Pell Frischmann

Swansea BESS

Transport Statement & Construction Traffic Management Plan

February 2025

10109977

Report Ref.		**250211 Statkraft Swansea BESS TS CTMP_Rev1**				
File Path		**https://pellf.sharepoint.com/sites/EdinburghOfficeTeam/Shared Documents/General/Projects/10109977 Statkraft Swansea BESS/01 - WIP/Reports/250211 Statkraft Swansea BESS TS CTMP_rev1.docx**				
Rev	**Suit**	**Description**	**Date**	**Originator**	**Checker**	**Approver**
01		Draft	06/02/2025	A Stone	S Cochrane	A Fyfe
02		First Issue	14/02/2025	A Stone	S Cochrane	G Buchan
Ref. reference. Rev revision. Suit suitability.						

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1 Introduction

1.1 Purpose of the Report

Pell Frischmann Ltd. has been commissioned by DWD Property and Planning Ltd. on behalf of Statkraft UK Limited (the 'Applicant') to prepare a combined Transport Statement and Construction Traffic Management Plan ('CTMP') in support of a planning application for a Battery Energy Storage System ('BESS') (the 'Proposed Development'). The Proposed Development is located on an area of land to the west of Rhydypandy Road, Morriston, in the Swansea Council administrative area.

The Transport Statement and CTMP provide a comprehensive assessment of the transport and access arrangements associated with the construction and operational phases of the Proposed Development. This report evaluates the anticipated impact of construction traffic on the local road network and outlines the proposed mitigation measures to be implemented during construction to minimise disruption and ensure safe and efficient site access.

Once operational, the Proposed Development will generate minimal levels of maintenance traffic, and no specific traffic management measures are required during its operation.

The CTMP will be developed and refined as the project progresses towards construction, in collaboration with Swansea Council, South Wales Trunk Road Agent (SWTRA), local Community Councils, and other relevant stakeholders.

1.2 Background

The site is located to the east of the existing Swansea North Substation and Felindre Gas Compressor Station. In 2023, planning permission was granted for the construction and operation of a Greener Grid Park ('GGP') facility (Application Reference: 2023/0889/FUL) immediately to the north of the site. As such, the Proposed Development proposes to utilise those mitigation measures employed at this site, together with the same access strategy / construction routing, proposed as part of the consented scheme.

1.3 Report Structure

Following this introduction, the report is structured as follows:

- Chapter Two describes the site, including access arrangements;
- Chapter Three details the existing transport conditions in the vicinity of the site;
- Chapter Four details the types of construction traffic likely to be used on the site, including estimated delivery volumes;
- Chapter Five outlines the potential traffic impacts as a result of construction activities;
- Chapter Six outlines the proposed construction traffic management measures to be used on the site;
- Chapter Seven outlines the proposed wear and tear agreement to be employed on site; and
- Chapter Eight provides a summary of the report.

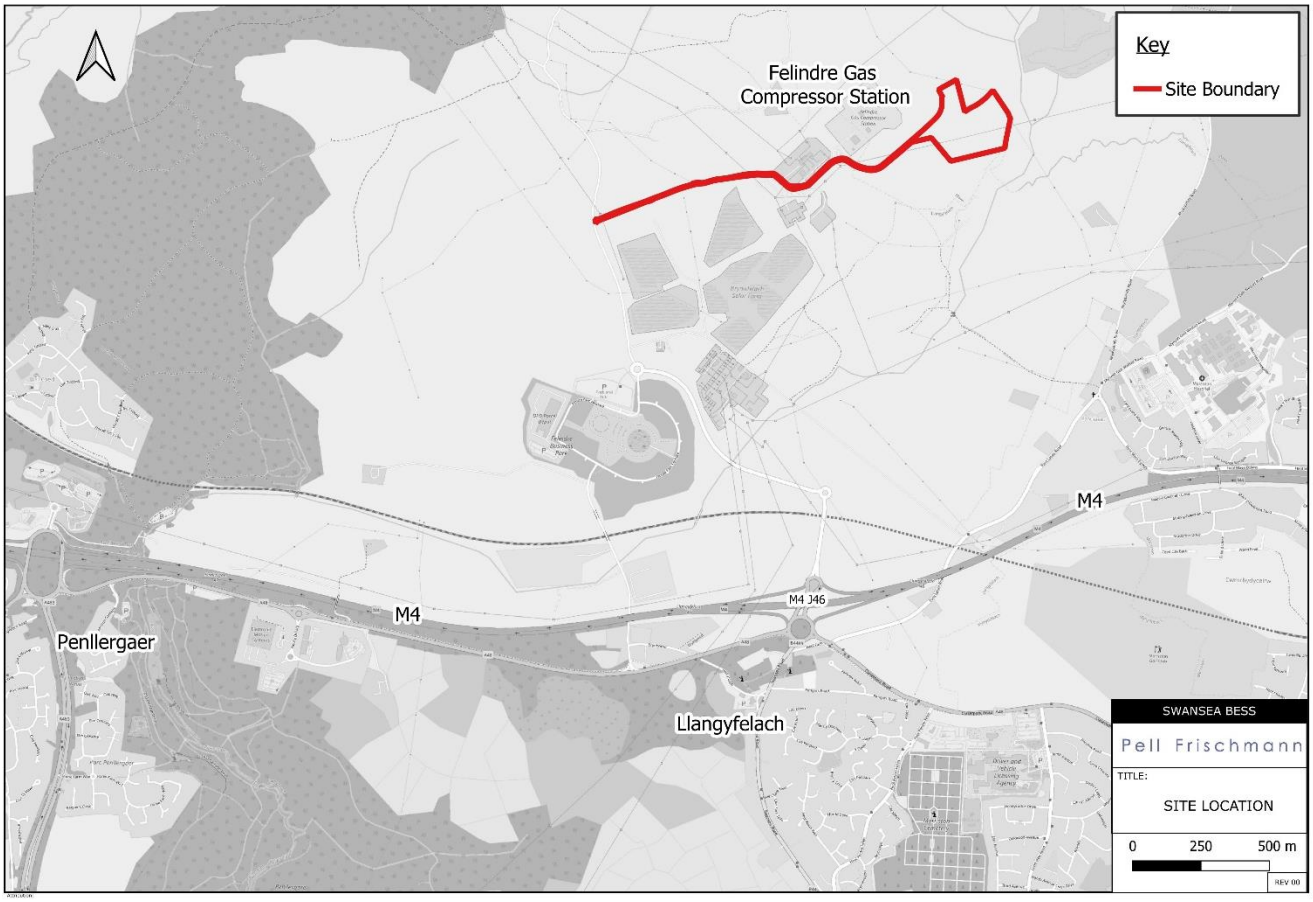
2 Development Description

2.1 Development Location and Layout

The site is located on area of agricultural land to the east of the existing Swansea North Substation and Felindre Gas Compressor Station, approximately 2 kilometres (km) north of Llangyfelach.

The site location is illustrated in **Figure 1**.

Figure 1 – Site Location



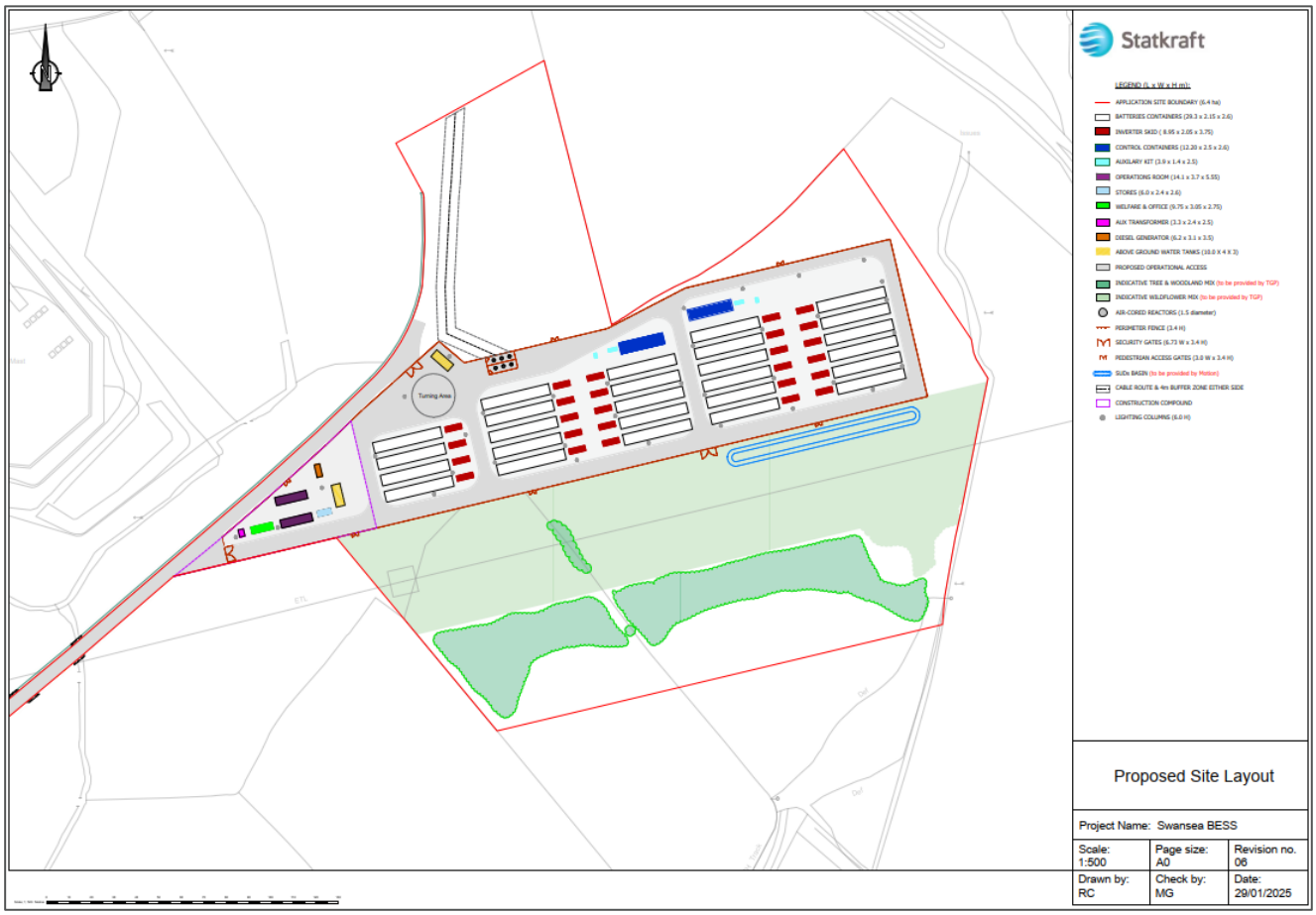
The site will comprise a BESS of 100MW capacity with associated ancillary works, landscaping and site access. The site will include the following key components:

- battery modules and associated inverters;
- control containers;
- stores;
- office and welfare building;
- underground water tanks;
- auxiliary transformer;
- cabling;
- air core reactors;
- control and protection systems;
- power inverter systems including associated switch gear and transformers;
- climate control systems;
- internal access tracks and access gates;
- perimeter fence;
- lighting and CCTV cameras;

- habitat management planting;
- a construction compound; and
- a diesel generator.

The layout of the Proposed Development is shown in **Figure 2**.

Figure 2 – Proposed Development Layout (indicative)



2.2 Proposed Access Strategy

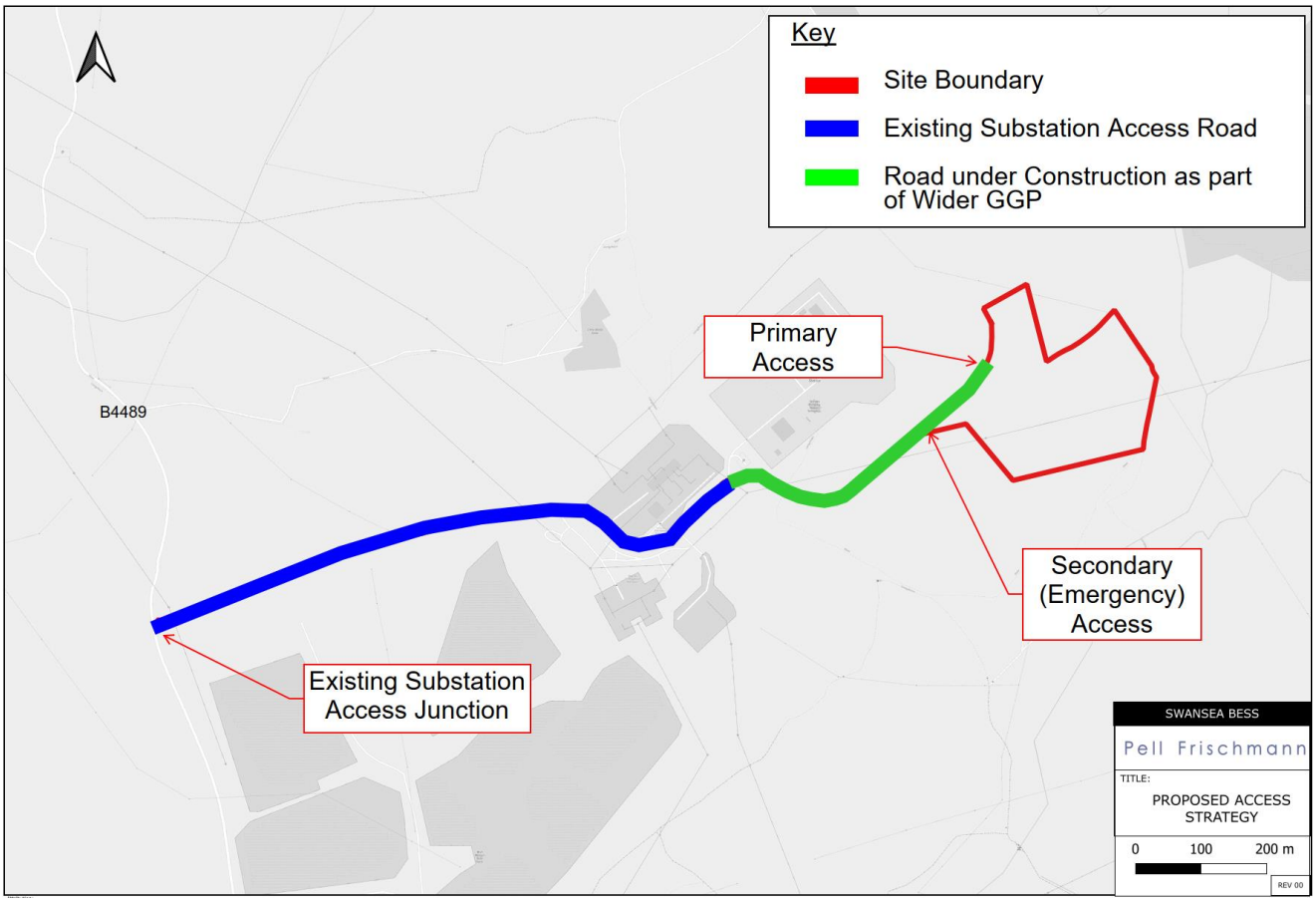
Access into the site will be taken from a new access track currently being constructed as part of the wider consented GGP. This track will link with the existing private access track (owned and maintained by National Grid), that currently provides access to Swansea North Substation, Felindre Gas Compressor Station as well as the consented GGP, now under construction. The existing private access track connects with the B4489 to the west via a simple priority junction. The new track provides access into the site and will be 5 metres (m) in width facilitating access for both construction and operational purposes.

Access to the B4489 will be taken from the M4, which is located to the south of the Proposed Development and is the closest strategic trunk road in the area. Access from the M4 is available at Junction 46, providing a direct connection onto the B4489.

The B4489 provides local access between the wider Swansea area and the M4. The southern section is a modern, well-engineered road leading from the motorway junction through to the nearby Felindre Park & Ride site.

The proposed access strategy from the B4489 is shown in **Figure 3**.

Figure 3 – Proposed Access Strategy



The existing junction between the B4489 and private access track is suitable for two-way heavy goods vehicle (HGV) movements. This facilitates construction traffic exiting from the public road network unhindered and preventing any obstruction to other vehicles.

Access to the site for construction purposes will be from the M4, with all loads departing at Junction 46 and travelling to the site via the B4489. No construction or staff trips will approach the site via the B4489 from the north.

The site will feature a temporary laydown and site compound area, there is no requirement for offsite set down areas. Additionally, parking for staff and visitors will all be contained within the site. The management of car parking associated with the site will be considered alongside other initiatives to make efficient use of the site. This will ensure sufficient space is available for visitors and deliveries.

3 Existing Network

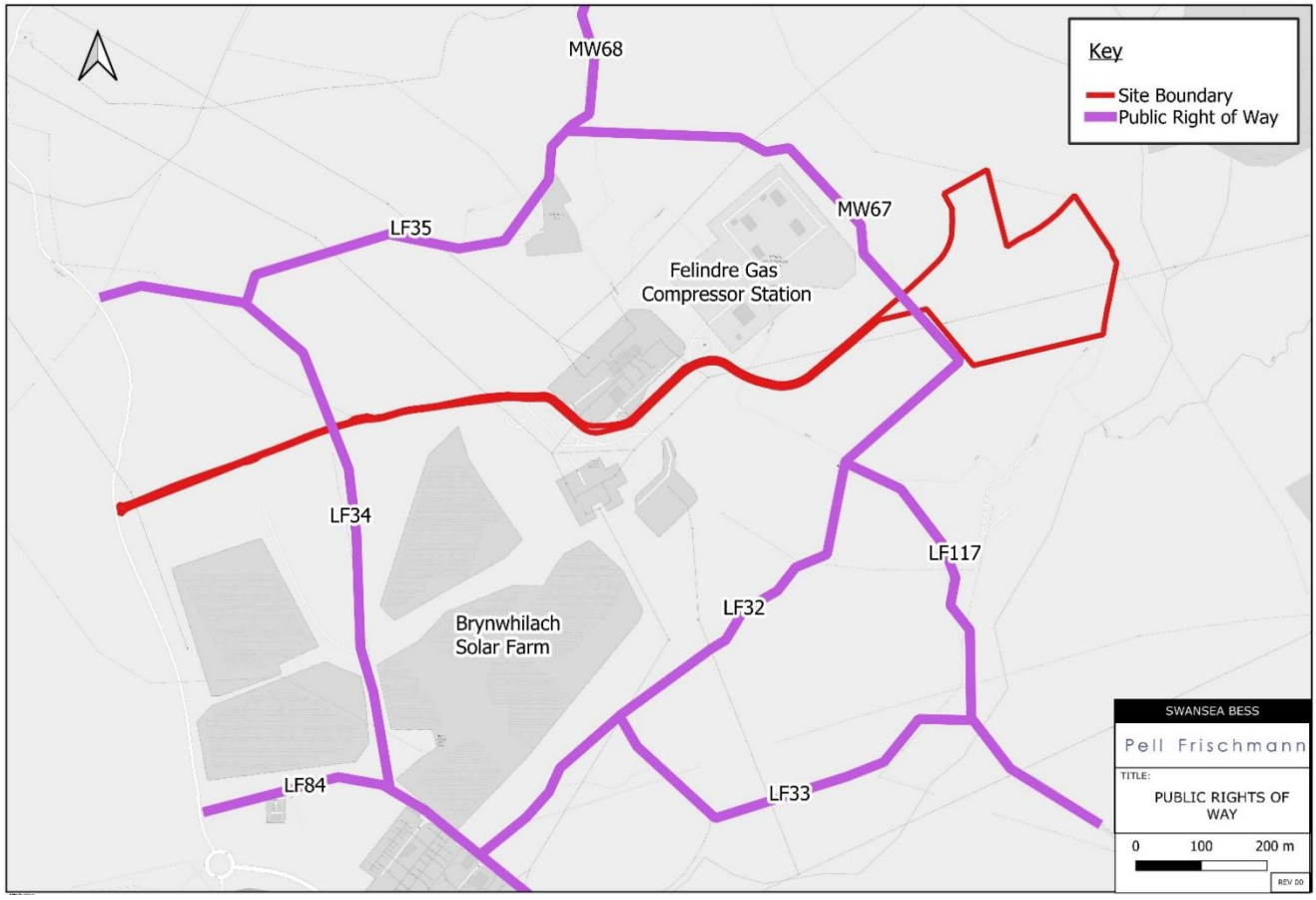
3.1 Active Travel Network

A review of the existing pedestrian and cycle facilities in the vicinity of the site has been undertaken. With regards to pedestrian facilities in the vicinity of the site, these are limited, reflecting the rural nature of the location. The nearest pedestrian facilities are located to the south within Felindre Business Park as well as south of the M4, within the residential areas of Llangyfelach. It should be noted that there is currently a short section of footway on the southern edge of the B4489 at the roundabout north of the M4. However, this footway currently does not connect to any other pedestrian facilities.

A review of the Swansea Council's Public Rights of Way[1] (PRoW) indicates that there are two PRoWs located within the site boundary. These are described below and shown in **Figure 4**.

- Path LF34 - This PRoW crosses the existing substation access track midway between the substation and the access junction on the B4489; and
- Path MW67 - This PRoW bisects the proposed new access track leading to the site, prior to it entering the main development area.

Figure 4 – Public Rights of Way



There are no areas of Common Land within or adjacent to the site boundary. Furthermore, a review of the National Cycle Network[2] (NCN) indicates that there are no NCN routes located in close proximity to the site.

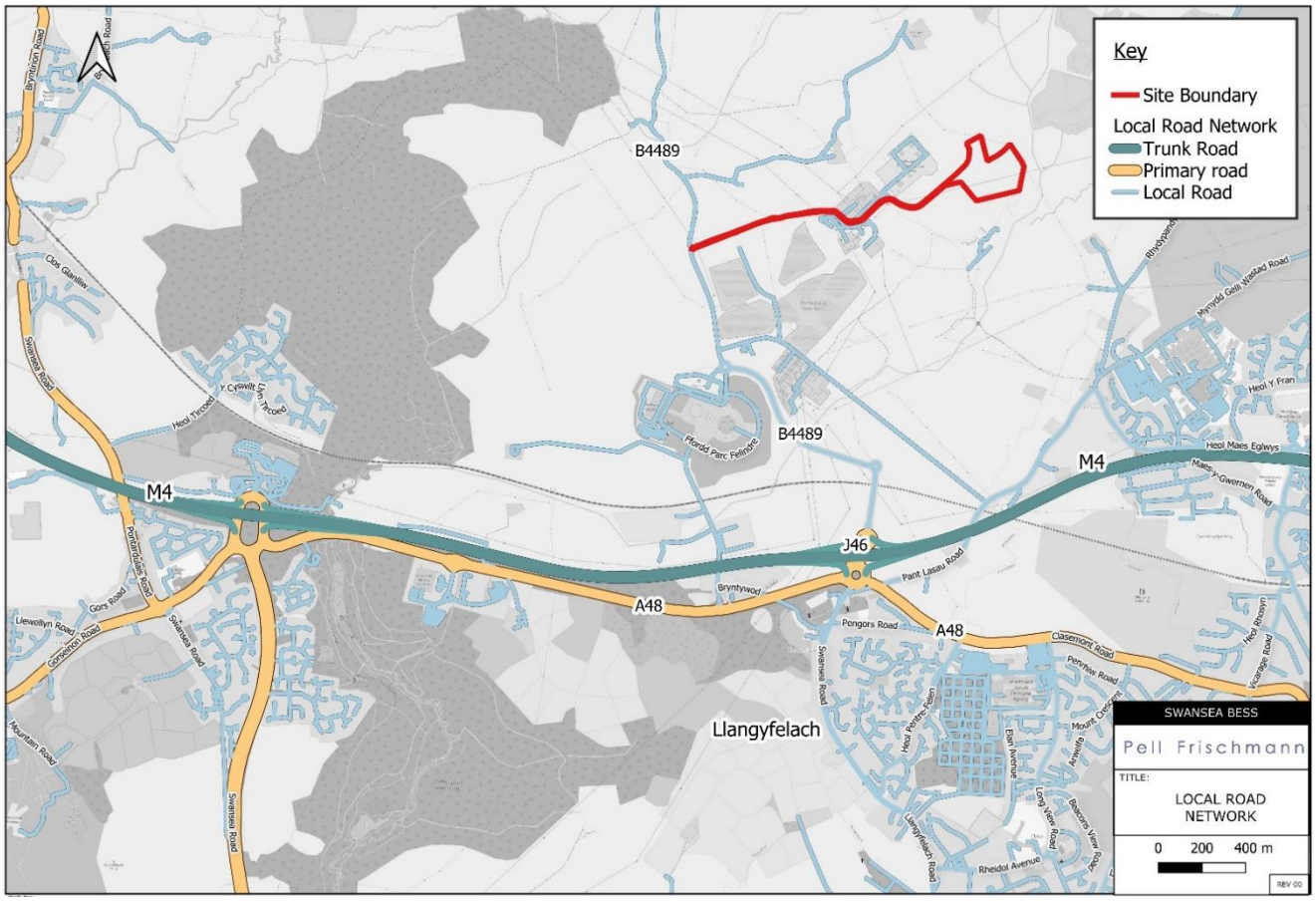
[1] Swansea Council Public Rights of Way, Source: https://www.swansea.gov.uk/article/5887/Public-rights-of-way-map [Accessed January 2025]
[2] Sustrans Network Map: https://www.sustrans.org.uk/national-cycle-network [Accessed January 2025]

The closest route (NCN Route 43) is located to the east of the River Tawe and is over 5km from the easternmost extents of the site boundary.

3.2 Existing Road Network

The location of key roads in the vicinity of the site are shown in **Figure 5**.

Figure 5 – Local Road Network



M4

The M4 Motorway forms part of the trunk road network running from London in the east to Swansea in the west, facilitating regional and national connectivity. The M4 provides the closest trunk road access to the Proposed Development site, with the nearest junction being Junction 46, located to the south. The M4 through this section is a dual carriageway subject to the national speed limit of 70 miles per hour (mph). The motorway is maintained by SWTRA.

B4489

The B4489 is a local road that provides access between the wider Swansea area and the M4. The road connects to the motorway at Junction 46, offering a direct route towards Llangyfelach and beyond. The southern section of the B4489 is a modern, road serving local traffic movements, including access to the Felindre Park & Ride site. This section of the road is subject to a 40 mph speed limit.

North of the Park & Ride roundabout, the B4489 transitions into a more historic road layout with varying carriageway widths. The speed limit on this section remains at 40 mph. The road is maintained by Swansea Council and appears to be in good condition.

Private Access Track

The access track leading from the B4489 to the Proposed Development is privately owned road and maintained by National Grid. The track provides direct access to the site and is not part of the public highway network.

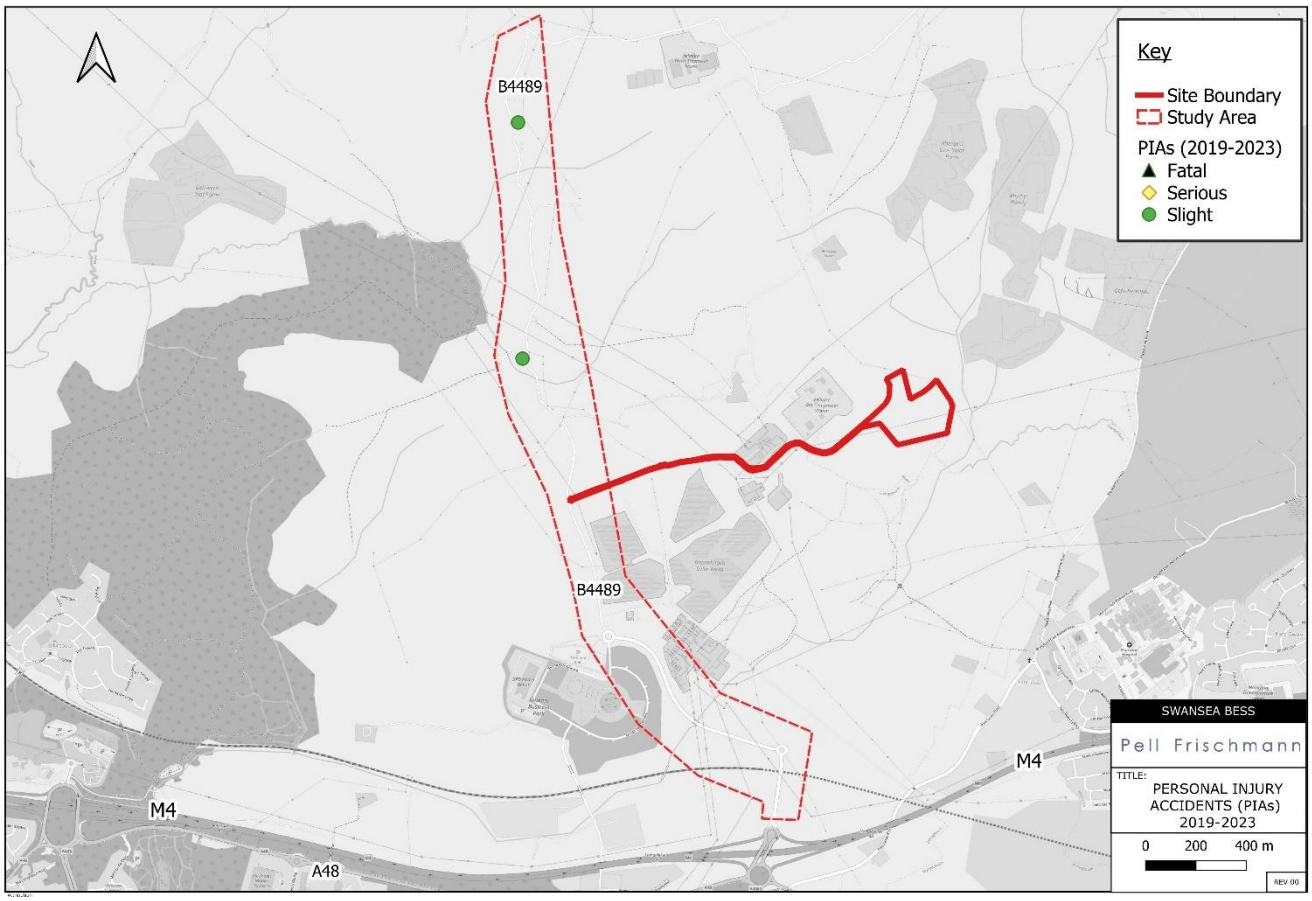
3.3 Road Safety Review

Personal Injury Accident (PIA) data for the five-year period covering 2019 to 2023 was obtained from the online resource CrashMap[3] which uses data collected by the police about road traffic crashes occurring on British roads, where someone is injured.

An assessment of PIA data on the road network in the vicinity of any development is typically undertaken for at least the most recent 3-year period, or preferably a 5-year period, particularly if the site has been identified as being within a high accident area. Whilst the study area has not been identified as having a high accident rate, a five-year review has been undertaken to ensure a comprehensive assessment has been undertaken.

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. The review included the B4489 to the north of the M4. The locations of PIAs on the B4489 during this 5 year period is shown in **Figure 6**.

Figure 6 – PIA Locations



As shown in **Figure 6**, two accidents were recorded on the B4489 in the previous five year period. Both accidents are categorised as “Slight”. The PIA nearest the Proposed Development occurred in September 2020. A Young Driver (under 25) and an HGV were involved, with the accident occurring approximately 1km to the north of the substation access junction on a constrained bend. The second PIA occurred in October 2022 and involved a car coming off the carriageway on a constrained bend south of a junction, south of Felindre.

[3] CrashMap: https://www.crashmap.co.uk/Search [Accessed January 2025]

There are no clusters of PIAs at any location in the assessed area or high numbers of accidents involving HGVs for example. The recorded PIAs occurred at or on approach to bends where there is a potential for increased interaction between vehicles.

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 would be exacerbated by the construction of the Proposed Development.

3.4 Baseline Traffic Flows

In order to assess the impact of the site traffic on the road network within close proximity of the site, an Automatic Traffic Count (ATC) was installed on the B4489 between 13 January 2025 and 19 January 2025. The ATC surveys were conducted over a 7-day period, recording volume, vehicle classifications, direction of travel and speeds. The resultant 2025 baseline traffic flows are shown in **Table 1**.

Table 1 – 2025 Baseline 24-hour Average Traffic Data – B4489

Direction	Cars & LGV	HGV	Total Traffic
B4489 Northbound	397	119	516
B4489 Southbound	422	107	530
B4489 Two-way	819	226	1,046

As noted above the ATCs undertaken to inform the study also collected speed data and a summary of this can be seen in **Table 2**.

Table 2 – Speed Summary

Survey Location	Mean Speed (mph)	85%ile Speed (mph)	Speed Limit (mph)
B4489 Northbound	32.0	37.6	40
B4489 Southbound	33.8	39.7	40
B4489 Two-way	32.9	38.8	40

The speed survey data indicates that on the B4489, in the vicinity of the site, the 40 mph speed limit is being generally adhered to.

3.5 Future Baseline Traffic Conditions

3.5.1 2026 Traffic Flows

Construction work is expected to commence in 2026, should the Proposed Development be consented. To provide a future year baseline, the 2025 surveys were factored using National Road Traffic Forecast (NRTF) Low Growth factors to create 2026 flows. The NRTF low growth factor for 2025 to 2026 is 1.005. The future year baseline traffic data is illustrated in **Table 3**.

Table 3 – 2026 Future Baseline 24-hour Average Traffic Data – B4489

Direction	Cars & LGV	HGV	Total Traffic
B4489 Northbound	399	120	519
B4489 Southbound	424	108	533
B4489 Two-way	823	227	1,051

3.6 Committed Developments

A review of Swansea Council's online planning portal[4] and the National Infrastructure Planning website[5] was conducted to identify any consented developments within the vicinity of the Proposed Development that could generate significant traffic.

Travel Plans, Transport Assessments and Statement Guidance published by the UK Government[6] advises that only those projects with extant planning permission or local development plan allocations within an adopted or approved plan require to be included in any assessment. Those projects in scoping or not yet determined should not be included in cumulative assessments as they have yet to be determined. When considering traffic impacts specifically in relation to the construction phase of a project, the potential traffic impact is highly speculative and as such, cannot be included in the assessment.

The review identified the Abergelli Power Gas Fired Generating Station, located adjacent to the Felindre Gas Compressor Station at Abergelli Farm, Felindre, Swansea. This project comprises an Open Cycle Gas Turbine (OCGT) peaking power generating station with a capacity of up to 299 Megawatts (MW), alongside associated infrastructure, including a gas connection pipeline and an electrical connection to the National Grid. The project received a Development Consent Order (DCO) in September 2019, with construction to be commence within five years of the DCO being granted. This period has now passed and so the permission has consequently lapsed. As such, the development has not been considered any further in this assessment.

The Greener Grid Park Energy Storage Facility was also identified as a relevant committed development. This project, granted planning permission in August 2021, is located to the northeast of the Felindre National Grid Substation and gas compressor station. The facility is designed to support grid balancing through energy storage infrastructure, with associated works including landscaping and an access track. Construction is currently underway, commencing in September 2024, the proposed construction works are estimated to take up to 18 months.

Both developments are expected to be completed, or at least near to completion, prior to construction beginning on the Proposed Development in 2026. The traffic associated with the operational phase of the developments is minimal with only occasional maintenance trips expected during the operation of the sites. No other significant traffic-generating developments were identified within the study area that are anticipated to be under construction during the same period as the site. As such, it is considered that the use of Low NRTF growth assumptions provides a reasonable basis for general local development growth within the study area.

[4] Swansea Council Online Planning Portal: https://www.swansea.gov.uk/article/5847/Planning-application-search [Accessed January 2025]
[5] National Infrastruture Planning Portal: https://infrastructure.planninginspectorate.gov.uk/projects/wales/ [Accessed January 2025]
[6] https://www.gov.uk/guidance/travel-plans-transport-assessments-and-statements

4 Site Traffic Generation

4.1 Introduction

There are three phases of the Proposed Development, which have been considered in this assessment and are as follows:

- the Construction Phase;
- the Operational Phase; and
- the Decommissioning Phase.

Of the three phases, the construction phase is considered to have the greatest demand, resulting in the greatest potential impact in terms of transport on the road network. Construction plant, bulk materials and electrical components will be transported to site, potentially resulting in a temporary significant increase in traffic on the study network.

The operational phase is restricted to occasional maintenance operations, which generate significantly lower volumes of traffic that are not considered to be in excess of daily traffic variation levels on the road network.

The decommissioning phase involves fewer trips on the road network than the construction phase, as minor elements of infrastructure are likely to be left in place, adding to local infrastructure that can potentially be used for further industrial or leisure uses in the future.

4.2 Construction Trip Generation

The proposed construction works are estimated to take between 12 and 18 months depending on weather conditions and ecological considerations. It is proposed to commence construction works in 2026 subject to planning permission being granted.

For the purposes of this assessment, it has been assumed that construction will take place over a 12 month period. This will allow for a suitably robust assessment, whereby the construction activities are compressed over a shorter period, resulting in higher monthly / daily traffic movements. As such, this should be considered a worst case scenario.

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 primary areas of construction traffic can be subdivided into:

- Import of plant and machinery;
- Site establishment loads;
- Import of bulk materials;
- Import of ready-mix concrete;
- Import of general building supplies;
- Delivery of electrical components;
- Delivery of batteries;
- Delivery of auxiliary transformers;
- 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 **Table 4**.

Table 4 – Indicative Construction Programme (two-way trips)

Activity	Class	Month											
		1	2	3	4	5	6	7	8	9	10	11	12
Site Establishment / Reinstatement	HGV	100										50	50
General Deliveries	HGV	40	40	40	40	40	40	40	40	40	40	40	40
Site Clearance & Preparation	HGV	298	298	298	298								
Access Works	HGV		4	4									
Geotextile	HGV			3		3							
Development Platform	HGV		858	858	858	858	858						
Foundation Steel	HGV				10	10							
Foundation Concrete	HGV						161	161					
Cabling	HGV							7					
Cable Sand	HGV							7	7				
Transformers	HGV									2			
EV Gear & associated equipment	HGV									2	2		
Cranes	HGV						10	10	10	12	12		
Batteries & Inverters	HGV									78	78		
Buildings	HGV						5	5	5	5			
Fencing	HGV										10	10	
Fit Out	HGV								30	30	30		
Landscaping	HGV										30	30	30
Commissioning	LGV										40	40	40
Staff	LGV	528	792	792	792	1056	1056	1056	1056	1056	1056	792	528
Total		**966**	**1992**	**1995**	**1998**	**1967**	**2130**	**1286**	**1148**	**1225**	**1298**	**962**	**688**
HGV per Month		438	1200	1203	1206	911	1074	230	92	169	202	130	120
LGV per Month		528	792	792	792	1056	1056	1056	1056	1056	1096	832	568
HGV per Day		**20**	**56**	**56**	**56**	**42**	**50**	**12**	**6**	**8**	**10**	**6**	**6**
LGV per Day		**24**	**36**	**36**	**36**	**48**	**48**	**48**	**48**	**48**	**50**	**38**	**26**
Total		**44**	**92**	**92**	**92**	**90**	**98**	**60**	**54**	**56**	**60**	**44**	**32**

Please note minor variances due to rounding may occur.
Calculations assume that there are 22 working days per month.

The peak of construction activity is predicted to occur in month six, when there will be a total of 98 vehicle movements per day, of which 50 will be HGVs and 48 will be cars / light goods vehicles (LGVs). Over a typical 10 hour working day, this would equate to approximately ten vehicle movements per hour, of which five would be HGVs.

It should be noted the construction phase is transitory in nature and the peak of construction activities is short lived, occurring over a relatively short period when taking account of the whole construction programme.

4.3 Distribution of Construction Trips

As previously detailed, during the construction phase, all site access will be taken from the south via the B4489. No construction or staff trips will approach the site from the B4489 from the north, ensuring that all vehicular movements are routed efficiently while minimising disruption to the local road network.

The exact material suppliers will be confirmed post consent and following appointment of the Principal Contractor. However, for the purposes of this assessment, the following distribution of materials and construction trips is anticipated:

- Aggregate and Ready-Mix Concrete: It is expected that aggregate, cement and bulk materials will be sourced from suppliers located within the local area. Deliveries will access the site via the M4 Junction 46, routing via A-class roads wherever possible to minimise movements through residential areas.
- Electrical Equipment: Equipment is anticipated to be delivered from suppliers located within the Swansea area or further afield in South Wales, accessing the site via the M4 and B4489.
- Batteries, Inverters, and Transformers: These components are expected to be sourced internationally and transported via the M4 corridor and B449.
- General Construction Supplies: Materials such as steel, fencing, and smaller electrical components will be delivered from suppliers across the Swansea and South Wales region, using the strategic road network where feasible.
- General Site Deliveries: Deliveries of fuel, tools, and welfare facilities will be sourced from local and regional suppliers, with routing directed via the M4 and B4489.
- Construction Staff: All staff will travel to the site via the B4489 from the south, with the majority expected to originate from the greater Swansea area and the M4 corridor.

4.4 Peak Construction Traffic Movements

The general distributions have been applied to the peak of construction activities to estimate the likely peak traffic associated with construction activities at this time. The daily peak construction traffic flows are summarised in **Table 5**.

Table 5 – Daily Peak Construction Traffic Flows

Description	Cars & LGV	HGV	Total Traffic
B4489	48	50	98

The daily car & LGV flows are not significant in traffic terms. HGV traffic volumes are considered relatively low, and it is estimated that an HGV movement on the public roads will occur at approximately four movements (approximately two inbound and two outbound trips) per hour (assuming a 10 hour working period) at the peak of construction activities.

4.5 Abnormal Load Access

There are no Abnormal Indivisible Loads (AIL) associated with the Proposed Development and as a result, all loads will comply with the Construction & Use Regulations.

5 Traffic Impact Assessment

5.1 Traffic Impact During Construction

The peak month (month six) traffic data was combined with the future baseline year (2026) traffic data to allow a comparison between the baseline results to be made. The increase in traffic volumes is illustrated in percentage increases for each class of vehicle. This is illustrated in **Table 6**.

Table 6 – Construction Traffic Impact

Direction	Cars & LGV	HGV	Total Traffic	Cars & LGV % Increase	HGV % Increase	Total Traffic % Increase
B4489 Northbound	423	145	568	6.0%	20.9%	9.45%
B4489 Southbound	448	133	582	5.7%	23.2%	9.20%
B4489 Two-way	871	277	1,149	5.8%	22.0%	9.32%

Please note that rounding errors may occur in the table above

The total traffic movements are predicted to increase by less than 10% on the B4489, where the proposed site access junction will be located. With regards to HGV traffic, this is predicted to increase by less than 30%.

The traffic impact associated with the peak construction phase of the development is considered minimal within the wider road network, with the level of trips generated considerably below the daily variation in traffic flows. As there are no sensitive receptors on the B4489, this temporary increase in traffic is not considered to have a significant impact.

It should be noted the construction phase is transitory in nature and the peak of construction activities is short lived, occurring over a relatively short period, when taking account of the whole construction programme.

5.2 Traffic Impact During Operation

The traffic associated with the operational phase of the site is minimal with occasional maintenance trips required. As the site will not be manned during its operation, trips are likely to be in the region of one car / LGV trips fortnightly and as such, no operational impact assessment of the site is required.

6 Construction Traffic Management Proposals

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.

Pages with information about the construction of the site can be available on the project website if required by Swansea Council. These will be updated throughout the construction period. If visitors to the site are unable to find the answer to their question in the webpages, an email address will be provided on the project website to contact the Applicant. 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 on the B4489 and the private access track will be kept clear at all times and regular inspections will be undertaken to ensure vehicles do not attempt to use the areas for parking.

The following measures would be provided to assist in managing traffic across the study area road network.

6.1 General Measures

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

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

- Contractual requirements 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 route 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; 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; and
  - A briefing on driver speed reduction agreements (to slow site traffic at sensitive locations).

6.2 Utility Connections

There are no utility connections associated with the site that require connection or diversions works on the public road network. All connection works are wholly contained within the development site.

6.3 Works outside the Development Boundary

There are no works, other than vegetation trimming to maintain visibility splay areas, which require works outside of the development boundary. As such there is no need for further highway detailed design drawings, construction details, material specifications or diversion of statutory equipment or utilities.

6.4 Key Contact & Insurances

The key contact for the project would be the Principal Contractor's Site Manager. The contact details for the site Manager will be provided to Swansea Council as soon as the contractor has been selected by the Applicant.

The Site Manager will confirm all relevant insurance details upon their introduction to Swansea Council.

6.5 Vehicle Holding Area & Call Up Procedure

The access track leading to the site is being constructed to enable free flowing access. As such, no vehicle holding area or call up procedure is anticipated. Should this change, details will be immediately provided to Swansea Council for their consideration.

6.6 Parking Suspensions

No parking suspensions are required to facilitate access to the site.

6.7 Neighbouring Properties

The Principal Contractor will create a protocol for working with local businesses and homeowners in the immediate vicinity of the Proposed Development. It would be proposed as far as practicable to minimise the potential impact of construction activities, by way of implementing site specific measures, such as:

- employing a road sweeper in the vicinity of the properties to ensure any mud or debris is cleaned from the road surface;
- ensuring that access to the properties is unaffected by construction vehicles and staff vehicles, with no parking permitted;
- reminding construction staff of vehicle speeds in the vicinity of the properties, with speeds kept to an absolute minimum; and
- keeping an open dialogue between the residents / business owners and the Applicant / Principal Contractor to ensure any issues can be reported at the earliest opportunity.

6.8 Temporary Road Signage

A junction signage strategy will be prepared and agreed with Swansea Council prior to works commencing. The strategy will include the following:

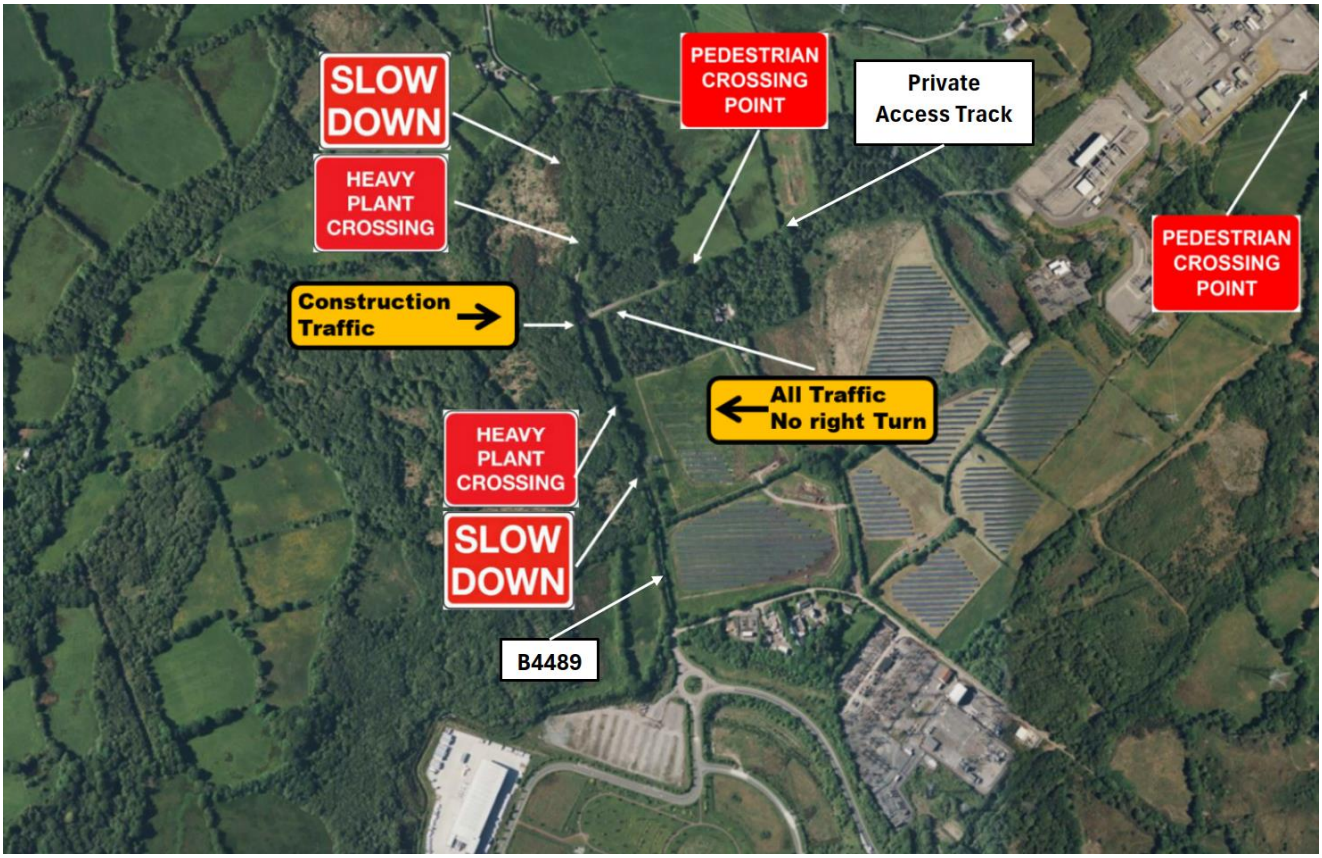
- Site access signage to advise other road users of increased movements at the access junction;
- Signage warning drivers of the PRoW crossings on the access track; and
- Chapter 8[7] (Traffic Signs Manual) "Slow Down" and "Heavy Plant Crossing" signage on the B4489 within 500m of the site access junction.

The proposed signage strategy is outlined in **Figure 7**.

Regular maintenance will be undertaken at the sign locations to keep the plates clean and to ensure that verge vegetation does not obscure them.

[7] https://assets.publishing.service.gov.uk/media/5a74adeaed915d7ab83b5ab2/traffic-signs-manual-chapter-08-part-01.pdf

Figure 7 – Temporary Signage Strategy



6.9 Site Access Junction

The vegetation at the site access junction on the B4489 will be cut back to maintain junction visibility to the north and south of the junction.

6.10 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. No vehicle shall reverse onto public roads and shall only enter / exit the site using forward gear only.

A banksman will be provided at the site access to help guide traffic within the site and to ensure health and safety access for the site. The banksman will be in radio contact with the wider site compound to advise of movements to and from the site.

Upon completion of construction works, a gate will be provided on the access track at its junction into the site. The gate will be set back to ensure that any future HGV vehicles can stop at the gate without blocking back onto the private access track, thus affecting other developments, for example the Swansea North Substation and Felindre Gas Compressor Station.

6.11 Emergency Access

Access to the Proposed Development will be via a newly constructed access gate at the northwestern extents of the site, as shown in **Figure 3**. In addition, a secondary emergency only access will be provided as part of the development proposals, to allow for emergency vehicle access, for example fire tender access. The secondary vehicle access is located at the western extents of the site. Included in **Appendix A** is a swept path assessment of the secondary emergency access showing a fire platform vehicle accessing the site.

6.12 Non-Motorised Road Users

6.12.1 Pedestrians and Cyclists

The Principal Contractor will ensure that speed limits are always adhered to by their drivers and associated subcontractors.

Signage will be installed on the site exit that makes drivers aware of local speed limits and reminding drivers of the potential presence of pedestrians and cyclists in the area, noting the paths and PRoWs. This will also be emphasised in the regular toolbox talks.

Warning signs advising of construction works would be placed at the start of PRoWs LF34 and MW67, asking path users to be aware of nearby construction activities and traffic movements. The design of the crossing will be provided post consent to Swansea Council access officer.

6.12.2 Equestrians

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

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

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

The British Horse Society recommends the following actions that will be included in the site training for all HGV staff. These will be added to toolbox talks and the general staff induction:

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

6.13 Staff Travel Plan

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

- Provision of public transport information;
- Mini-bus service for transport of site staff;
- Promotion of a car sharing scheme;
- Car parking management; and
- Restrictions on parking, for example on the public road network and verges in the vicinity of the site entrance.

6.14 Operational Phase Mitigation

The B4489 and private access tracks near the site entrance will be well maintained and monitored during the operational life of the site. Regular maintenance will be undertaken to keep the access track drainage systems fully operational and to ensure there are no run-off issues onto the public road network.

7 Wear & Tear Agreement

An agreement is suggested to cover the cost of any abnormal wear and tear on the B4489 between Junction 46 of the M4 and the site access junction.

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.

7.1 Road Condition Survey

A survey of the pre-construction phase condition of the B4489 will be undertaken within one month prior to works commencing to ensure that an accurate review of the road condition is recorded immediately prior to works commencing.

The baseline video review will be undertaken to review the road condition. This will include the carriageway, verge and street furniture. The condition survey would also 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 issued to Swansea Council prior to construction works commencing.

7.2 Interim Surveys

Any immediate necessary repairs would be coordinated with Swansea Council. Any damage caused by traffic associated with the site, during the construction period that would be hazardous to public traffic, would be repaired as soon as practicable.

During construction activities, a general road wear and tear review would be undertaken regularly 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.

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 Swansea Council to undertake interventions.

7.3 Final Survey

Upon completion of construction activities, a follow-on condition review will be undertaken within four weeks of the site being substantially complete and a defects list prepared. Works required to reinstate the road back to its original condition which are attributable to the Proposed Development would be undertaken at the Applicant's expense following a review by Swansea Council.

7.4 Repairs

Where 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.

8 Summary

Pell Frischmann Ltd. has been commissioned by DWD Property and Planning Ltd. on behalf of Statkraft UK Limited (the Applicant) to prepare a combined Transport Statement and Construction Traffic Management Plan in support of a planning application for a Battery Energy Storage System. The Proposed Development is located on an area of land to the west of Rhydypandy Road, Morriston, in the Swansea Council administrative area.

This combined Transport Statement and 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.

During construction of the Proposed Development, peak construction activity is predicted to occur in month six, when there will be a total of 98 vehicle movements per day, of which 50 will be HGVs and 48 will be cars / light goods vehicles (LGVs). Over a typical 10 hour working day, this would equate to approximately ten vehicle movements per hour, of which five would be HGVs.

The increase in traffic generation due to construction traffic was calculated using baseline traffic data obtained from new ATC surveys and it was found that the impact of construction traffic on the B4489 was not significant, with the predicted total vehicle increases below the daily variation in traffic flows.

On this basis, the impact on traffic generation due to construction is therefore negligible.

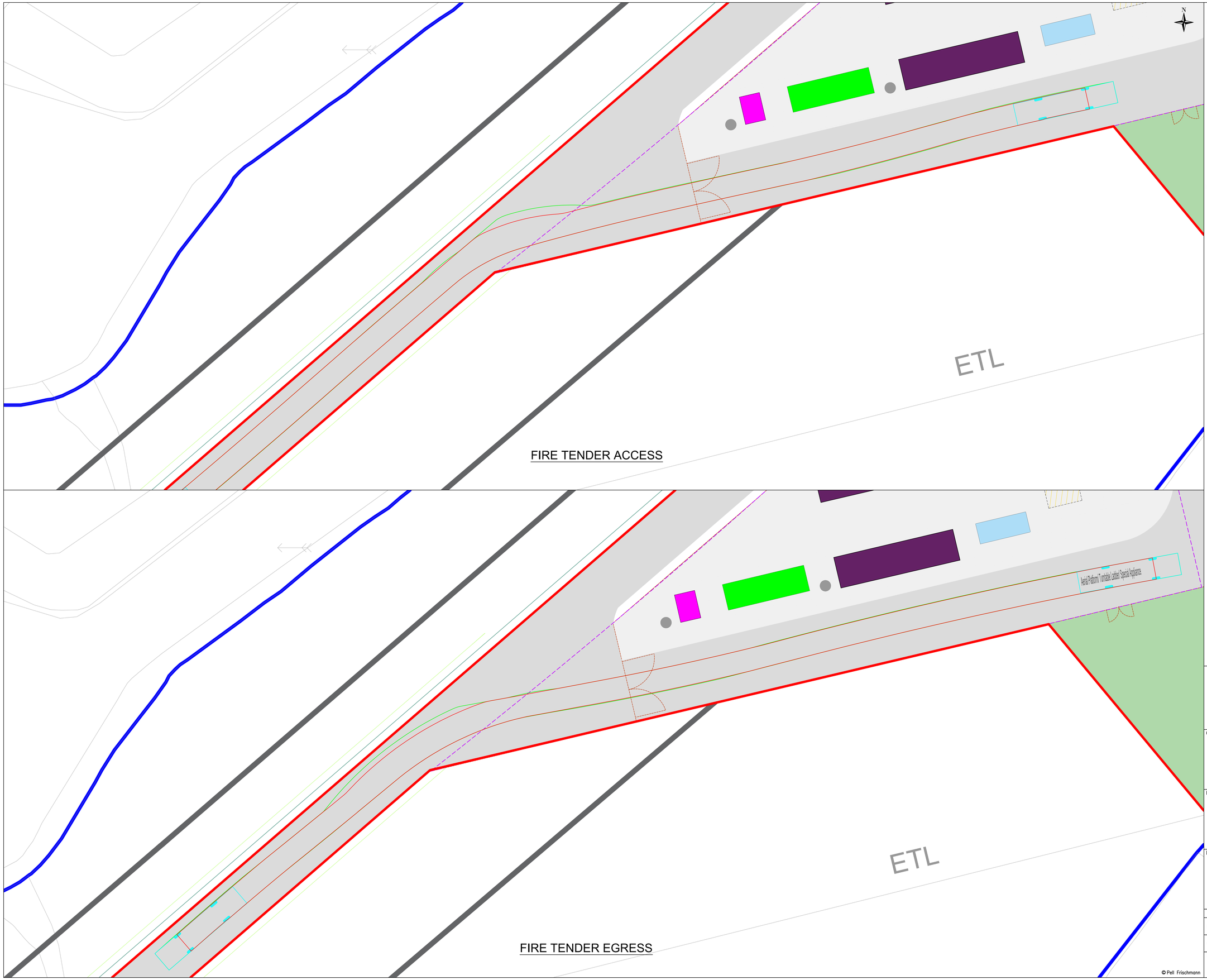
Furthermore, it should be noted that the impacts relate solely to the peak of construction activities and that the construction period is short lived and the effects transitory in nature.

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 Principal Contractor has been appointed and can be secured via an appropriately worded planning condition.

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.

The Proposed Development will lead to a temporary increase in traffic volumes within the study area during the construction phase only, however this can be appropriately and effectively managed. It is therefore concluded that there are no transport related matters which would preclude the construction of the Proposed Development site.

Appendix A Fire Tender Swept Path Assessment



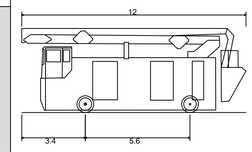
NOTE:

1. ALL DIMENSIONS ARE IN METRES UNLESS STATED OTHERWISE. ALL LEVELS ARE IN METRES AND RELATE TO ORDNANCE DATUM.
2. DO NOT SCALE FROM ANY DRAWING. WORK TO FIGURED DIMENSIONS ONLY. ANY DISCREPANCIES IN DIMENSIONS ARE TO BE REFERRED TO THE DESIGNER BEFORE WORK IS PUT TO HAND.
3. ALL DIMENSIONS AND LEVELS ARE TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO PREPARING ANY WORKING DRAWINGS OR COMMENCING ON SITE.
4. ALL WORKS BY THE CONTRACTOR MUST BE CARRIED OUT IS SUCH A WAY THAT ALL REQUIREMENTS UNDER THE HEALTH AND SAFETY AT WORK ACT ARE SATISFIED.
5. ALL WORKS ARE TO BE CARRIED OUT IN COMPLIANCE WITH THE REQUIREMENT OF THE STATUTORY AUTHORITIES AND CONSTRUCTION DESIGN MANAGEMENT REGULATIONS.

KEY:

VEHICLE WHEELS

VEHICLE BODY



Aerial Platform/ Turntable Ladder/ Special Appliance

Overall Length	12.000m
Overall Width	2.550m
Overall Body Height	4.500m
Min Body Ground Clearance	0.130m
Track Width	2.550m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	13.750m

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Client

Statkraft

Project

Swansea BESS

Drawing Title

Emergency Access
Swept Path Analysis

	Name	Date
Designed	AS	12.02.2025
Checked	SC	12.02.2025

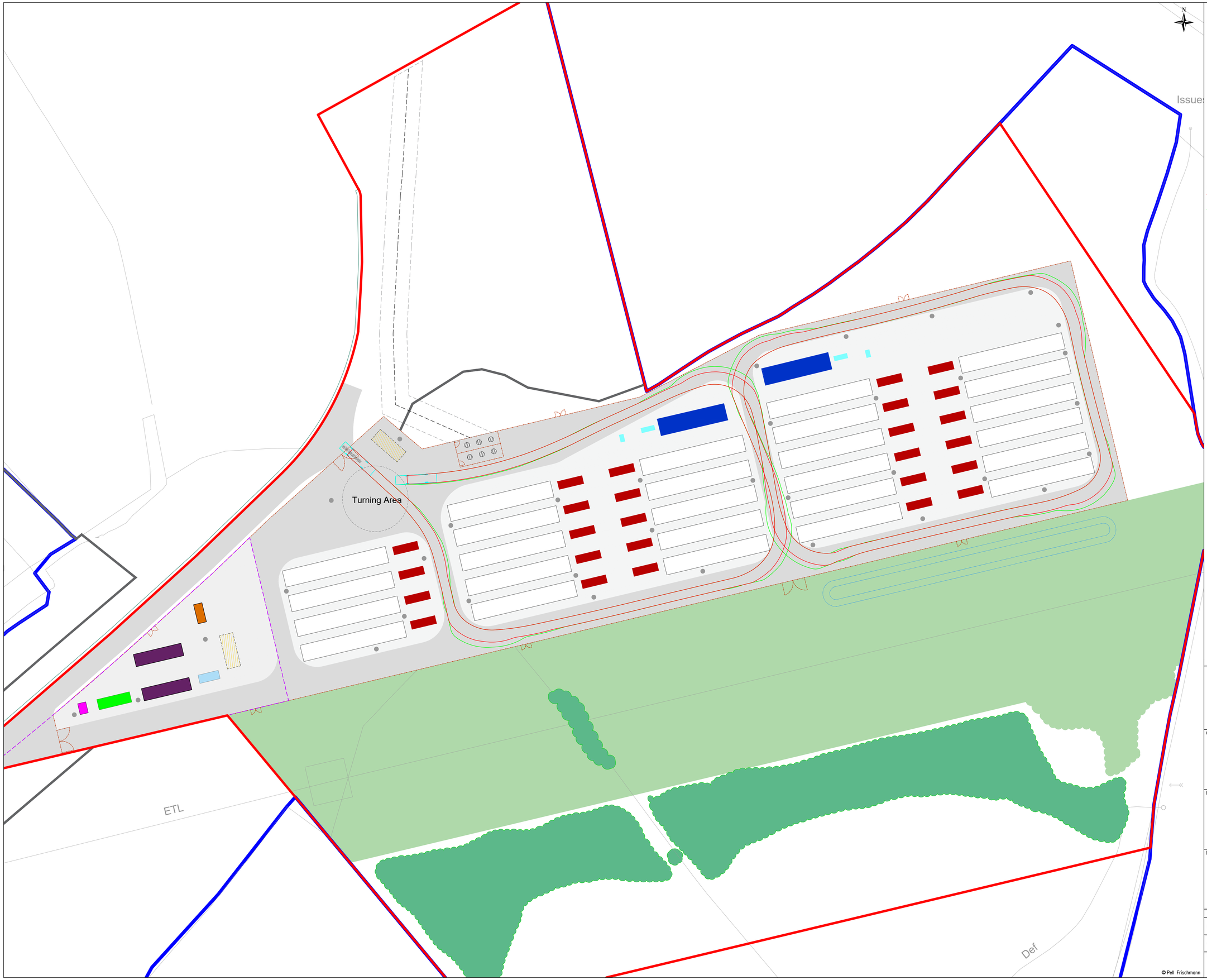
Scale 1:200 @ A1

File 250212 Emergency Access SPA

Drawing Status DRAFT

Drawing No. SK01

Revision P2



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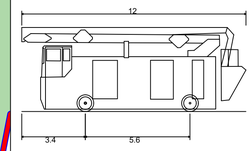

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Client

Statkraft

Project

Swansea BESS

Drawing Title

Internal Roads Swept Path Analysis

	Name	Date	Scale 1:500 @ A1
Designed	AS	12.02.2025	File 250212 Emergency Access SPA
Checked	SC	12.02.2025	Drawing Status DRAFT

Drawing No. SK02

Revision P2