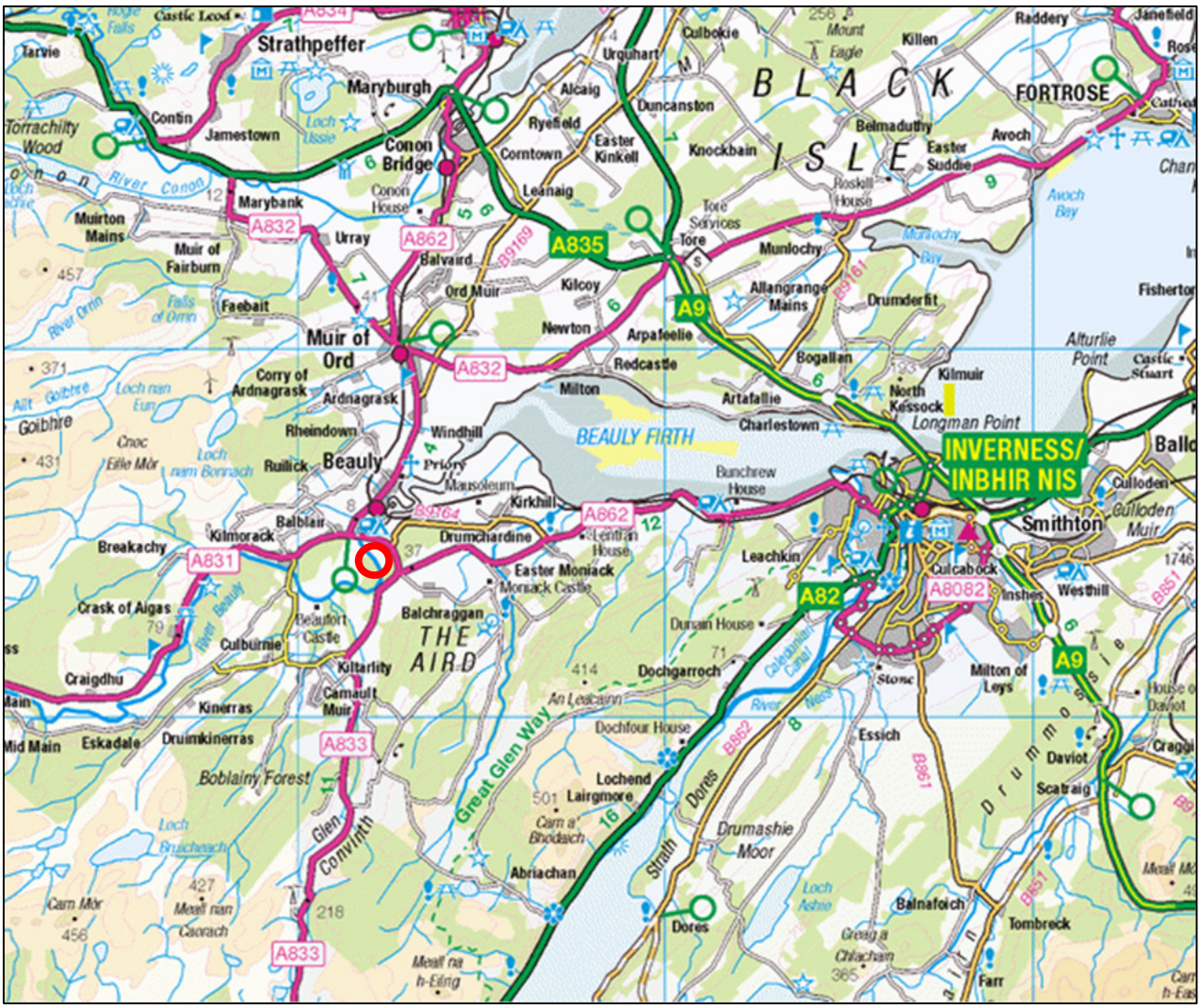
2.1 Development Location and Layout

The Proposed Development comprises of a BESS, featuring the following elements:

- Battery storage and their associated electrical connections and medium voltage switchgear;
- Control facilities;
- Access track to the secure compound (accessing from a new temporary construction access junction on the A862 to the north of the site, to be removed upon completion of construction works) and a separate emergency access track (located to the east) which will provide operational access post construction; and
- Security and noise attenuation fencing, landscaping and other soft features.

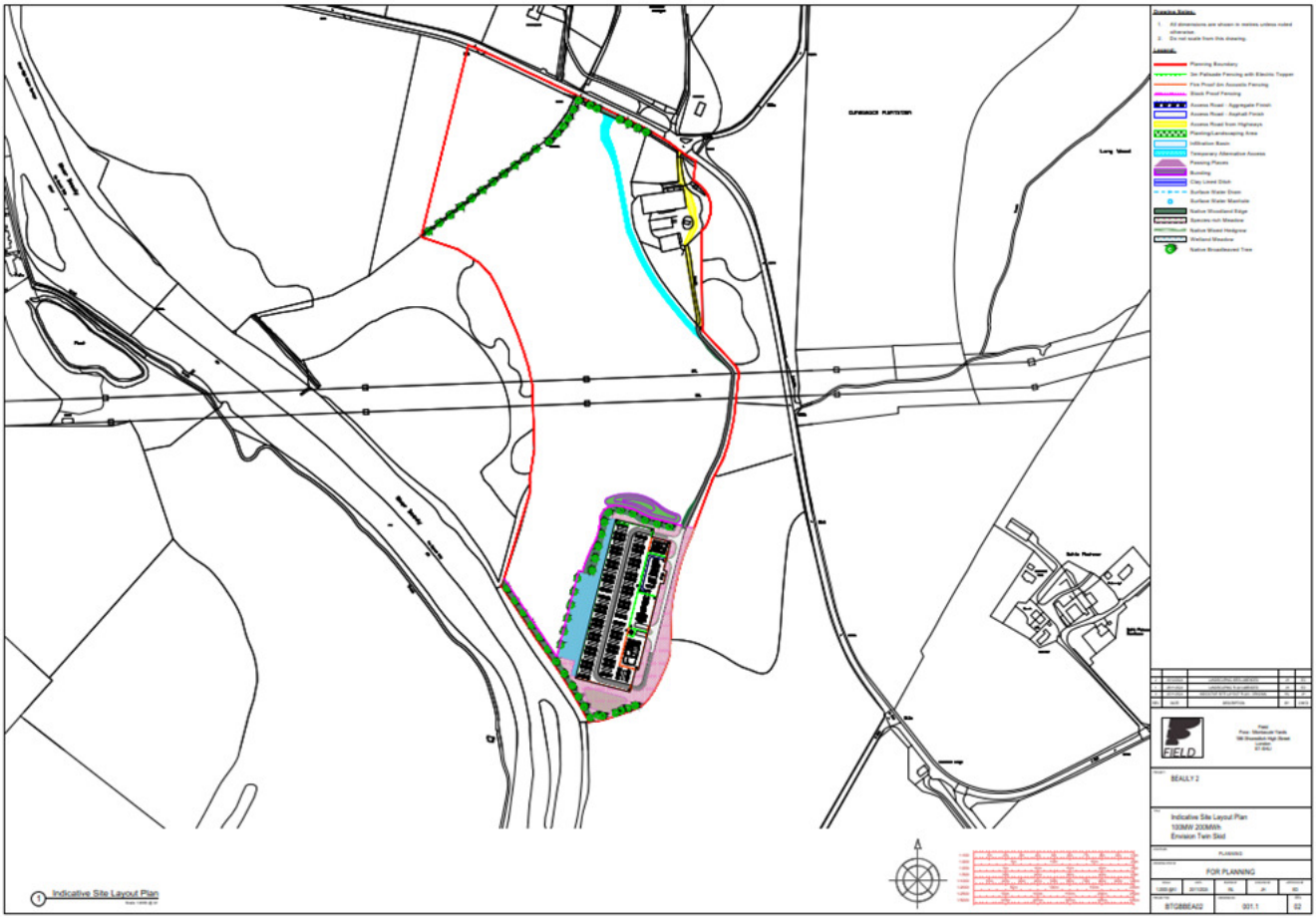
The Proposed Development location is illustrated in Figure 1.

Figure 1 Proposed Development Location



Access to the Proposed Development is to be taken from a new junction on the A862. The layout of the Proposed Development is illustrated in Figure 2. The new access junction has been designed to accommodate substation construction traffic deliveries to the Proposed Development.

Figure 2 Proposed Development Layout



The existing farm access is not considered suitable for the construction phase of the Proposed Development following a site visit and initial discussions with THC. THC have advised that the existing access junction is not suitable for construction access. Therefore, a temporary construction access will be provided to the west of the existing junction and is illustrated along with its proposed visibility splays in Appendix A.

This access is temporary in nature and would be removed upon completion of the construction phase. Operational and maintenance access will be via the existing farm access junction.

3 Existing Network

3.1 Active Travel Network

A review of THC Core Path maps[1] indicates that there are no Core Paths located on the road frontage of the Proposed Development site. The closest Core Path is located along the southwestern bank of the River Beauly, and at its closest is 75m from the development site, albeit separated by the river.

There is also a shared use path that runs adjacent to the northbound carriageway of the A862 to the north of the site. This route provides an active travel connection north to Beauly and extended to the south in 2023 from Duballoch to the A833 junction[2].

The National Cycle Network (NCN) route map[3] of the United Kingdom indicates that there are no NCN routes located close to the Proposed Development.

3.2 Existing Road Links

The nearest trunk road to the site is the A9, linking Stirling to Thurso. The A9 between Stirling and Thurso is operated by Transport Scotland on behalf of Scottish Ministers. The single carriageway sections are subject to a 60 miles per hour (mph) speed limit for cars and motorcycles outwith towns and villages on the route and 70mph on dual carriageway sections. Goods vehicles exceeding 7.5 tonnes are subject to a 40mph and 50mph speed limit on single and dual carriageway sections respectively. This is with the exception of single carriageway sections between Perth to Inverness where a 50mph speed limit applies to Goods Vehicles over 7.5 tonnes.

Access to the Proposed Development is from the A9 via the A832, B9169 and A862. The A832 connects from the A9 at Tore Roundabout with the A835 south of Marybank, passing through Muir of Ord. This route would be used for access from the A9 / A832 junction to the A832 / B9169 junction. The B9169 connects the A835 and A862 and would be utilised between the A832 / B9169 and A862 / B9169 junctions.

The A862 provides connections from Inverness to Dingwall, via Beauly, Muir of Ord, Conon Bridge and Maryburgh, connecting with the A9 to the north of Dingwall. These roads are of a local distributor road standard and maintained by THC. All routes noted are considered suitable for Heavy Goods Vehicle (HGV) traffic between the site access junction and the A9 at Tore Roundabout via the A862, B9169 and A832.

Access from the A862 is taken from a new junction to the west of the existing A862 / B9164 junction. The layout of the proposed new access junction is shown in Appendix A.

A quarry and ready-mix concrete supplier is located to the west of the Proposed Development site. This facility is located on the A831 and is approximately 1km from the proposed site access junction.

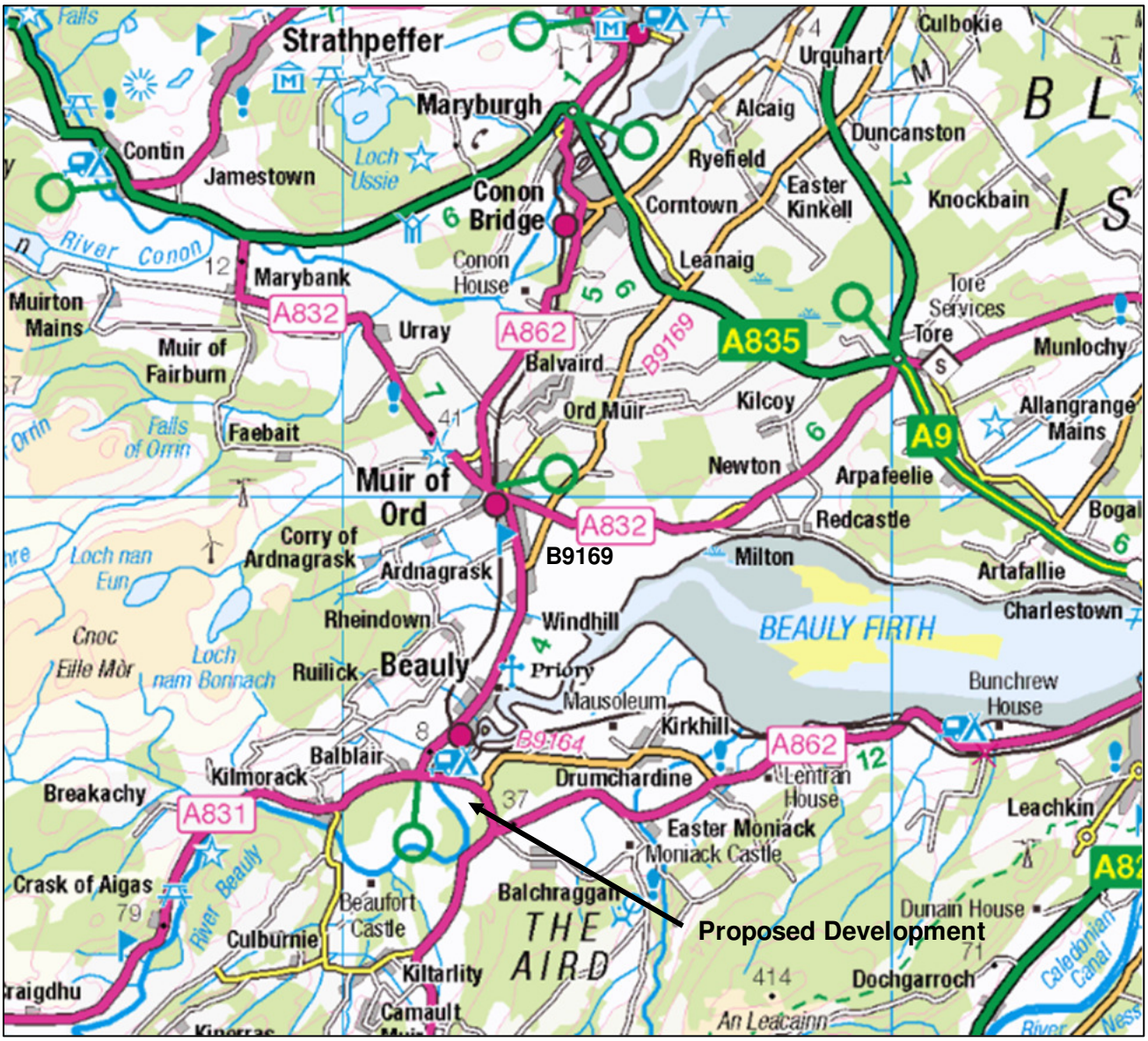
Figure 3 illustrates the local road network links.

[1] https://highland.maps.arcgis.com/apps/webappviewer/index.html?id=2fd3fc9c72d545f7bcf1b43bf5c8445f [Accessed October 2024]

[2] https://www.highland.gov.uk/news/article/16164/new_link_in_chain_of_cycling_and_walking_route_by_beauly [Accessed October 2024]

[3] https://explore.osmaps.com/?lat=57.629360&lon=-4.792731&zoom=11.0997&style=Standard&type=2d&overlays=os-ncn-layer [Accessed October 2024]

Figure 3 Study Area Network Road Links



3.3 Road Network Suitability

The Agreed Timber Route Map[4] has been developed by The Timber Transport Forum who are a partnership of the forestry and timber industries, local government, national government agencies, timber hauliers and road and freight associations. One of the key aims of the forum is to minimise the impact of timber transport on the public road network, on local communities, and the environment and a way of achieving this is to categorise the roads leading to forest areas in terms of their capacity to sustain the likely level of timber haulage vehicles i.e., HGVs. The routes are categorised into four groups, namely; 'Agreed Routes', 'Consultation Routes', 'Severely Restricted Routes' and 'Excluded Routes'.

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

[4] https://timbertransportforum.org.uk/ [Accessed October 2024]

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.

The A9, and A862 form part of the agreed route network used for the extraction of timber and are therefore regularly used by HGV traffic. As such, they are considered suitable for the movement of construction HGV traffic.

3.4 Road Safety Review

Personal Injury Accident (PIA) data for the five-year period commencing 01 January 2018 through to the 31 December 2022 was obtained from the online resource CrashMap[5] which uses data collected by the police regarding road traffic crashes occurring on British roads, where someone is injured.

Transport Assessment Guidance[6] requires an analysis of the accident data on the road network in the vicinity of any development to be undertaken for at least the most recent three-year period, or preferably a five-year period.

The statistics are categorised into three categories, namely "Slight" for damage only incidents, "Serious" for injury accidents and "Fatal" for accidents that result in a death.

A review of the A862 indicates that there have been two "Slight" accidents on the A862 between its junction with the A831 and the Proposed Development site within the last five years (2018 – 2022). This included one "Slight" accident within approximately 100m of the proposed new access junction on the A862 that involved one car and occurred in November 2018. The other "Slight" accident involved a car and cyclist at the A862 / A831 junction.

Within the wider extents of the A862, two "Slight" accidents occurred on the A862 to the north of the A862 / A831 junction. This included one accident to the south of Beauly Rail Station that involved a Young Driver and cyclist with one child (cyclist) casualty. At the junction of High Street / Croyard Road in Beauly one "Slight" accident occurred involving four vehicles including an HGV with one casualty reported. To the north of Beauly two "Slight" accidents were also recorded that each involved three cars and six casualties in total with the accident that occurred in the winter of 2019 accounting for five of the casualties.

Five "Serious" accidents were recorded on the A832, including two at the junction with the B169 where one involved a single car and the other involved two cars with one and three casualties respectively. Two other "Serious" accidents occurred to the east between the A832 / B169 junction and Garguston. This included one accident involving an HGV (Young Driver – under 25) and cyclist resulting in one casualty. The other accident involved one car driven by a Young Driver which occurred during the winter period in 2018. One further "Serious" accident occurred south-west of the A9 / A832 junction in the winter of 2020 and involved one car with one casualty reported.

Three "Slight" accidents also occurred on the A832, including two west of Newton with one involving a single car and the other which occurred in the winter of 2019 involving two cars. One casualty was reported for both accidents. The other "Slight" accident occurred at Newton in the winter of 2020, involving two cars including a Young Driver with three casualties reported.

HGV traffic was not involved in any accidents on the A862 within the immediate vicinity of the site during the five year study period.

[5] https://www.crashmap.co.uk [Accessed October 2024]
[6] https://www.transport.gov.scot/media/4589/planning_reform_-_dpmtag_-_development_management__dpmtag_ref__17__-_transport_assessment_guidance_final_-_june_2012.pdf

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 that currently require to be addressed or will be exacerbated by construction activities.

3.5 Existing Traffic Flows

To review the existing traffic flows on the A862 at the location of the proposed site access junction, Streetwise Services were commissioned to undertake an Automatic Traffic Survey (ATC) at the access junction in June 2024.

Data from the Department of Transport (DfT) traffic count database for the A862 between Beauly and Muir of Ord (Ref Site 10950) and to the east of the site, near Drumchardine (Ref Site 80011) was also obtained for the year 2023.

The traffic data allowed the traffic flows to be split into vehicle classes and the data have been summarised into cars / light goods vehicles (LGV) and HGV.

The DfT traffic flows were factored to 2024 traffic flows using National Road Traffic Forecast (NRTF) Low Growth factors. The NRTF Low Growth Factor from 2023 to 2024 is 1.005.

The traffic survey summary is provided in Table 1 below.

Table 1: 2024 Daily Traffic Flows

Description	Cars & LGV	HGV	Total Traffic
A862 North	6,199	321	6,519
A862 Site Access	4,369	1,182	5,551
A862 East	4,124	91	4,215

Please note minor variances due to rounding may occur.

Should the Proposed Development be consented, construction works are expected to commence 2027[7]. NRTF Low Growth assumptions have been used to provide a factor to convert the 2024 flows to 2027 flows. The NRTF Low Growth Factor from 2024 to 2027 is 1.016.

The 2027 baseline flows are provided in Table 2.

Table 2: 2027 Daily Traffic Flows

Description	Cars & LGV	HGV	Total Traffic
A862 North	6,329	327	6,656
A862 Site Access	4,461	1,206	5,667
A862 East	4,210	93	4,303

Please note minor variances due to rounding may occur.

3.6 Committed Developments

A review of planning applications in the area has been undertaken. In line with established practice, the following screening factors of applications has been undertaken to determine those that can be included in the assessment:

- Will the application use the same study area as the Proposed Development?
- Is the application determined, and as such, can be considered as Committed Development?
- If the application results in temporary traffic, will these traffic flows occur at the same time as those for the Proposed Development?

[7] https://www.fieldbeauly.co.uk/faqs/

- Does the application provide publicly available traffic data in the relevant traffic classes?.

The review suggests there are no applications that meet the above criteria. There are several nearby schemes in planning that may use sections of the road network that are to be used for the Proposed Development, some of which may be constructed in advance of the Field Beauly BESS proposals. As such, there would be no cumulative impacts associated with these schemes.

Should there be a cross over between the Proposed Development and the construction period of other schemes, then the Applicant would welcome the opportunity to discuss common traffic management measures with the promotors of these projects, in association with THC.

4 Construction Traffic

4.1 Trip Generation

The proposed construction works are estimated to take up to 24 months[8].

The programme has been divided into its component sections and estimates of the likely traffic generation have been made from the material quantities, staff requirements and component deliveries required. The main areas of construction traffic can be subdivided as follows:

- Import of Plant and Machinery;
- Site Establishment Clearance Loads;
- Import of Bulk Materials;
- Import of Ready-Mix Concrete;
- Import of General Building Supplies;
- Delivery of HV Electrical Components;
- Delivery of batteries;
- Delivery of general site materials and supplies;
- Grid and electrical connection works; and
- Arrival and departure of construction and commissioning staff at the site.

The traffic generation during the construction phase has used first principles to establish the volume and tonnage of construction materials. This has then been converted to two-way vehicle movements to create the construction programme illustrated in Appendix B.

The peak of construction activity occurs in Month Eleven of the construction programme.

All construction traffic would access the site via the proposed A862 access junction. Upon completion of the construction phase, this junction would be removed. Access for the operational phase will be taken from the existing farm access.

4.2 Distribution of Construction Trips

Exact material suppliers will be determined through the Balance of Plant (BoP) contract. The supplies anticipated for use in this study however are based upon the following:

- Aggregate and Ready Mix Concrete: Likely to be supplied from quarries located to the west of the site and accessed from the A831 and A862;
- HV electrical equipment and batteries: Likely to be supplied from the Central Belt via the A9, A832, B9169 and A862;
- Transformer Abnormal Indivisible Loads (AIL) to be imported via the route described in Appendix C from the A9 Tore Roundabout, via the A9, A832, B9169 and A862;
- General construction and site supplies: Supplied from the north via the A9, A832, B9169 and A862; and
- Construction Staff: It is assumed that 80% of staff will access the site from the southeast via the A862 from Inverness. The remaining 20% are assumed to access the site from Muir of Ord, Beauly and the surrounding area from the A862 from the north.

These general distributions have been applied to the peak of construction activities to estimate the likely peak traffic associated with construction activities. The peak construction traffic flows are summarised in Table 3.

[8] https://www.fieldbeauly.co.uk/faqs/

Table 3: Peak Daily Construction Traffic Flows

Description	Cars & LGV	HGV	Total Traffic
A862 North	13	2	15
A862 Site Access	67	25	92
A862 East	53	0	53

Please note minor variances due to rounding may occur.

A review of the traffic impact of the construction traffic on the road network has been undertaken and is illustrated in Table 4.

Table 4: 2027 Base + Construction Traffic Flows / Traffic Impact

Description	Cars & LGV	HGV	Total Traffic	Cars & LGV % Impact	HGV % Impact	Total Traffic % Impact
A862 North	6,342	329	6,672	0.21%	0.61%	0.23%
A862 Site Access	4,528	1,231	5,759	1.49%	2.05%	1.61%
A862 East	4,263	93	4,357	1.26%	0.00%	1.24%

Please note minor variances due to rounding may occur.

The peak construction traffic impact level is significantly below the 10% threshold for undertaking a detailed Transport Assessment. The daily flows are therefore not considered significant in traffic terms for roads within the study area.

The increase in traffic is significantly less than 30%, the threshold for undertaking an Environmental Impact Assessment (EIA). The increase in traffic represents an additional 92 vehicle movements (46 inbound and 46 outbound) per day, of which 25 are classified as HGV (13 inbound and 12 outbound). This represents on average 2 additional HGV movements in and out per hour during the peak month.

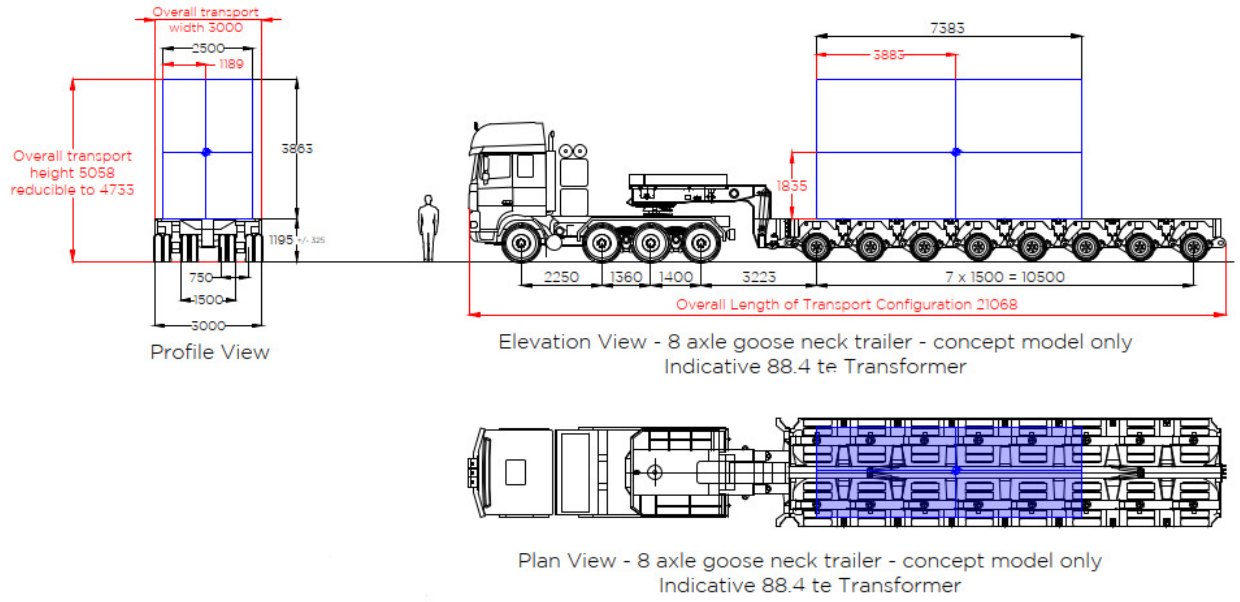
The impact of this number of HGV movements on the study area road network can be managed by a CTMP to ensure that any disruption and disturbance can be kept to a minimum.

4.3 Abnormal Load Traffic

The proposed transformers to be used on site are considered AIL due to their weight and the need for a specialist trailer to transport them on the public road network.

Load details for the AILs were obtained from the Applicant. The proposed transformers are up to 7.383m in length, 2.500m in width and 3.863 m in height. At 88.4 tonnes, they would be carried on an eight axle trailer. An example of the style of trailer is provided in Figure 4.

Figure 4 Indicative AIL Trailer



A Route Survey Report (RSR) describing the transport of the load has been prepared and is attached in Appendix C. The transformer loads would be subject to a police escort due to the weight of the proposed loads.

A review of axle loads has been considered on structures on the route by the AIL consultant. The proposed loads do not exceed the structure limits along the proposed route, including those on the nearby Lovat Bridge.

Crane loads will also be required at the site and these are considered to be escorted loads due to their width at 3m. Civilian escorts would be used to assist these loads to access the site.

4.4 Operational Traffic

Traffic associated with the operational phase will be minor in nature and restricted to occasional visits for maintenance, servicing and security reviews. It is anticipated that traffic flows associated with this phase of the Proposed Development will be no more than ten vehicle movements (five inbound and five outbound) per month.

This level of traffic is not considered to be significant and as such, no further assessment is proposed.

5 Construction Traffic Management Proposals

5.1 General Measures

The traffic management proposals in this report will be provided to the Principal Contractor and they will be required to abide by these regulations as part of their commercial contracts with the Applicant. Failure to follow the traffic management measures proposed would be a contractual matter and could result in contractors being dismissed from the site.

Information about the construction of the development would be available on a project website. Facilities for members of the public to ask questions relating to construction traffic associated with the project could also be provided. A telephone number for the Principal Contractor would be published during operational hours to resolve any traffic management problems that occur, and these calls would be logged and reported to the Applicant on a weekly basis to monitor the situation.

All contractors will be monitored through regular spot-checks to ensure they follow the approved access route(s). Access routes identified will be clearly defined in all sub-contracts and signposted.

The site access junction will be kept clear at all times during construction and will be monitored by onsite staff to ensure vehicles do not attempt to use the area for parking.

Use of a visible vehicle identification system for HGV deliveries should be employed to ensure compliance with the agreed route and driver behaviour standards. This will allow the public to identify any rogue vehicles to the site office for easy recognition and review.

The Applicant will also work with local businesses to ensure the construction traffic does not interfere with deliveries or normal business traffic wherever possible.

Wherever reasonably possible, local suppliers such as quarries and concrete works are proposed to help minimise traffic levels of the network.

The following measures would be implemented through this CTMP during the construction phase:

- Contractual requirement in the BoP contract that contractors will only use the agreed access routes;
- Direction signage signposting traffic on the agreed access routes;
- Providing the public with details of how to report use of unapproved routes or driving issues of concern;
- Setting out site staff disciplinary measures for those who ignore the agreed access routes and enforcing these throughout the construction period;
- All site vehicles will feature “white noise” reversing warning devices to reduce noise disruption when on site;
- All materials delivery lorries (dry materials) will be sheeted to reduce dust and stop spillage on public roads;
- Specific training and disciplinary measures will be established to ensure the highest standards are maintained to prevent construction vehicles from carrying mud and debris onto the carriageway;
- Wheel cleaning facilities will be established at the site entrance. A road sweeper would also be provided at site to ensure that the area of the A862 near the site access is kept clean during the development platform works and any other works likely to generate material that could be tracked on to the public road network; and
- Site induction for all staff instructing them on what route to site they can use to enter and exit the site and obtaining their acknowledgement that there is only one approved access route. The induction would include:
    - A tool box talk safety briefing;
    - The need for appropriate care and speed control;

- A briefing on driver speed reduction agreements (to drive slowly through villages and settlements on the access route) and to be aware of pedestrian, cyclist and equestrian traffic in these areas; and
- Identification of the required access route and access junction operation and the controls to ensure no departure from these routes.

5.2 Temporary Access Junction

All site staff will be inducted prior to driving to site. As part of the induction, repeated at tool box talks, will be information pertaining to active traveller use of the cycle path running parallel to the A862 at the site access junction.

Active travel users will have priority at the junction. Traffic exiting the junction will allow cyclist and pedestrians to pass before driving across the footway / cycleway. The priority will be reinforced by the provision of double "Give Way" lines (one at the road edge and one at the back of the shared footway).

Signage on the internal access track in advance of the junction will be provided to further remind drivers.

5.3 Wear & Tear Agreement

An agreement is suggested to cover the cost of any abnormal wear and tear on the A862. This would be agreed with the Council subject to the granting of planning approval.

The wear & tear agreement will address concerns about possible damage to the public road, verges and structures. It will be based upon condition surveys of the road to ensure that the condition of the road does not deteriorate as a result of the construction works.

Video footage of the pre-construction phase condition of the agreed area covered by the condition survey would be recorded to provide a baseline of the state of the road prior to any construction work commencing. This High Definition (HD) baseline review would inform any change in the road condition during the construction stage of the Proposed Development as it notes the existing condition of the road surface and features and details current condition.

The condition survey would feature still images for the survey and would measure specific defects to monitor their progression. Locations of points would be accurately logged using a GPS tracker.

To agree the current state of the road, the report would be agreed with the Council prior to construction works commencing.

Any immediate necessary repairs would be coordinated with the Council. Any damage caused by traffic associated with the Proposed Development, during the construction period that would be hazardous to public traffic, would be repaired immediately.

During construction activities, a general road wear and tear review would be undertaken with the Council every three months during construction. Interim reviews will be undertaken by the principal contractor on a regular basis and the progress reports issued to the Applicant.

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

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

Where defects occur, the principal contactor will ensure that they maintain a stockpile of road repair material on site to undertake repair works quickly and efficiently, when authorised by the Council to undertake interventions.

Upon completion of construction activities, a follow-on condition review will be undertaken around the site access junction and a defects list prepared. Works required to reinstate the road back to its original condition would be undertaken at the Applicant's expense following a review by the Council.

There are cases where defects will need to be undertaken quickly and the contractor will have arrangements in place to respond to serious and significant defects within agreed hours.

5.4 Turning Facilities & Banksmen

For safety reasons, both onsite and for other road users, the site has been designed so all vehicles can enter and exit the site in a forward gear at both junctions. No vehicle shall reverse onto unmanaged public roads and shall only enter / exit the site using forward gear only.

The site construction compound will be sized to ensure that staff can park safely in the appropriate areas and that no parking occurs near the A862 site access junction.

5.5 AIL Traffic Management Measures

General Measures

AIL movements must be escorted by the Police. Given the size of the proposed loads, it is expected that at least two private escorts and a minimum of two police escort vehicles are likely to be required (exact requirement will be confirmed with the police). The likely deployment of escorts will be as follows:

- The first police escort vehicle will be the advance escort and will be located sufficiently ahead of the convoy, to advise the convoy in good time of traffic stoppages, constraints and oncoming hazards;
- The second police escort and first civilian escort will provide support to the first escort at junction closures and would be located at the front of the lead vehicle; and
- The second civilian escort will be located behind the last vehicle to protect the rear of the convoy and ensure that following vehicles do not attempt dangerous overtaking manoeuvres.

Before the convoys depart the Port of Entry (PoE) (to be determined post the granting of planning permission) the Lead Driver should check weather and traffic conditions and ensure this information is included within the daily toolbox talks.

Within the route, there are locations where general traffic flows will need to be stopped to allow the safe manoeuvre of the loads. In these circumstances, the advance escorts will ensure that the traffic is stopped before the convoy enters the affected section. The advance escorts will confirm through radio contact that the area is clear and safe for transit. Should general traffic fail to observe the request to stop, the advance escort will advise the convoy to immediately halt and will then proceed to remove the rogue traffic. The convoy must not start without approval from the advance escort.

In areas where the load is likely to, or is close to straddling the centre line, the advance escort should be positioned to give advance warning to the convoy such that action can be taken. In constrained areas and other locations where verges are potentially soft the drivers must exercise care to ensure the trailer wheels do not leave the road surface as this may result in adverse load stability conditions.

Urban areas along the route pose different challenges for the abnormal loads. Whilst the vehicle speeds will be less than those in the rural sections of the route, there are more potential conflicts with other road users to be aware of. These include:

- Pedestrians and cyclists;
- Local vehicular traffic;
- Parked vehicles;
- Side junctions; and
- Street furniture.

Within urban areas, the convoy escorts will need to be aware of all road and footway users at turn sections within the route. At these locations there is potential for load over-sail and reference to the swept path assessment drawings is considered essential to identify these areas. It is important to note that only the Police have the power to request that vehicles and pedestrians move.

Within urban areas there is a higher chance of parked vehicles along the route and a possibility that parked cars will restrict available road width. Whilst these areas will not impede the loads, they do create a further zone where the load drivers and escorts will need to take care of conflicts that include restricted road widths, car doors opening and pedestrians crossing the road between parked vehicles.

Information relating to AIL movements will be provided directly to residents living in the immediate vicinity of the access route. Information on the movement of the abnormal load convoys would also be provided to local media outlets by the Principal Contractor (or their appointed AIL delivery contractors) to help assist the public. Information would be provided to local newspapers and radio stations.

The project website will also be used to help advise of movements. Information would relate to expected vehicle movements on the route. It is hoped that this level of information will make residents aware of convoy movements and help reduce any conflicts.

AIL Convoy Health & Safety Measures

All staff working on the project will be inducted before entering the site. This will be undertaken prior to the commencement of AIL movements.

A daily Tool Box Talk for all convoy staff to be held at the start of each working day and carried out by the appointed Transport Co-ordinator or Appointed Lead Driver. A detailed record of the talk should be kept and filed once the convoy has arrived at the site.

The Tool Box Talks will cover a minimum of the following matters:

- The current version of the CTMP to be carried by all convoy vehicles;
- Identification of any updates since the previous version of the CTMP;
- Requirement to have a CB radio (fixed or portable), with fully charged batteries;
- Anticipated transport restrictions in each section of the route;
- Driver instructions on incident reporting;
- Driver instructions on trailer steering methodology, and availability of assistance;
- Instructions on areas requiring traffic stoppage, and methodology for convoy passing through these areas;
- The welfare arrangements for drivers;
- A summary of the predicted weather, traffic and road conditions; and
- Any questions on the contingency plans.

Each of the convoy vehicles must be suitably equipped with hazard warning devices to warn all other road users. All the tractor, trailer and escort vehicles operating on the project must have the following:

- Tractor units to have beacon bars on the roof and 3M reflective markings on both sides;
- All vehicle warning signage to be in English;
- Trailer units to have amber beacons on the rear with 3M reflective markings on both sides;

- All escort vehicles will have beacon bars on the roof, with 360 degree motion for all round visibility, and 3M reflective markings;
- Fire extinguisher and first aid kit; and
- Certified cargo lashing straps are to be used at all times. Certification must be carried and made available for inspection, kept within the cab.

All hazard warning equipment must be checked and cleaned at the start of each day. Additional cleaning of the warning equipment may be required throughout the day and must be undertaken when required.

All relevant personnel must have the appropriate Personal Protective Equipment (PPE). All PPE clothing must be 'CE' marked to show it meets current standards and should be appropriate for use in trunk road situations (i.e. must be full coats with reflective bands on the arms).

Emergency & Contingency Plan

To ensure access for emergency service vehicles, a coordination protocol will be established with the blue light emergency services. As the AIL convoys are escorted by the Police, the Police will be aware of potential access issues for ambulances and fire service vehicles and can take appropriate action on the route to pull to the side of the road or mount a verge to allow emergency vehicles past.

The civilian escort vehicles carry equipment to make running repairs to vehicles in the unlikely event of a breakdown. Further spares and equipment can also be based at the site for faster responses in case of mechanical issues.

The haulier will establish contracts with local suppliers to attend to any punctures and tyre issues, to minimise any stoppage time on the route.

6 Summary

This combined Transport Statement & Construction Traffic Management Plan has considered the likely impact of traffic generated by the Proposed Development on the local road network.

A review of the type and volume of vehicles associated with the construction programme has been provided and the peak of construction activities identified. This peak in traffic has been used to review the likely impact that construction activities would have.

Construction of the Proposed Development will generate approximately 92 vehicle movements per day at the peak of construction. It is expected that during the peak month of construction (Month Eleven), 25 two-way HGV movements per day will occur per day. A further 67 car / LGV trips would be created by construction staff travelling to and from the site.

Traffic management procedures have been proposed within this report which would ensure the safe operation of the approach route to the site during construction. Determination of the final details of these traffic management measures will occur once the contractor has been appointed.

As the Proposed Development will not be manned, operational traffic is expected to be minimal and would be conducted by smaller vehicles. The impact of this on the wider road network will be negligible.

Appendix A Proposed Construction Access Junction

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Client: TNEI

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Overrun | Oversail

Project: FIELD BEAULY BESS

Drawing Title: GENERAL ARRANGEMENT

SPA Location: PROPOSED SITE ACCESS JUNCTION

	Name	Date
Drawn	GB	15/10/2024
Designed	GB	15/10/2024
Checked	GB	15/10/2024
Point of Interest		

Scale:

File No.: 241015 Access Plan.dwg

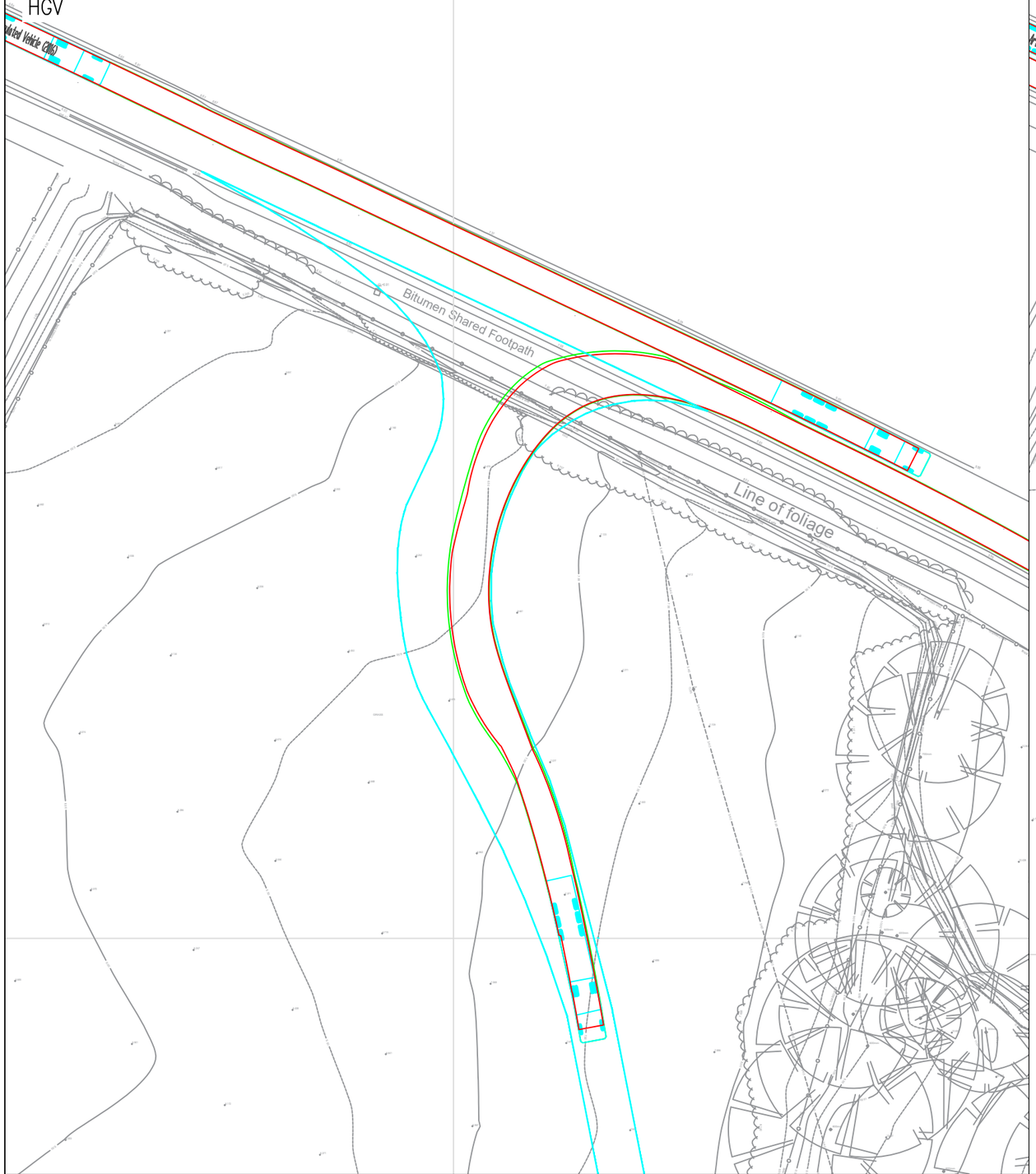
Drawing Status: Draft

Drawing No.: SK00

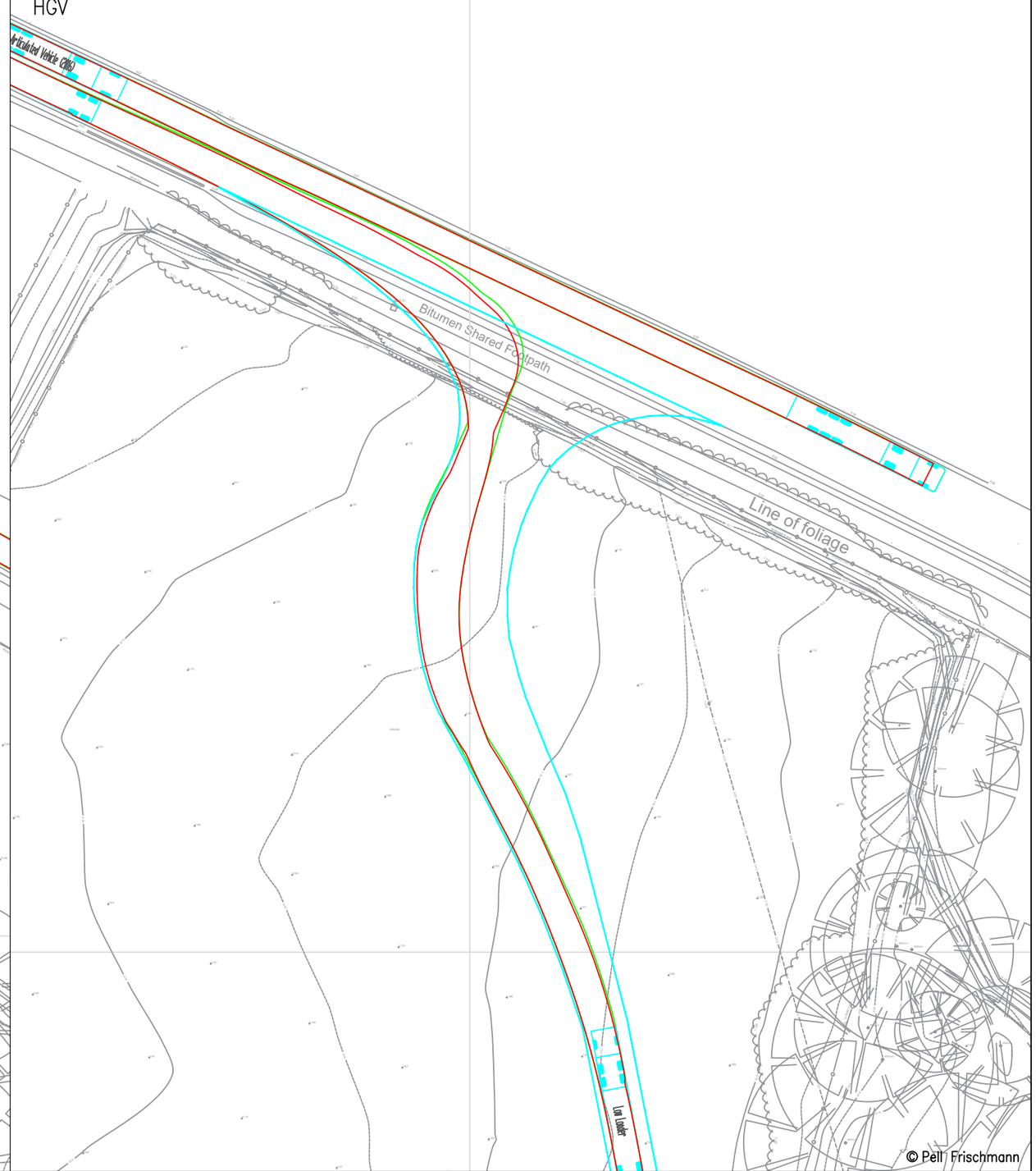
Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.
3. Do not scale from this drawing.

Revision: 00

Inbound
HGV



Outbound
HGV



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Client: TNEI

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Overrun | Oversail

Project: FIELD BEAULY BESS

Drawing Title: FTA MAX ARTICULATED HGV SWEPT PATH

SPA Location: PROPOSED SITE ACCESS JUNCTION

	Name	Date
Drawn	GB	15/10/2024
Designed	GB	15/10/2024
Checked	GB	15/10/2024
Point of Interest		1

Scale: Custom @ A3

File No.: 241015 Access Plan.dwg

Drawing Status: Draft

Drawing No.: SK01

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.
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Client: TNEI

Key: Wheel SPA | Body SPA | Load SPA | Indicative | Overrun | Oversail

Project: FIELD BEAULY BESS

Drawing Title: VISIBILITY SPLAY

SPA Location: PROPOSED SITE ACCESS JUNCTION

	Name	Date
Drawn	GB	15/10/2024
Designed	GB	15/10/2024
Checked	GB	15/10/2024
Point of Interest		1

Scale: Custom @ A3

File No.: 241015 Access Plan.dwg

Drawing Status: Draft

Drawing No.: SK02

Notes:
1. All mitigation is subject to confirmation through a test run.
2. This is not a construction drawing and is intended for illustration purposes only.
3. Do not scale from this drawing.

Revision: 00

Appendix B Construction Programme and Delivery Profile

Construction Programme

Element	Vehicle																							
Month		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Site Establishment / Reinstatement	HGV	80	40																					80	40
General Deliveries	HGV	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44
Initial Site Preparation	HGV		60	60																					
Access Tracks	HGV				194	194																			
Geotextile	HGV				4	4	4																		
Development Platform	HGV						499	499	499	499	499	499													
Foundation Steel	HGV												10												
Foundation Concrete	HGV												208	208	208										
Cabling	HGV											7													
Cable Sand	HGV														90	90	90								
EV Gear & Switchgear	HGV																	16							
Cranes	HGV											2						2							
Buildings	HGV																20	20	20	20					
Fencing, Landscaping & Security	HGV												10								8		22	4	
Battery & Inverter Delivery	HGV																			103	103	103			
Commissioning	LGV																				88	88	88	88	88
Staff	LGV	376	627	1254	1254	1254	1254	1254	1254	1254	1463	1463	1463	1463	1463	1463	1463	1463	1254	1254	1254	1254	836	418	418
Total		500	771	1358	1495	1495	1801	1797	1797	1797	2006	2015	1735	1715	1805	1597	1617	1545	1318	1421	1497	1489	990	634	590
Total HGV		124	144	104	241	241	547	543	543	543	543	552	272	252	342	134	154	82	64	167	155	147	66	128	84
Total LGV		376	627	1254	1254	1254	1254	1254	1254	1254	1463	1463	1463	1463	1463	1463	1463	1463	1254	1254	1342	1342	924	506	506
Total HGV / Day		***6***	***7***	***5***	***11***	***11***	***25***	***25***	***25***	***25***	***25***	***25***	***12***	***11***	***16***	***6***	***7***	***4***	***3***	***8***	***7***	***7***	***3***	***6***	***4***
Total LGV / Day		***17***	***29***	***57***	***57***	***57***	***57***	***57***	***57***	***57***	***67***	***67***	***67***	***67***	***67***	***67***	***67***	***67***	***57***	***57***	***61***	***61***	***42***	***23***	***23***
Total per Day		***23***	***35***	***62***	***68***	***68***	***82***	***82***	***82***	***82***	***91***	***92***	***79***	***78***	***82***	***73***	***74***	***70***	***60***	***65***	***68***	***68***	***45***	***29***	***27***

Please note that rounding errors may occur

Appendix C AIL Route Survey

Abnormal Indivisible Load Access Report for 88.4te Transformer to the Proposed Beauly BESS Substation Site

Prepared for Field

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Approved by:	Andy Pearce	[redacted]	01.08.24

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DOCUMENT REVISIONS

Issue	Date	Details
0	01.08.2024	Final Report
1		
2		

Contents

Executive Summary

The contents of this report include land transport feasibility investigations into achieving heavy load access to the new Beauly Battery Energy Storage Substation (BESS) site proposed by Field located east of the existing Scottish & Southern Electricity Networks (SSEN) Beauly Substation. The weight considered in these investigations is 88.4te nett (inclusive of a 2% contingency) which is advised by Field to be the weight of the transformer required at the proposed BESS Site.

It is expected that the transformer will be delivered within Special Types General Order regulations (STGO) Category 3, as the gross load of the loaded trailer arrangement will be below 150te gross. Therefore, the move will not require a Special Order from National Highways. STGO Category 3 loads are expected to be delivered by road from the UK port of delivery or manufacturing facility and this report therefore focuses on the potential route via the A832 and A862 from the A9.

The route considered and submitted via ESDAL (WYNL/143) within this report from the A9 onto the A832 at the Tore Roundabout and then travelling west to the proposed site has not received any rejections regarding structures and is therefore believed to be structurally acceptable to the relevant authorities.

The route is considered to be negotiable for the proposed load with minor remedial works involving the removal of street furniture and potential tree pruning depending on growth at the time of movement.

No specific access within the new substation site access roads has been considered and all site roads including the gradients on the internal access roads will need to be constructed considerate of AIL vehicles.

No consideration of site access requirements is included within this report.

1. Introduction

1.1. The contents of this report include land transport feasibility investigations into achieving access to a proposed Battery Energy Storage System (BESS) substation which is proposed to be located adjacent to the east of the existing Scottish & Southern Electricity Networks (SSEN) Beauly Substation.

1.2. The weight of the transformer considered in these investigations is 88.4te nett (inclusive of 2% tolerance) which is advised by Field and as such will be transported at Special Types General Order (STGO) Category 3. This is because the gross weight of the transformer when loaded on an appropriate carrying arrangement will be less than 150te gross and therefore will not require Special Order permissions from the National Highways Abnormal Loads Team/Transport Scotland.

1.3. This report is a summary of the status of the current AIL access investigations to a proposed new BESS Substation location and seeks to present the situation as it currently stands. The issues highlighted in this report as risks to achieving AIL access in the future, will need to be revisited and progressed as the scheme develops.

1.4. This investigation considers the possible land transport routes from the A9 heavy load route which is an established access route into northern Scotland. Formal movement applications will be necessary upon appointment of a haulage contractor by the transformer manufacturer.

1.5. As the load will be within STGO Category 3 it is assumed that access via the Motorway and Trunk Road network to the A9 from the port of delivery will be suitable. Wynns have therefore focused upon the final section of the route from the exit of the A9 via A832 from the Tore Roundabout to the proposed site location.

1.6. The report is intended to be a summary of the AIL route access at the current time and is not a guarantee that the route will be cleared in the future. Specific movements will need to be assessed at the time on an individual basis. If any further information is required, it is available on request.

1.7. The report considers access to the proposed Beauly BESS Substation in terms of AIL transportation only.

2. National Highways Agreement in Principle and Legislative Requirements

2.1. *Definition of Abnormal Indivisible Load (AIL)*

2.1.1. The Department for Transport, of which National Highways (NH), formally the Highways Agency (HA), is a government-owned company with responsibility for managing the core road network in England, and Transport Scotland (TS) within Scotland, state that the strict definition of an AIL refers to a load which cannot, without undue expense or risk of damage, be divided into two or more loads for the purpose of carriage on roads and which, owing to its dimensions or weight, cannot be carried on a vehicle which complies in all respects with the 'standard vehicle regulations' these are:

- The Road Vehicles (Construction and Use) Regulations 1986 (as amended)
- The Road Vehicles (Authorised Weight) Regulations 1998 (as amended)
- The Road Vehicles Lighting Regulations 1989 (as amended).

2.1.2. All equipment should be stripped of their ancillaries before they are transported. NH and TS will only accept that further dismantling is not required where it cannot be economically

achieved due to the requirement for its construction within specific factory environments or where extremely high tolerances have to be maintained.

2.2. *Legislation*

2.2.1. Conventional heavy goods vehicles have an operating weight limit of 44 tonnes. The category known as abnormal indivisible loads (AIL) covers those vehicles where the gross weight exceeds 44 tonnes. An Abnormal Load is defined as that which cannot be carried under Construction and Use (C&U) Regulations. Items which, when loaded on the load carrying vehicle exceed the weights encompassed by the C&U Regulations, but do not exceed Special Order Permission Limits, are governed by Special Types General Order (STGO) categories 1 to 3 depending on size. National Highways have issued an aide memoir that explains notification requirements in more detail. This document has been attached as Appendix 4.

2.2.2. Where dimensions exceed 6.1m in width, 30m in rigid length or 150 tonnes gross weight, Special Order from National Highways (NH) is required.

2.2.3. Special Order category AIL movements are authorised by the NH Abnormal Loads team, based in Birmingham. This is further discussed in section 3.3.

2.2.4. STGO loads orders grant consent for loads that satisfy the following criteria:

Category 1 weight	44 – 50 tonnes and 11.5te axle weights
Category 2 weight	50 – 80 tonnes and 12.5te axle weights
Category 3 weight	80 – 150 tonnes and 16.5te axle weights
Width Restriction	3.0m (C&U) –5m (VR1 Required)– 6.1m (SO required)
Length Restriction	18.65m (C&U) – 30.0m (SO required)

2.2.5. The 88.4te transformer considered within these investigations is expected to be transported at STGO Category 3. Such loads are required to provide two clear working weekdays notice to be given to the Police forces on the proposed route and are required to provide 5 clear working weekdays notice together with an indemnity to the highway and bridge authorities on the route.

2.3. *Temporary Traffic Orders and Section 96 of the Roads (Scotland) Act 1984*

2.3.1. Temporary Traffic Orders are used where the local highway authority considers that works on the highway, or some large deliveries, require a road to be closed temporarily to general through traffic. Such closures require a temporary traffic regulation order issued by the Highway Authority under the Road Traffic Regulation Act 1984. It is possible that the council will require such an order for the travel of the loads to site from the more major roads as the whole road width will be taken up by the loads for much of the final approaches to site.

2.3.2. In addition to any Temporary Traffic Orders the County Council may wish to ensure that a bond has been entered into to comply with Section 96 of the Roads (Scotland) Act 1984 in order to enable AIL access to be agreed. Such agreements are not always, in our experience, asked for as the matter of damage to the carriageway is usually covered by the appointed haulage contractors' indemnity. Section 96 of the Roads (Scotland) Act 1984 allows for the recovery of extraordinary expenses in repairing roads damaged by heavy vehicles, having regard to the average expense of maintaining the road. It allows the Council to pursue costs, through the sheriff court, from the person or body that has caused

the damage. Section 96 also allows the Council to reach agreement with the person or body beforehand on a contribution towards the costs of maintaining the road. Section 48 of the Act allows for the Roads Authority to enter into an agreement with any person willing to contribute to the construction or improvement of a road.

2.3.3. The planning consent issued for a development of the nature proposed will often include conditions that commits the developer to a pre and post condition survey of the road along the haul route and that any damage caused by the developer, shall be reinstated by the developer to the satisfaction of the highway authority. It is reasonable to expect that there will be damage to the highway due to the density of movements of permitted vehicles let alone any out of gauge transport configurations. It is therefore important to understand the legal powers of the Local Authority:

2.3.4. Under Section 96(1) of the Roads (Scotland) Act 1984, the Roads Authority can recover extraordinary expenses, having regard for the average expenses of maintaining the road, which have been incurred by them in repairing damage caused to it by excessively heavy, or other extraordinary, vehicles or traffic. These expenses can be recovered from any person by or in consequence of whose orders the vehicles have, or traffic has, been on the road.

2.3.5. Section 96(3) of the Act allows for liability to be accepted in advance of operations which may cause damage and for compensatory payment arrangements to be agreed with the Council.

2.3.6. Section 48 of the Act allows the Roads Authority to enter into agreement with any person willing to contribute to the construction or improvement of a road.

2.4. *The Removal and Replacement of Street Furniture*

2.4.1. Where the removal and replacement of street furniture is required for the mobilisation of out of gauge vehicles into existing sites then these are generally managed under Temporary Traffic Regulation Order (TTRO) and Street Works Legislation. These are normally, but not necessarily, organised by the haulage contractor. These requirements are generally to ensure that the supervisors and operatives are competent and that the works will be carried out to a prescribe standard with the appropriate traffic management in place. In some circumstance the Highway Authority or LA will insist that their preferred contractors will carry out such work.

3. Historical Information

3.1. Transformer deliveries from Invergordon to transmission network substations at Beauly and Fort Augustus have taken place during the last 15 years at Special Order weight in excess of 150te gross from Invergordon and those destined for Fort Augustus have passed by the proposed BESS site on the A862. The route from the A9 is therefore well established for AILs in excess of those required for the BESS substation.

3.2. Wynns are aware of a transformer delivered from Invergordon in 2014 to Beauly with axle weights of 12te.

3.3. A transformer of 170te nett in 2012 was delivered to Beauly in connection with the Beauly to the Denny project.

3.4. Wynns also undertook a review of possible AIL Access to the proposed Coire Glas Hydro Power Station project in 2022 and the information obtained at that time has also been

used to determine the most feasible AIL route to the Beauly BESS Substation described in the following sections.

4. Transport Configurations

4.1. Based on the information available to date the transformer considered within this report is assumed to be 88.4te nett weight (inclusive of 2% tolerance) as detailed in the drawing attached in Appendix 2 of this report.

4.2. At theses dimensions it is possible to transport the transformer within the Special Types General Order (STGO) regulations as a Category 3 load (80-150te gross) as the gross load will be less than 150te. It will therefore not be necessary to comply with legislation regarding Special Order movements. As the load is not in need of Special Order permission there is no requirement by NH to be delivered via the nearest port of delivery.

4.3. Based on information available at this moment in time it is assumed that the road transport configuration would be a ballast tractor pulling an 8 Axle Goose Neck Trailer for which the total configuration would weigh in the region of 137.4te gross with axle loads around 12.34te per axle. This has an expected reducible height of 4.733m based on the anticipated axle strokes for the trailer, though confirmation should be given by the appointed haulier as manufacturers can vary in equipment performance.

4.4. There are numerous haulage contractors with equipment able to carry the transformer in the UK. An indicative transport configuration is attached in Appendix 2 as Drawing Reference 24-1237.TC01 which shows the anticipated minimum turning radii and axle, wheel and overall ground loadings during transportation of the transformer.

4.5. It is expected that competitive heavy haulage procurement will be feasible for the transport of the transformer.

5. Structural Route Information

5.1. *Route to Proposed Beauly BESS Substation for STGO Load*

5.1.1. The proposed route was submitted to all relevant authorities on the route from the A832 to the site. The route is shown below:

Assume access via A9 towards Tore
Turn left A832 exiting Tore Roundabout
Turn left B9169
Turn left A862
Continue A862 to the proposed site location approximate OS Grid Reference NH 52493 44713

5.2. A notification was submitted via ESDAL of the route to all relevant authorities affected on the route for comment and to be checked structurally, the affected authorities being:

- Highland Council
- Bear North West
- Police Scotland

5.3. The Highland Council and Bear North West have not identified any specific area of concern and the route is considered acceptable in terms of structural clearance. However, Wynns are aware of historical data in respect to Lovat Bridge to the west of the site access son the A862 that has required axle loads to not exceed 13.5te per axle. Whilst this is not an

issue for the specific trailer proposed for the BESS transformer, it should be noted as a reference for other AILs associated with site construction.

5.4. No specific issues have been identified by the police although a police escort would be required for movement with private escort arrangements also in place. It is recommended that further discussions are undertaken with respect to confirming escort requirements prior to deliveries with the relevant police forces. Very careful consideration on escort requirements will be needed and where traffic must be halted, consultation with the police is necessary as only police escorts can manage the movement. Private escorts are not allowed to direct traffic.

6. Route Negotiability Information

6.1. *General Information*

6.1.1. It has been assumed that the road route via the Motorway and Trunk Road network to the general area, from a port, will be accessible as it is regularly used for STGO movements. Wynns have therefore focused highway access upon the final section of the routes from the A9 exiting onto the A832 Tore Roundabout, as detailed in Section 6.

6.1.2. The route survey was undertaken on 08.05.2024. The route inspected is shown on Map 1 appended to this report under Appendix 1, confirming negotiability with only minor minimal remedials being required.

6.1.3. A summary of the main negotiability issues is provided in the notes and photographs below in relation to the route.

6.2. *Route to Proposed Beauly BESS Substation for STGO Load*

Photograph 1
Vehicle travels away from the camera towards the Tore Roundabout first exit onto A832, negotiable.

Photograph 2
Vehicle travels towards the camera turning left B9169, negotiable. Configuration to occupy full carriageway as needed.

Photograph 3
Vehicle travels towards the camera on B9169 following left turn from A832. Negotiable. Configuration to occupy full carriageway.

Photograph 4
Vehicle travels towards the camera turning left onto the A862, negotiable. Configuration to occupy full carriageway

.

Photograph 5
Vehicle travels away from the camera A862, tree pruning may be required depending on growth at the time of movement.

Photograph 6
Vehicle travels away from the camera A862, tree pruning may be required depending on growth at the time of movement.

Photograph 7
Vehicle travels away from the camera A862, tree pruning may be required depending on growth at the time of movement.

Photograph 8
Vehicle travels away from the camera A862 entering Beauly, tree pruning may be required depending on growth at the time of movement.

Photograph 9
Vehicle travels away from the camera on A862 through Beauly, negotiable.

Photograph 10
Vehicle travels away from the camera on A862 through Beauly, negotiable.

Photograph 11
Vehicle travels away from the camera on A862 through Beauly tree pruning may be required depending on growth at the time of movement.

Photograph 12
Vehicle travels away from the camera on A862 through Beauly tree pruning may be required depending on growth at the time of movement.

Photograph 13
Vehicle travels away from the camera on A862 crossing Beauly Road Rail Bridge. No structural issues advised by Highland Council.

Photograph 14
Vehicle travels away from the camera on A862 through Beauly tree pruning may be required depending on growth at the time of movement.

Photograph 15
Vehicle travels away from the camera A862, road bears to the left, negotiable.

Photograph 16
Vehicle travels away from the camera on A862 tree pruning may be required depending on growth at the time of movement.

Photograph 17
Vehicle travels away from the camera A862 crossing Lovat Bridge (Highland Council - limited to 13.5te per axle)

Photograph 18
Vehicle travels away from the camera on A862 approaching the proposed Beauly BESS Site on the right of the photograph, tree pruning may be required depending on growth at the time of movement.

Photograph 19
Vehicle travels towards the camera, proposed Beauly BESS located in the field ahead.

Photograph 20

Vehicle travels away from the camera A862, existing farm access shown to the right of the photograph. Proposed Beauly BESS located adjacent to the farm. Site access roads should be designed considerate of the prosed AIL delivery trailer arrangements.

7. Summary and Conclusions

7.1. The proposed transformer will be delivered within Special Types General Order regulations (STGO) Category 3, where the gross load of the loaded trailer arrangement will be below 150te gross, the move will not require a Special Order from National Highways. STGO Category 3 loads are expected to be delivered by road from the UK port of delivery or manufacturing facility.

7.2. No issues are expected with the proposed load weight in terms of structural clearance following the submission of an ESDAL notification to the structural authorities.

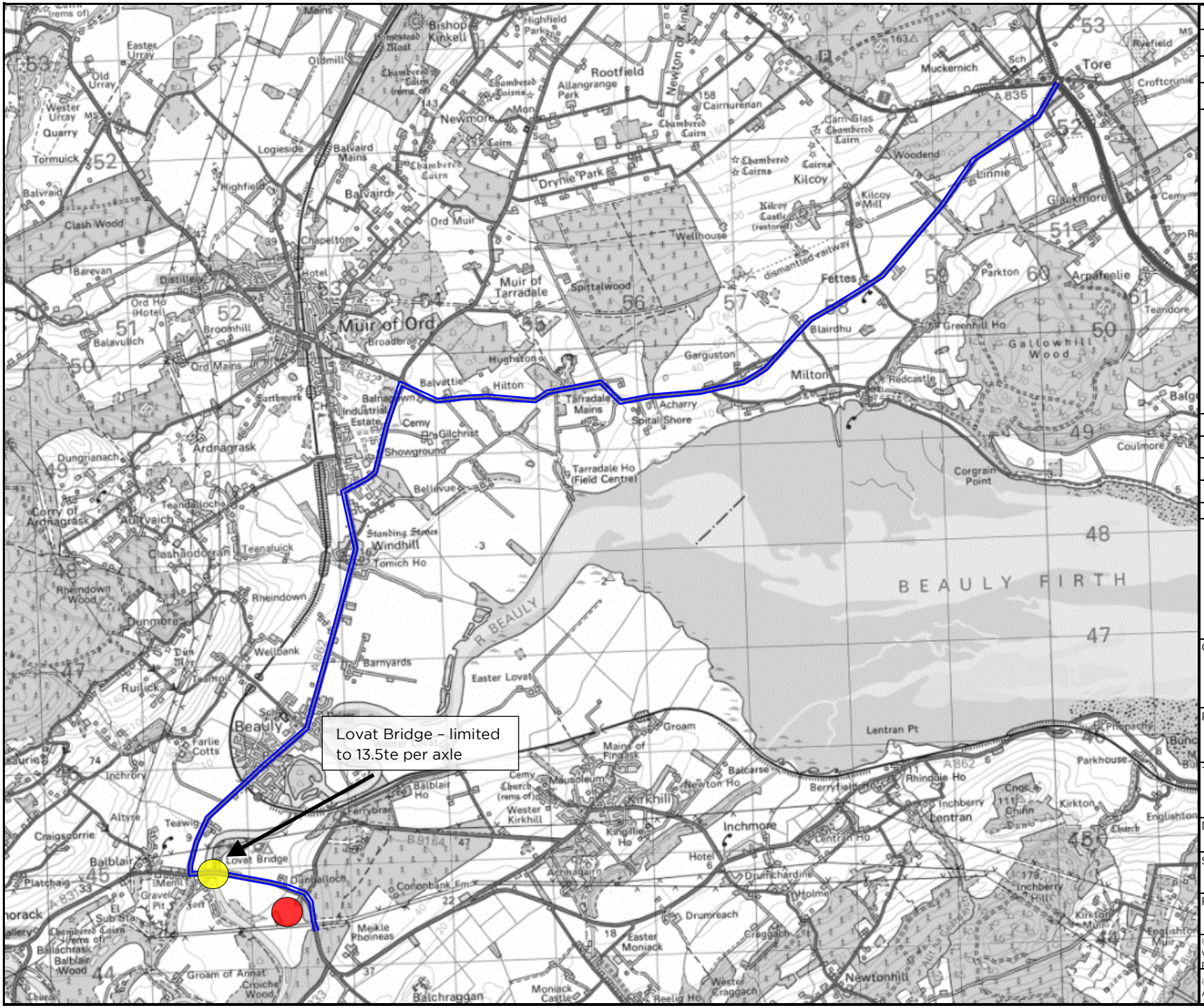
7.3. No issues are expected on the route in terms of physical negotiability as much larger transformer loads have been delivered via this route in the past passing the proposed BESS site entrance on the A862.

7.4. No specific access within the new substation site access roads has been considered and all site roads including the gradients on the internal access roads will need to be constructed considerate of AIL vehicles.

7.5. In summary it is expected that a route will be available to the proposed BESS site for the proposed heavy load required for the site and the route submitted to the relevant authorities, subject to carrying out minimal remedials such as tree pruning depending on growth at the time of movement, and the full occupation of the carriageway as needed to facilitate delivery along sections of the A832 and A862 as detailed in Section 6.

Appendix 1

Maps



Key	
	Proposed Route from the A9
	Point of Interest
	Beauly proposed BESS Substation

Rev	Date	Amendments
B		
A		
0	20.05.24	Final Report

Revisions

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Client:

FIELD

Virmati Energy Ltd
Fora Montacute Yards
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London - E1 6HU
United Kingdom

Project:
Field Proposed Substation AIL Access

Title:
Map 1 – Routes to proposed Beauly BESS Substation

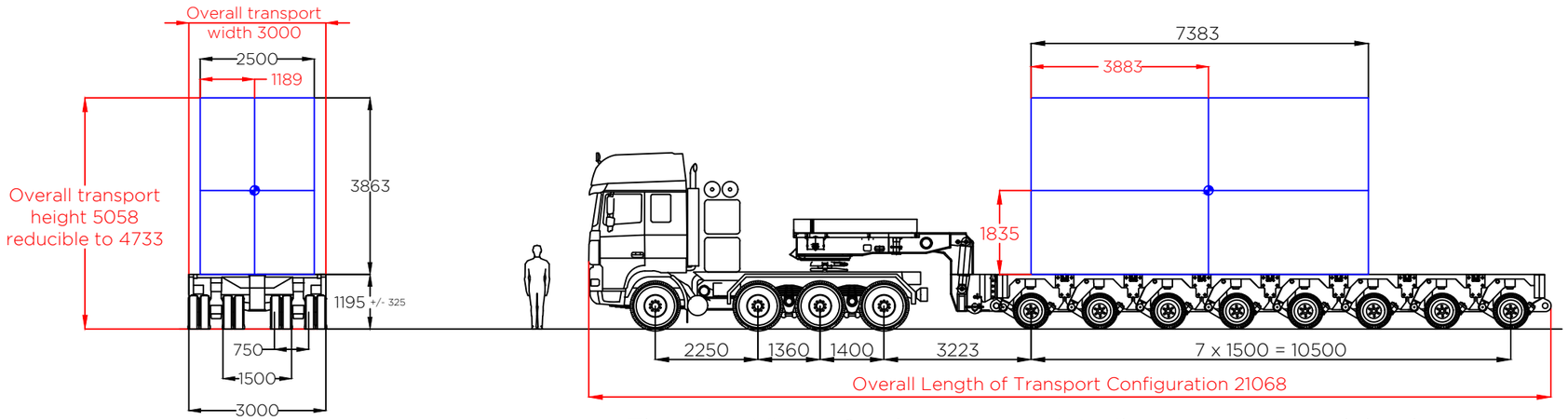
Drawing Status:
Final Report

Scale (A4):	Drawn by:	Checked by:
NTS	BD	ARP

Ref No.:	Sheet:	Rev.:
24-1238-Map1	1	0

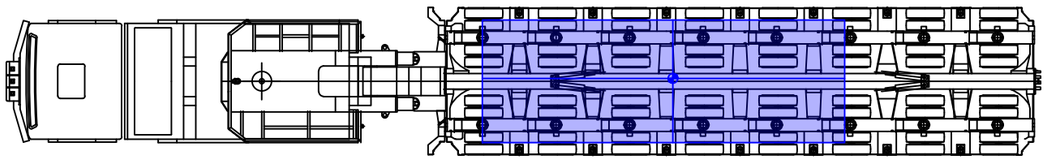
Appendix 2

Drawings

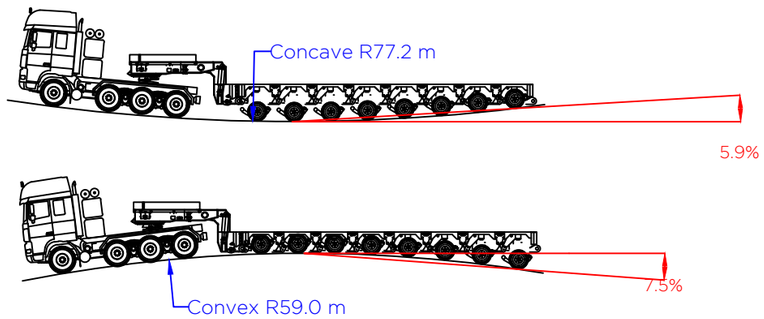


Profile View
Scale 1:125

Elevation View - 8 axle goose neck trailer - concept model only
Indicative 88.4 te Transformer
Scale 1:125

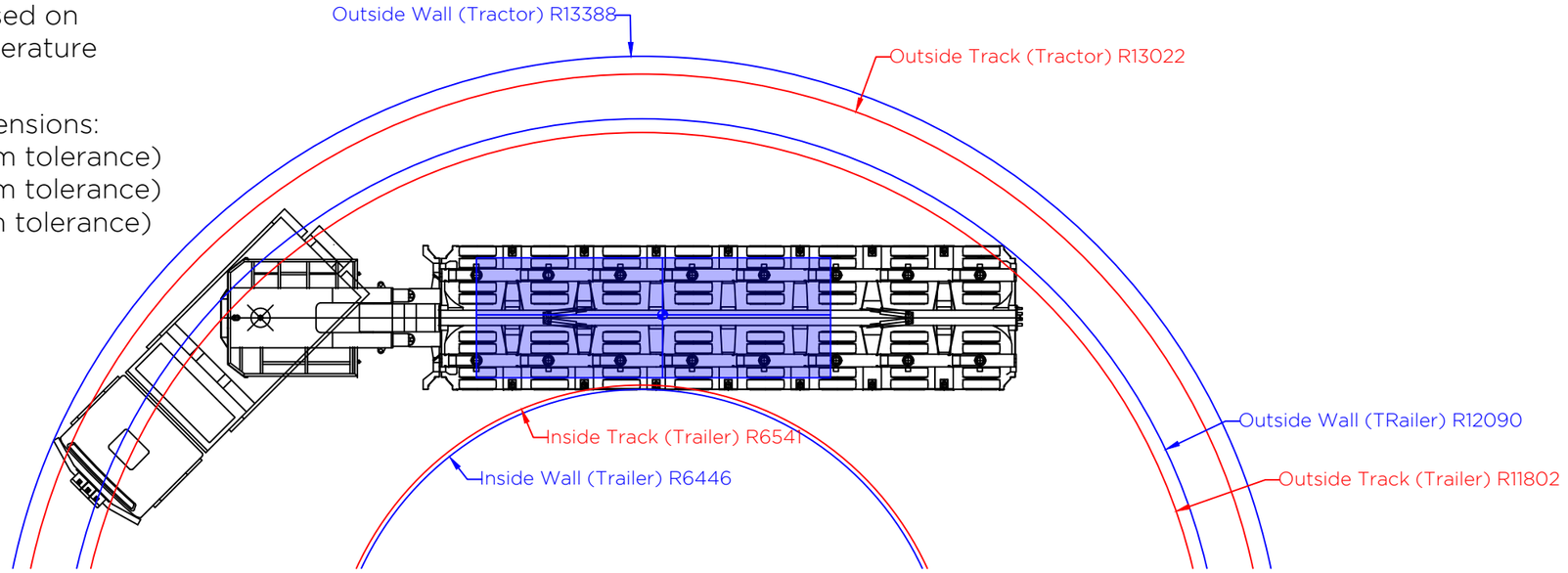


Plan View - 8 axle goose neck trailer - concept model only
Indicative 88.4 te Transformer
Scale 1:125



Vertical Curve Negotiability
Information based on
manufacturers literature

Transformer Dimensions:
7.383m (L) (incl. 50mm tolerance)
2.50m (W) (incl. 50mm tolerance)
3.863 (H) (incl. 50mm tolerance)



Minimum Turning Radii -
8 axle goose neck trailer - concept model only
Indicative 88.4 te Transformer
Scale 1:125

Load Table	
8 Axle Goose Neck Trailer	
Self weight of Electrolyser Cell Stack	88.4 te
Self weight of trailer	Say 35.0 te
Self weight of tractor	14.0 te
Total combined weight	137.4 te
Load per axle line	12.34 te
Load per axle (2 per axle line)	6.17 te
Load per wheel (4 per axle)	1.55 te
Max. ground bearing pressure (trailer)	2.99 te/m²
Tractor (14 te)	
Front axle	6.0 te
Second steer	8.0 te
Rear axle	11.5 te
Rear axle	11.5 te

Notes:-

[1] The figures shown above are representative of the transport configuration portrayed. However, as tractor and trailer arrangements can vary then the loads and dimensions indicated should be treated as probable values.

[2] All linear measures in millimetres unless stated otherwise.

[3] Drawing of transformer indicative only. Weight specified includes a +2% tolerance as per manufacturer drawing

Rev.	Date	Amendments
1		
0	26.04.24	Issued for comment

Revisions

Prepared by:
WYNNS Independent Transportation Engineers
2 High Street, Eccleshall, Stafford, ST21 6BZ
Tel: (01785) 850411
Independent Transportation Engineers

Client: FIELD

Project: Beauly

Title: Indicative Transport Configuration 88.4 te Transformer carried upon typical 8 axle goose neck trailer showing minimum turning radii

Drawing status: Final report

Scale (A3):	Drawn by:	Checked by:
1:125	JMB	MTO

DWG. no:	Sheet:	Rev:
24-1237.TC01	1 of 1	0

P:\Clients\Existing Clients\Field Energy\24-1237 Beauly\Transport Configuration\24-1237.TC01 Beauly 88.4 te 8 axle goose neck.R0.dwg

Appendix 3

ESDAL Notification

Brad Dyke

From: system@esdal2.com
Sent: 11 June 2024 12:15
To: Brad Dyke
Subject: Movement notification alert (WYNL/143/1#1)

Mail
ESDAL² reference: WYNL/143/1#1
Notification of movement: A9 to Beauly
Date sent: 11 June 2024 12:14:10
NH reference:
Classification: STGO AIL cat 3

Form of notice to Road and Bridge Authorities

The Road Vehicles (Authorisation of Special Types)

(General) Order, 2003 Schedule 9 Part 1

Operator:	Wynns Ltd		
Contact name:	Brad Dyke	**Telephone no:**	01785850411
Address:	Shaftesbury House Highstreet Eccleshall Staffordshire	**Fax no:**	
		E-mail address:	[redacted]
		Operator licence no:	Wynns
		Operator reference no:	A9 to Beauly
Postcode:	ST21 6BZ		

In pursuance of Part 2 or Part 4 of the above Order, I being the user of the under mentioned vehicle(s) to which the Order applies, hereby give notice that it is my intention to use the said vehicle(s) on the roads specified below.

Details of the journey

From	Date and time	To	Date and time
A9, Tore Roundabout IV6 7RZ	04 November 2024 12:07	A862, Beauly IV4 7BE	11 November 2024 12:07

Route:
Leg 1 :
A9, Tore Roundabout IV6 7RZ to A862, Beauly IV4 7BE : Start A9 (), A9 (60 m), A832 (7.9 km), B9169 (1.3 km), A862 (6 km), arrive at destination.

Notes On Escort:

Feasibility Study - Exact escort requirements to be confirmed but assume police required.

Notes supplied by haulier at time of notification:

MOVEMENT PROGRAMME: Feasibility study for movement of transformer to a proposed new site in Beauly. Route status needs to be confirmed.

Details of the load

Description of load	Transformer Length - 7333mm Width - 2450mm Height - 3813mm Weight - 88.4te
No. of movements	1
No. of pieces moved at one time	1

Details of the vehicle

Registration No. of vehicle or substitute	**Type of vehicle**
TBC	Semi Vehicle

Overall length of vehicle	**Projection - front**	**Projection - rear**	**Projection - left**	**Projection - right**	**Rigid length**	**Overall width of vehicle**	**Maximum height**	**Reducible height**	**Gross weight**
21.068 m	-	-	-	-	15.123 m	3 m	5.058 m	4.733 m	137400 kg

8 Axle Goose Neck Trailer (137.4te)

Gross weight (kg)	137400 kg
No. of Wheels (Wheels OR wheels x no of axles)	2 x 2 , 4 x 2 , 8 x 8
Axle weight (kg)	6000 kg x 1 , 8000 kg x 1 , 12340 kg x 2 , 12340 kg x 8
Axle spacing (m)	2.25 m x 1 , 1.36 m x 1 , 1.40 m x 1 , 3.2230 m x 1 , 1.50 m x 7
Axle Spacing To Following (m)	3.223 m

AFFECTED STRUCTURE (A9 to Beauly)

List of Police Forces, Road Authorities and Bridge Authorities to which this form is sent

Richard Cook, Bear North West

Senior Technician Grzegorz Otreba, Highland Council

Abnormal Loads Scotland, Police Scotland

Brad Dyke, Wynns Ltd

Form of Indemnity

THE INDEMNITY

1. We Wynns Ltd (on behalf of Field Energy) agree to indemnify you Wynns Ltd, in respect of any damage that is caused in the course of a journey of which you have been notified under the Road Vehicles (Authorisation of Special Types)(General) Order 2003 (which is referred to below as "the 2003 Order").
2. This indemnity relates to the journey scheduled to take place between 04 November 2024 and 11 November 2024 starting with the date on which the indemnity was signed.

The damage covered:

3. Except as stated in paragraph 4, the damage in respect of which this indemnity is given is limited to any damage caused to any road or bridge for the maintenance of which you are responsible.
4. This indemnity also extends to any damage caused to any other road or bridge that is used in the course of any journey to which the indemnity relates, in any case where a separate indemnity required by the 2003 Order has not been given to, or received by, the authority, body or person ("third party") which is responsible for the maintenance of that other road or bridge.

The cause of damage:

5. The damage covered in this indemnity is limited to damage caused by - (a) the construction of any vehicle used; (b) the weight transmitted to the road surface by any vehicle used; (c) the dimensions, distribution or adjustment of the load carried on any vehicle used in the carriage of an abnormal indivisible load; (d) any vehicle other than the vehicle used in any case where that damage results from the vehicle used (but excluding any damage caused, or contributed to, by the negligence of the driver of the other vehicle).

Enforcement of indemnity:

6. This indemnity is enforceable by you, to the extent of the damage specified in paragraph 3.
7. This indemnity is enforceable by any third party referred to in paragraph 4, in its own right, to the extent of any damage caused to any road or bridge for the maintenance of which it is responsible (but only if it has not already recovered payment in respect of that damage by virtue of a claim made by it under the equivalent provision in another indemnity given under the 2003 Order).
8. A claim in respect of damage covered by this indemnity will only be entertained if the claim - (a) states the occasion and place of the damage; and (b) is made before the end of the period of 12 months starting with the date on which the vehicle was last used in the course of the journey during which the damage occurred.

Date: 11 June 2024 12:14:10 **Signed:** Brad Dyke

Appendix 4

National Highways Aide Memoir

Aide Memoire for notification requirements for the movement of Abnormal Indivisible Loads or vehicles by road when not complying with The Road Vehicles (Construction and Use) Regulations 1986 (commonly known as C & U)

Weight

Gross weight of vehicle carrying the load exceeding C & U limits up to 80,000kgs (78.74 tons)	2 clear days notice with indemnity to Road and Bridge Authorities.
Gross weight of vehicle carrying the load exceeding 80,000kgs up to 150,000kgs (147.63 tons)	2 clear days notice to Police and 5 clear days with indemnity to Road and Bridge Authorities.
Gross weight of vehicle carrying the load exceeding 150,000kgs (147.63 tons)	Highways England Special Order* plus 5 clear days notice to Police and 5 clear days notice with indemnity to Road and Bridge Authorities

Width

C & U loads:- width exceeding 2.9m (9ft 6ins) up to 4.3m (14ft 1 ins) STGO loads:- width exceeding 3.0m (9ft 10ins) up to 5.0m (16ft 5ins)	2 clear days notice to Police
Width exceeding 5.0m (16ft 5ins) up to 6.1m (20ft)	Highways England form VR1** plus 2 clear days notice to Police
Width exceeding 6.1m (20ft)	Highways England Special Order* plus 5 clear days notice to Police and 5 clear days notice with indemnity to Road and Bridge Authorities

Length

C&U loads:- length exceeding 18.65m (61ft 2in) up to 27.4m (90ft) - See C&U Regulations 1986 for definition of length STGO loads:- length exceeding 18.75m (61ft 6 ins) - See part 2, article 12 of the Road Vehicles (Authorisation of Special Types) (General) Order 2003 (Commonly known as STGO) for definition of length	2 clear days notice to Police
Overall length of a part 2 vehicle-combination exceeding 25.9m (85ft)	2 clear days notice to Police
Maximum length exceeding 30.0m (98ft 5ins) – see STGO Schedule 1, part 4, paragraph 25 for definition of maximum length NB For some very light loads, such as yacht masts, that are moved on conventional motor vehicles not exceeding 12 tonnes gross weight or trailers not exceeding 10 tonnes gross weight, a Highways England Special Order* will be required if the rigid length exceeds 27.4m (89ft 11ins)	Highways England Special Order* plus 5 clear days notice to Police and 5 clear days notice with indemnity to Road and Bridge Authorities.

NOTE 1 "Clear days Notice" excludes Saturdays, Sundays or a public holiday in any part of Great Britain in relation to movements authorised by the Special Types General Order only, there being no such exclusion in Special Orders unless specifically stated.

NOTE 2 There is no statutory limit governing the overall height of a load, however, when applying for a Special Order or VR1 it should, wherever possible, not exceed 4.95m (16ft 3ins) in order that the maximum use can be made of the motorway and trunk road network.

NOTE 3 The notification requirements for mobile cranes can be found in the Road Vehicles (Authorisation of Special Types) (General) Order 2003, statutory instrument number 1998 (Part 2 Articles 10 to 18), which is available on the OPSI website: http://www.legislation.gov.uk/uksi/2003/1998/contents/made

NOTE 4 Application to move Special Types or Special Purpose vehicles, such as very large agricultural vehicles, that may not be fully permitted by the Construction & Use (C&U) Regulations or fall outside the scope of the Special Types General Order should be made to the Vehicle Certification Agency (VCA). Their website is at http://www.dft.gov.uk/vca/

*A Special Order application can be completed and submitted online at www.highways.gov.uk/esdal. The Special Order application form BE16 can also be downloaded and e-mailed to the address below. Approval is not automatic and is at the discretion of the Highways England abnormal loads team acting on behalf of the Secretary of State for Transport. To ensure that the necessary clearances can be obtained in good time from the Police, Highway and Bridge Authorities, you should request permission for the move by returning the completed form 10 weeks prior to the scheduled date of the move. In fact you cannot apply too early and we invite manufacturers or hauliers to contact us at pre tender stage, before making a financial commitment to supply the load, to check whether permission would be granted.

** A VR1 application can be completed and submitted online at www.highways.gov.uk/esdal. The form can also be downloaded but must not be e-mailed or faxed because the VR1 form is a legal document and so we must receive the original signed form. Approval is not automatic and is at the discretion of the Highways England abnormal loads team acting on behalf of The Secretary of State for Transport. To ensure that the necessary formalities can be completed in good time, you should request permission for the move by posting the completed form 2 weeks prior to the date of the scheduled move. Again, you cannot apply too early and we invite manufacturers or hauliers to contact us at pre tender stage, before making a financial commitment to supply the load, to check whether permission would be granted.

Forms and enquiries to:
Highways England
Abnormal loads team
9th Floor, The Cube
199 Wharfside Street
Birmingham B1 1RN

E-mail: abnormal.loads@highwaysengland.co.uk
Tel: 0300 470 3004