PROPOSED SOLAR FARM
ELY VALLEY SOLAR FARM
LAND AT DUFFRYN FARM, ELY VALLEY ROAD, YNYSMAERDY

Transport Statement

July 2025

Proposed Solar Farm

Land at Duffryn Farm, Ely Valley Road, Ynysmaerdy, Pontyclun

Transport Statement

Document Control Sheet

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1.0 INTRODUCTION

1.1 Appointment of Connect Consultants

1.1.1 Connect Consultants Limited is a firm of transport planning and highway design consultants that have been instructed by Sirius Planning on behalf of Windel Solar 8 Limited (a project developed by Windel Energy Ltd alongside Recurrent Energy Ltd) with regards to a proposed Solar Farm, known as Ely Valley Solar Farm, on land at Duffryn Farm, A4119 Ely Valley Road, Ynysmaerdy, Pontyclun.

1.2 Site Location

1.2.1 The proposal site (herein referred to as 'the Site') is located on land north of the A4119 Ely Valley Road, c0.4km north of Ynysmaerdy and 0.8km east of Coedely, in Pontyclun.

1.2.2 The Site is currently undeveloped agricultural land covering an area of approximately 20.9 hectares. The site is irregular in shape and comprises several agricultural fields.

1.2.3 The Site is bound to the northeast by an existing solar farm and wind turbine, to the north and northwest by land with planning permission for a solar farm (Talgren Solar Farm), to the southeast by South Wales Fire and Rescue Service and to the south by Duffryn Farm Bungalow, the A4119 and a waste water treatment works.

1.2.4 The location of the Site is shown at Figure 1.1 below.

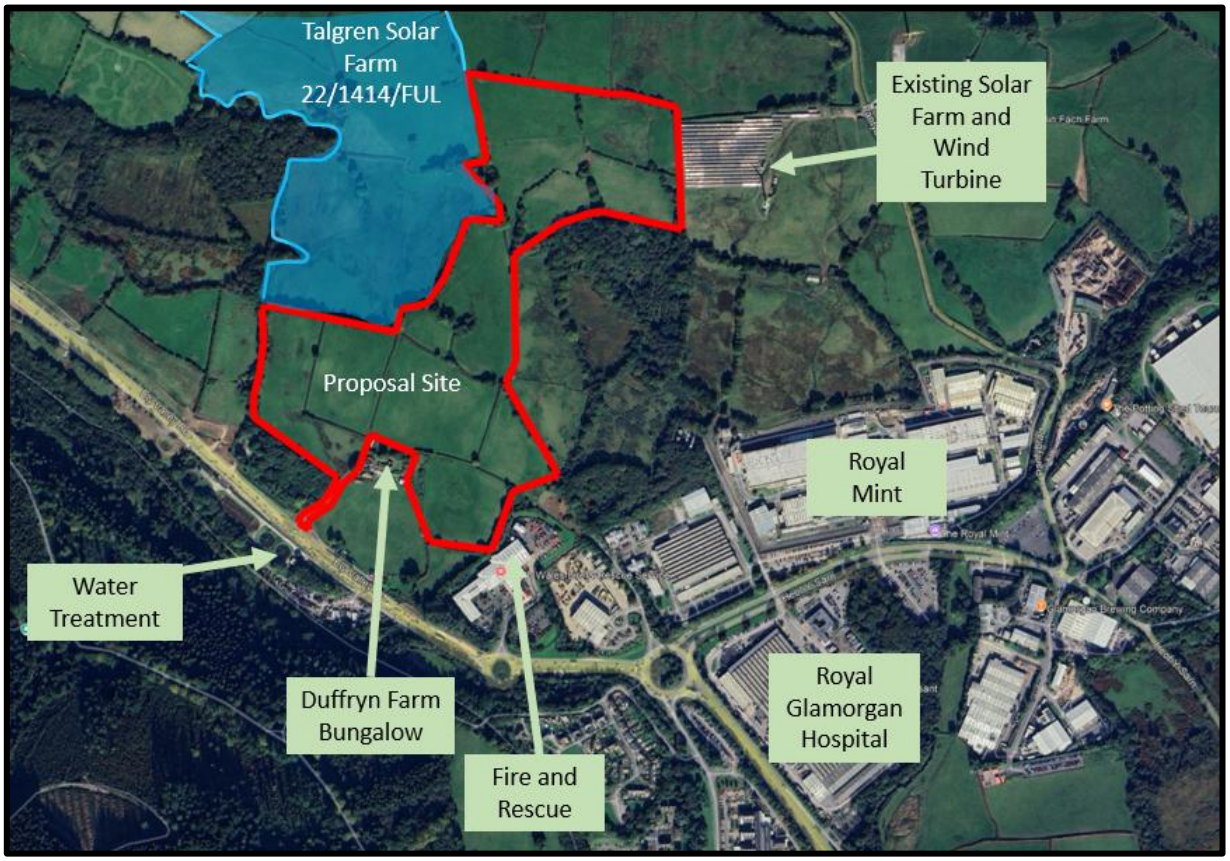
Figure 1.1 – Site Location Plan

Source: Ordnance Survey/Bing. N.B. Site denoted by a blue star.

1.2.5 The A119 Ely Valley Road provides a route to Ynysmaerdy, Llantrisant and Talbot Green to the southeast of the site, with the M4 (shown in blue) accessed via junction 34, c6km from the Site.

1.2.6 Figure 1.2 below identifies the context of the Site in relation to the immediate local area.

Figure 1.2 – Site in its Local Context



Source: Google Earth. N.B. Approximate Site boundary is indicated by red line.

1.3 Planning History

1.3.1 Whilst there is no planning history of relevance to the site itself, there are a number of nearby renewable energy related development, establishing the principle of similar development in the local area.

1.3.2 Permission was granted by Rhondda Cynon Taf Council for the wind turbine located to the east of the site by way of a decision notice dated 19th July 2016 under application reference 16/0124/10, with a subsequent application being granted to increase the height (ref: 18/0761/39).

1.3.3 Permission was also granted by Rhondda Cynon Taf Council on 16th November 2020 for a proposed solar farm located c.320m to the east of the site.

1.3.4 Permission was granted for a single wind turbine and associated infrastructure on 2nd August 2021 (ref: 21/0661/FUL).

1.3.5 Permission was granted for the construction and operation of a solar farm directly to the north and west of the site by way of a decision notice dated 25th April 2024 under application reference 22/1414/FUL. This site is known as Talgren Solar Farm. Connect produced a Transport Statement and Construction Traffic Management Plan to accompany this application.

1.4 Existing Site Use

1.4.1 The site is irregular in shape and comprises several agricultural fields. It is currently accessed via a priority junction to the north of Ely Valley Road which serves Dyffryn Farm, two other residential dwellings and the adjoining farmland.

1.4.2 The A4119 Ely Valley Road has been recently upgraded from single carriageway to dual carriageway. As part of this, the existing access became a left-in, left out priority junction as shown on the layouts below. Road markings are provided. At the point of the access the speed limit is 50mph.

Figure 1.3 – A4119 Ely Valley Road Improvements

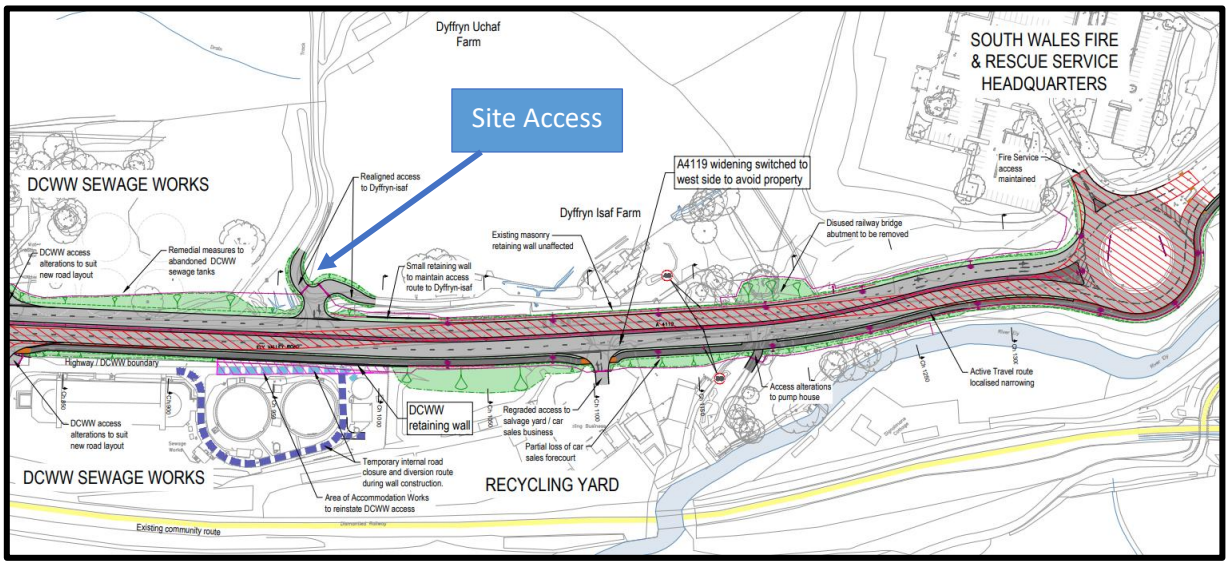
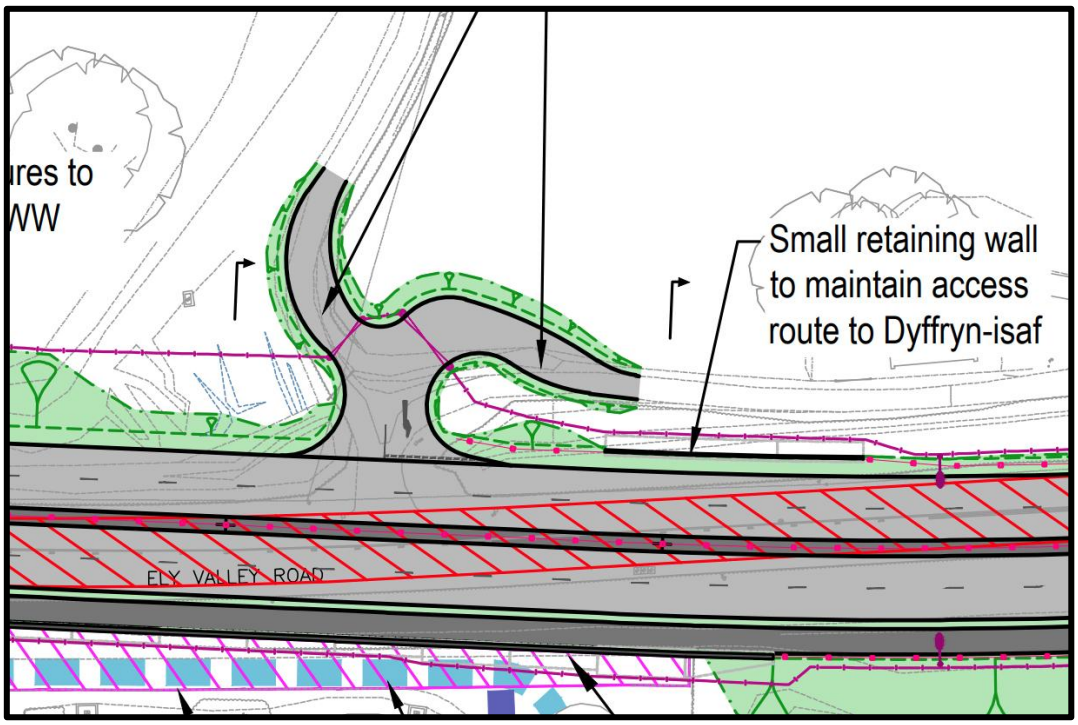


Figure 1.4 – A4119 Ely Valley Road Improvements – Dyffryn Farm



1.4.3 No footway is provided on the Dyffryn farm site of the road; however, a footway is provided on the southern side.

1.4.4 The above arrangement is constructed and operational on-site.

1.4.5 There are no Public Rights of Way which run either through or adjacent to the site.

1.5 Development Proposals

1.5.1 The development proposals are shown on the plan provided at Appendix 1, to be known as Ely Valley Solar Farm.

1.5.2 The submitted layout is indicative as the detailed layout and phasing of construction will be agreed with the Local Planning Authority by way of planning condition following grant of planning consent. This approach is commonplace in solar farm planning permissions.

1.5.3 The proposals seek to develop a solar farm across the 20.9 hectares of land to the north of the A4119 Ely Valley Road.

1.5.4 The solar farm will have an export capacity of circa 9.9MW of electricity, enough to power approximately 2,678 homes per year and offset nearly 2,850 tonnes of CO2 every year, the equivalent of taking around 1,100 cars off the road.

1.5.5 The solar panels will be installed at a ratio of between 40 to 60% (ground cover ratio). The solar farm will connect to the local distribution network at the existing substation located c.1.3km to the south of the application site off Ely Valley Road. The cable from the on-site substation will be underground and will largely run in the highway.

1.5.6 The exact alignment of the route is to be confirmed at the detailed design stage via separate authorisation from the Local Highway Authority.

1.5.7 The main traffic and transport related effects of the proposal will be associated with the movement of vehicles to and from the site during the construction and decommissioning of the on-site set up phase of the development, as opposed to when the development is operational. The anticipated construction programme is expected to take 6 months to complete.

1.5.8 The solar farm will then have a lifespan of 40 years, after which all equipment will be removed from the site and the land will continue to be used for agriculture and biodiversity.

1.5.9 As detailed above, the proposal site will be accessed via the recently improved left-in, left-out priority junction to the north of the A4119 Ely Valley Road. A gate is provided within the site. Alterations to the width of the access track and existing hedges either side of the access driveway e.g. trimming will be undertaken on-site if needed to accommodate the specific delivery HGVs.

1.5.10 Within the site internal service roads will be constructed to access all areas of the site. The roads will be approximately 4m wide and will be finished with compacted crushed stone.

1.5.11 The proposed development will have restricted public access. In designing the proposed development, emphasis will be placed on security. The design ensures the site is secure and not readily accessible to the public through the installation of deer fencing and infra-red CCTV. Access to the site will be through invitation only.

1.5.12 Full details of the proposals provided at Section 3.0. Rhondda Cynon Taf is both the Local Planning Authority and the Local Highway Authority.

1.6 Planning Policy Wales

1.6.1 This report section provides a brief overview of the Welsh planning policy context and objectives: -

Future Wales – the National Plan 2040

1.6.2 Future Wales – the National Plan 2040 is "*our national development framework, setting the direction for development in Wales to 2040. It is a development plan with a strategy for addressing key national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonisation and climate-resilience, developing strong ecosystems and improving the health and well-being of our communities".*

1.6.3 Policy 11 – National Connectivity sets out the following:

> *"The Welsh Government will support and invest in improving national connectivity. Our priorities are to encourage longer-distance trips to be made by public transport, while also making longer journeys possible by electric vehicles. The Welsh Government will work with Transport for Wales, local authorities, operators and partners to support the delivery of the following measures to improve national connectivity:*
>
> - *Rail Network – Transform the rail network and improve the quality of rail services for passengers.*
> - *Bus Network – Invest in the development of the national bus network, fully integrated with regional and local bus networks, to increase modal share of bus travel and improve access by bus to a wider range of trip destinations.*
> - *Strategic Road Network – Invest in road improvements to reduce journey times, deliver a safer and more resilient road network, and improve air and noise quality. Create a network of rapid-charging points to enable longer distance travel by electric vehicles throughout Wales.*
> - *National Cycle Network – Revitalise the National Cycle Network to create a network of traffic-free paths connecting cities, towns and countryside across Wales.*
>
> *Planning authorities should support developments associated with improvements to national connectivity and, where appropriate, maximise the opportunities that arise from them.*
>
> *Planning authorities must ensure that, where appropriate, new development contributes towards the improvement and development of the National Cycle Network and key links to and from it".*

1.6.4 Policy 12 – Regional Connectivity sets out the following:

> *"The Welsh Government will support and invest in improving regional connectivity. In urban areas, to support sustainable growth and regeneration, our priorities are improving and integrating active travel and public transport. In rural areas our priorities are supporting the uptake of ultra-low emission vehicles and diversifying and sustaining local bus services.*

The Welsh Government will work with Transport for Wales, local authorities, operators and partners to deliver the following measures to improve regional connectivity:

- *Active Travel – Prioritising walking and cycling for all local travel. We will support the implementation of the Active Travel Act to create comprehensive networks of local walking and cycling routes that connect places that people need to get to for everyday purposes.*
- *Bus – Improve the legislative framework for how local bus services are planned and delivered. We will invest in the development of integrated regional and local bus networks to increase modal share of bus travel and improve access by bus to a wider range of trip destinations.*
- *Metros – Develop the South East Metro, South West Metro and North Wales Metro. We will create new integrated transport systems that provide faster, more frequent and joined-up services using trains, buses and light rail.*
- *Ultra-Low Emission Vehicles – Support the roll-out of suitable fuelling infrastructure to facilitate the adoption of ultra-low emission vehicles, particularly in rural areas.*

Planning authorities must plan the growth and regeneration of the National and Regional Growth Areas to maximise opportunities arising from the investment in public transport, including identifying opportunities for higher density, mixed-use and car-free development around metro stations.

Active travel must be an essential and integral component of all new developments, large and small. Planning authorities must integrate site allocations, new development and infrastructure with active travel networks and, where appropriate, ensure new development contributes towards their expansion and improvement.

Planning authorities must act to reduce levels of car parking in urban areas, including supporting car-free developments in accessible locations and developments with car parking spaces that allow them to be converted to other uses over time. Where car parking is provided for new non-residential development, planning authorities should seek a minimum of 10% of car parking spaces to have electric vehicle charging points".

Planning Policy Wales, Edition 12, February 2024

1.6.5 Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with PPW provide the national planning policy for Wales.

1.6.6 The primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales, as required by the Planning (Wales) Act 2015, the Well-being of Future Generations (Wales) Act 2015 and other key legislation and resultant duties such as the Socio-economic Duty.

1.6.7 Chapter 4 of the PPW *Active and Social Plans* sets out at paragraph 4.1.8 that,

"The Welsh Government is committed to reducing reliance on the private car and supporting a modal shift to walking, cycling and public transport. Delivering this objective will make an important contribution to decarbonisation, improving air quality, increasing physical activity, improving the health of the nation and realising the goals of the Well-being of Future Generations Act."

1.6.8 Paragraph 4.1.53 states: -

"Local authorities will need to ensure that their parking standards reflect local transport provision, are adopted by individual authorities as supplementary planning guidance, and are kept under review. Parking standards should be applied flexibly and allow for the provision of lower levels of parking and the creation of high-quality places."

1.6.9 Paragraph 4.1.56 relates to the production of Transport Assessments: -

"Transport Assessments are an important mechanism for setting out the scale of anticipated impacts a Proposed Development, or redevelopment, is likely to have. They assist in helping to anticipate the impacts of development so that they can be understood and catered for appropriately.

Planning applications for developments, including changes of use, falling into the categories identified in TAN 18: Transport29 must be accompanied by a Transport Assessment. In addition, in areas where the transport network is particularly sensitive, planning authorities should consider requiring Transport Assessments for developments which fall outside of the thresholds set out in TAN 18.

Transport Assessments can be required for any Proposed Development if the planning authority considers that there is a justification or specific need. Transport Assessments provide the basis for negotiation on scheme details, including the level of parking, and measures to improve walking, cycling, and public transport access, as well as measures to limit or reduce levels of air and noise pollution. They should cover the transport impacts during the construction phase of the development, as well as when built and in use.

Transport Assessments also provide an important basis for the preparation of Travel Plans. Further guidance on Transport Assessments and Travel Plans is contained in TAN 18."

1.6.10 In relation to the Proposed Development Chapter 5 *Energy* sets out the following at paragraph 5.7.1: -

"The Welsh Government's highest priority is to reduce demand wherever possible and affordable. Low carbon electricity must become the main source of energy in Wales. Renewable electricity will be used to provide both heating and transport in addition to power. The future energy supply mix will depend on a range of established and emerging low carbon technologies, including biomethane and green hydrogen."

<u>Planning Policy Wales, Technical Advice Note (TAN) 18: Transport, March 2007</u>

1.6.11 TAN18 states the following in relation to traffic management at Paragraph 5.15 (this is relevant to the Construction Traffic Management Plan): -

"Well designed and implemented traffic management measures can help to secure planning objectives in a number of ways, including:

• reducing community severance, noise, local air pollution and traffic accidents;

• promoting safe walking, cycling and public transport;

• improving the attractiveness of urban areas by helping to avoid or manage congestion;

• controlling on street parking (including resident parking schemes) in areas of high parking demand;

• promoting safer road conditions leading to improved opportunity for children's safety and play; and

• promoting safer road conditions in rural areas and reducing the impact of roads on the environment whilst maintaining access for rural businesses."

Llwybr Newydd: The Wales Transport Strategy 2021

1.6.12 The Wales Transport Strategy 2021 sets out the vision and priorities for Wales Transport system over the next 20-year period.

1.6.13 The strategy sets out the following priorities:

- Bring services to people in order to reduce the need to travel.
- Allow people and goods to move easily from door to door by accessible, sustainable and efficient transport services and infrastructure.
- Encourage people to make the change to more sustainable transport.

Emerging Revised Local Development Plan (LDP) 2022 – 2037

1.6.14 Rhondda Cynon Taf County Borough Council are currently in the process of preparing a Revised Local Development Plan for the period 2022 – 2037. At the time of writing, the Rhondda Cynon Taf Local Development Plan (LDP) 2006 – 2021 remains the adopted plan.

Local Development Plan 2006 – 2021, March 2011

1.6.15 The Rhondda Cynon Taf County Borough Council was adopted on 2nd March 2011 and sets out the policies, objectives, vision and strategies for Rhondda Cynon Taf County Borough Council up to the period 2021.

1.6.16 Policy CS 8 - Transportation sets out the following:

"Improvements to the strategic transportation network in Rhondda Cynon Taf will be secured through a combination of the following: -

a) The safeguarding and provision of land for the improvement of the strategic highway network, including development of: -

1. The Gelli / Treorchy Relief Road;

2. The Ynysmaerdy to Talbot Green Relief Road;

3. The A4059 Aberdare Bypass Extension, and

4. A465 Abergavenny / Hirwaun Dualling.

b) The implementation of a strategic transport corridor management system in the following strategic corridor areas;

1. A4119 / A473 Corridor;

2. A470 / A4059 Corridor, and

3. A4059 / A465 Corridor.

Provision of additional improvements in the highway network, public transport improvements and walking and cycling provision will be sought in accordance with policies NSA 20 to NSA 23 and SSA 18 to SSA 21".

1.6.17 Policy AW 5 - New Development sets out the following:

"Development proposals will be supported where:-

1) Amenity

a) The scale, form and design of the development would have no unacceptable effect on the character and appearance of the site and the surrounding area;

b) Where appropriate, existing site features of built and natural environment value would be retained;

c) There would be no significant impact upon the amenities of neighbouring occupiers;

d) The development would be compatible with other uses in the locality; e) The development would include the use of multi-functional buildings where appropriate;

f) The development designs out the opportunity for crime and anti social behaviour.

2) Accessibility

a) The development would be accessible to the local and wider community by a range of sustainable modes of transport;

b) The site layout and mix of uses maximises opportunities to reduce dependence on cars;

c) The development would have safe access to the highway network and would not cause traffic congestion or exacerbate existing traffic congestion;

d) Car parking would be provided in accordance with the Council's Supplementary Planning Guidance on Delivering Design and Placemaking: Access, Circulation and Parking Requirements".

Adopted Local Parking Standards

1.6.18 The parking standards applicable to the Proposed Development are set out in the Rhondda Cynon Taf Local Development Plan Supplementary Planning Guidance: Delivering Design and Placemaking: Access, Circulation and Parking Requirement adopted in March 2011.

1.7 Pre-Application Advice

1.7.1 In April 2025, the Applicant submitted a request for a formal Scoping Opinion from Rhondda Cynon Taf council under Regulation 14 of the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017. The purpose of the request for a Scoping Opinion was to:

1.7.2 A Scoping Opinion is yet to be received from the LPA.

1.7.3 Previously the following highway advice was provided in relation to the Talgren Solar Farm reference 22/1414/FUL, located to the north west of the site.

> *"I would advise that the following comments were received from the Council's Highways and Transportation Section and should be considered:*
>
> *Any future planning application would have to be supported by a Transport Statement relating to the construction, operation and dismantling phases, as well as Condition Surveys of local roads affected by the construction phase, and a Traffic Management Plan."*

1.7.4 A further response was received from the Rhondda Cynon Taf Council highways department dated 22nd February 2022. It states the following: -

> *"Should a planning application be forthcoming the following information will be required: -*
>
> *1.0 Transport Statement relating to construction, operation and dismantling phase.*
>
> *2.0 The Highway Authority would require condition surveys (including photographs) of Local Roads affected by the construction phase. The survey shall be carried out in conjunction with the Council both before implementation of development and on practical completion, with provisions for assessment of compensation for extraordinary traffic use.*
>
> *3.0 The Highway Authority requires the developer to submit a Traffic Management Plan for approval prior to any works commencing on site."*

1.7.5 A Transport Statement was therefore been produced to satisfy the above request. A separate Construction Traffic Management Plan (CTMP) accompanied the TS. The same have been produced for the proposed solar farm.

1.7.6 The condition survey will be undertaken a later stage if needed, once the development is ready to be implemented.

1.8 Report Overview

1.8.1 The remainder of this report is divided into five further sections, which are as follows: -

Section 2.0 Site Transport Context

1.8.2 This section of the report provides details of the Site context, including its accessibility by all relevant transport modes, and a road safety review.

Section 3.0 Proposed Development

1.8.3 The various components of the development proposal, including the Site access arrangements and parking provision, are described within this section of the report.

Section 4.0 Traffic Assessment

1.8.4 This report section provides an assessment of the vehicular attraction of the proposed development and its traffic effects.

Section 5.0 Junction Capacity Assessment

1.8.5 The results of the traffic assessment have been used to inform junction capacity assessment, and the methodology and results are outlined in this section of the report.

Section 6.0 Summary and Conclusions

1.8.6 A summary and the conclusions of the report are provided in this section.

2.0 SITE TRANSPORT CONTEXT

2.1 Introduction

2.1.1 This section of the report considers the accessibility of the Site in terms of a range of transport modes.

2.1.2 As detailed above, the main traffic and transport related effects of the proposal will be associated with the movement of vehicles to and from the site during the construction and decommissioning of the on-site set up phase of the development, as opposed to when the development is operational.

2.1.3 The anticipated construction programme is expected to take 6 months to complete, details of which are provided in the CTMP.

2.1.4 The solar farm will then have a lifespan of 40 years, after which all equipment will be removed from the site and the land will continue to be used for agriculture and biodiversity.

2.1.5 During the operational phase, there will be no site-based staff and only the requirement for routine inspections/maintenance by car/van.

2.1.6 It is recognised that the site is located in a rural location with the proposal having a functional need to be located within the countryside. It is therefore expected that the majority of arrival/departure trips to the site will be undertaken by car, van or HGV.

2.1.7 It is envisaged that staff will be from both local and regional contractors who will use shared transport such as crew cab transit vans to access the site via A4119 Ely Valley Road.

2.1.8 Based on the above, access by foot, cycle and public transport have not been considered in large amounts of detail, but have been briefly reviewed below.

Walking and Cycling

2.1.9 In the vicinity of the Site, the A4119 Ely Valley is flanked on the southern side by a footway, however given the road is a dual-carriageway there is limited opportunity to cross, and therefore access the site from this footway.

2.1.10 Sterling Drive, Heol-Y-Sarn Road are also flanked by footways on at least one side of the road, connecting to the wider local pedestrian network.

2.1.11 National Cycle Route (NCR) EV1 runs to the south of the A4119 Ely Valley Road. An active travel connection via a bridge over the A4119 is provided at the Coedely roundabout to the northwest of the site. The National Cycle route can also be accessed from the Ynysmaerdy roundabout to the east of the site.

2.1.12 Based on the above, the site could be accessed via walk and cycle, ability uncommon for the nature of the development.

Public Transport

2.1.13 The nearest bus stops to the Site are located on the A4119 Ely Valley Road c500m east of the site access. The bus stops are served by frequent Stagecoach bus 122 and 124 services.

2.1.14 Bus 122 (Tonypandy – Cardiff) provides bus services up to twice an hour while Bus 124 (Cardiff – Maerdy) provides buses a service every hour.

2.1.15 Pontyclun train station is located c4.5km south of the Site. The station is served by frequent train to Cardiff Central twice an hour. The station also provides train service between Maesteg, Ebbw Vale Town, and Swansea every hour.

2.1.16 Other train services which call at the station include trains to Pembroke Dock and Carmarthen, albeit of limited frequency.

2.1.17 Based on the above, the site could be accessed by public transport, ability uncommon for the nature of the development.

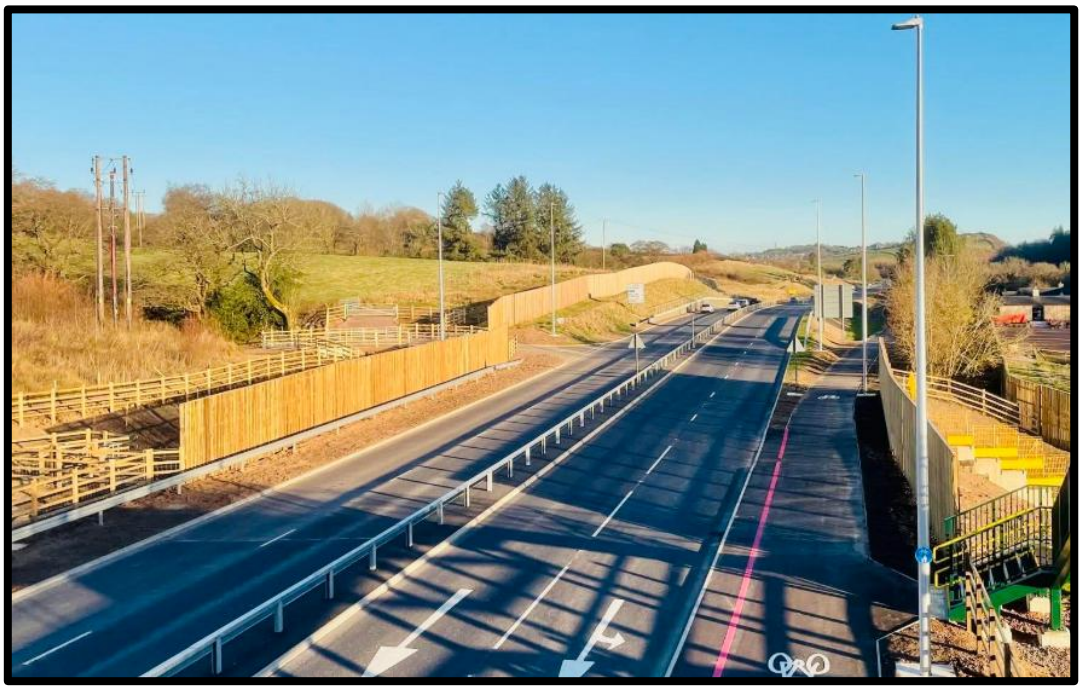
2.2 Vehicular Access

2.2.1 The proposed development will be served from the existing left-in, left-out priority junction to the north of the A4119 Ely Valley Road. As detailed above, this junction was upgraded as part of the recent dualling works on the A4119.

2.2.2 The access junction serves the existing Dyffryn farm and two other residential dwellings, it is therefore very lightly trafficked.

2.2.3 In the vicinity of the Site, the A4119 Ely Valley Road is a dual carriageway road, with a speed limit of 50mph in the vicinity of the Site. The A4119 is shown below.

Figure 2.1 – A4119 Ely Valley Road



2.2.4 The Department for Transport (DfT) estimates that the A4119 Ely Valley Road has an average daily traffic flow of 24,809 vehicles including c500 HGVs.

2.2.5 The A4119 Ely Valley Road leads northwest into Tonyrefail and further afield, to the southeast, the A4119 Ely Valley Road leads to the centre of Ynysmaerdy, the A4119 leads further southeast to Talbot Green, Mwyndy and the M4 junction 34.

2.2.6 Figure 1.1 shows the local highway context, demonstrating that the Site is readily accessible from the local and strategic road network.

2.2.7 Overall, the site has a prominent location in relation to the local road network from which it is accessible.

2.3 Road Safety Review

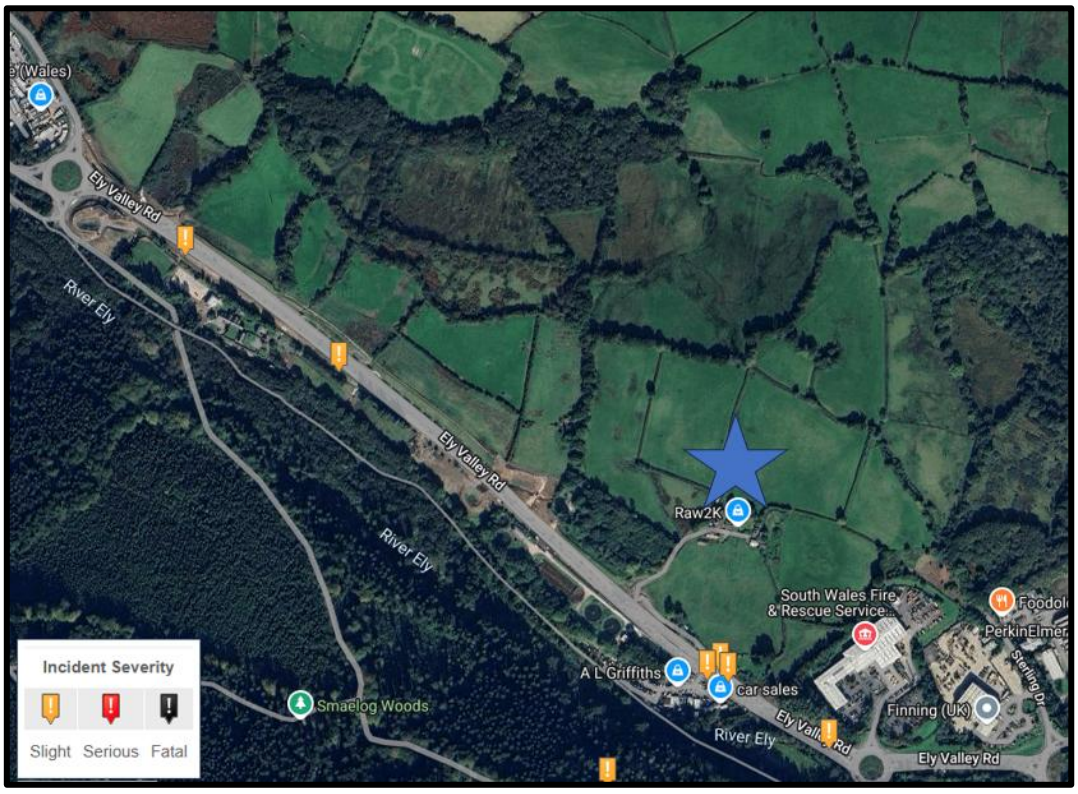
2.3.1 Publicly available official collision records include collisions which resulted in a personal injury and which were reported to the police. The data does not include details of damage-only collisions or those which were not reported to the police.

2.3.2 Personal-injury collisions are classified by the police as one of either 'Slight', 'Serious' or 'Fatal'.

2.3.3 Personal injury collision data has been obtained from Crashmap for the area local to the Site for the most recent five-year period between 2019-2023. The locations and levels of severity of the recorded collisions are shown at

2.3.4 Figure 2.2 below.

Figure 2.2 – Local Collision Map



Source: Crashmap. N.B. the proposal site is denoted by a blue star.

2.3.5 The collision data indicates that no collisions have occurred at the Site access.

2.3.6 The A4119 Ely Valley Road improvement scheme will also enhance the safety of the local road network and will have been subject to road safety audits.

2.3.7 The effect of the proposed development traffic is not likely to materially worsen the occurrence or materially affect the pattern of collisions in the vicinity of the site.

2.4 Section Conclusion

2.4.1 The Site is accessible by sustainable travel modes including access by foot, cycle, and frequent public transport services, albeit unlikely for this type of development.

2.4.2 The proposal site also has a prominent location relative to the local highway network, and the recent local collision records indicate that there is no existing road safety problem in the vicinity of the Site.

2.4.3 As detailed above, the main traffic and transport related effects of the proposal will be associated with the movement of vehicles to and from the site during the construction and decommissioning of the on-site set up phase of the development, as opposed to when the development is operational.

2.4.4 Overall, the site has a good level of accessibility by all relevant transport modes, thereby complying with national and local transport planning policy.

3.0 PROPOSED DEVELOPMENT

3.1 Introduction

3.1.1 This section of the report details the development proposals.

3.2 Development Proposals

3.2.1 The development proposals are shown on the plan provided at Appendix 1.

3.2.2 The proposal is to develop a solar farm across approximately 20.9 hectares of land at Dyffryn Farm, A4119 Ely Valley Road.

3.2.3 Ely Valley Solar Farm will have a generating capacity of up to 9.9MW renewable electricity, enough to power over 2,678 homes per year and offset nearly 2,850 tonnes of CO2 every year.

3.2.4 The panels will be arranged in rows in an east-west alignment across the development areas and orientated south. The scheme will be operational for 40 years after which all equipment can be removed from site.

3.2.5 The solar farm will connect to the local distribution network at the existing substation located c.1.3km to the south of the application site off Ely Valley Road. The cable from the on-site substation will be underground and will largely run in the highway.

3.2.6 The exact alignment of the route is to be confirmed at the detailed design stage via separate authorisation from the Local Highway Authority.

3.2.7 The proposal will comprise of the following as shown on the plan at Appendix 1: -

- Photovoltaic (PV) panels;
- Mounting frames – matt finished small section metal structure;
- Scheme of landscaping and biodiversity enhancement;
- Inverters and transformers and associated cabling (largely below ground);
- Distribution Network Operator (DNO) substation and customer cabins;
- Deer fencing, sympathetic to the area, and infra-red CCTV (CCTV cameras would operate using motion sensors and would be positioned inward only to ensure privacy to neighbouring land and property);
- Temporary set down area;
- Internal service roads; and
- Site access for the construction, operational and decommissioning phases.

3.2.8 Once operational, the solar farm deployment areas will be secured by a c. 2m high stock fence or similar. Infra-red (non-visible at night), inward facing pole mounted CCTV cameras (c. 2.5m – 3m in height) will also be provided at between 50m and 100m intervals along the boundary fence. These will enable remote surveillance of the site. Fencing and CCTV camera details are presented on Drawing WN1011/04/09. The CCTV cameras will be positioned to avoid views of any private property.

3.3 Proposed Site Access Arrangements

3.3.1 The proposed development (during construction and operational phases) will be accessed from the existing left-in, left-out priority junction to the north of the A4119 Ely Valley Road. As detailed above, this junction was upgraded as part of the recent dualling works on the A4119.

3.3.2 The access is 15m in width at the point it meets the A4119 Ely Valley Road, with an internal road width of 10m before it branches into two. Each branch is c5m in width. The junction has 6 to 7m kerb radii.

3.3.3 Based on the above widths, two large HGVs will be unable to pass at the access, but two cars / vans will be able to.

3.3.4 Within the site, the access track to Dyffryn farm and the proposed solar farm (left hand branch) is 2.6m in width at its narrowest point. This access is currently the farms only access and so by default a range of different vehicle use this route including farm machinery and delivery vehicles. This suggests the site will be accessible by articulated and rigid delivery vehicles.

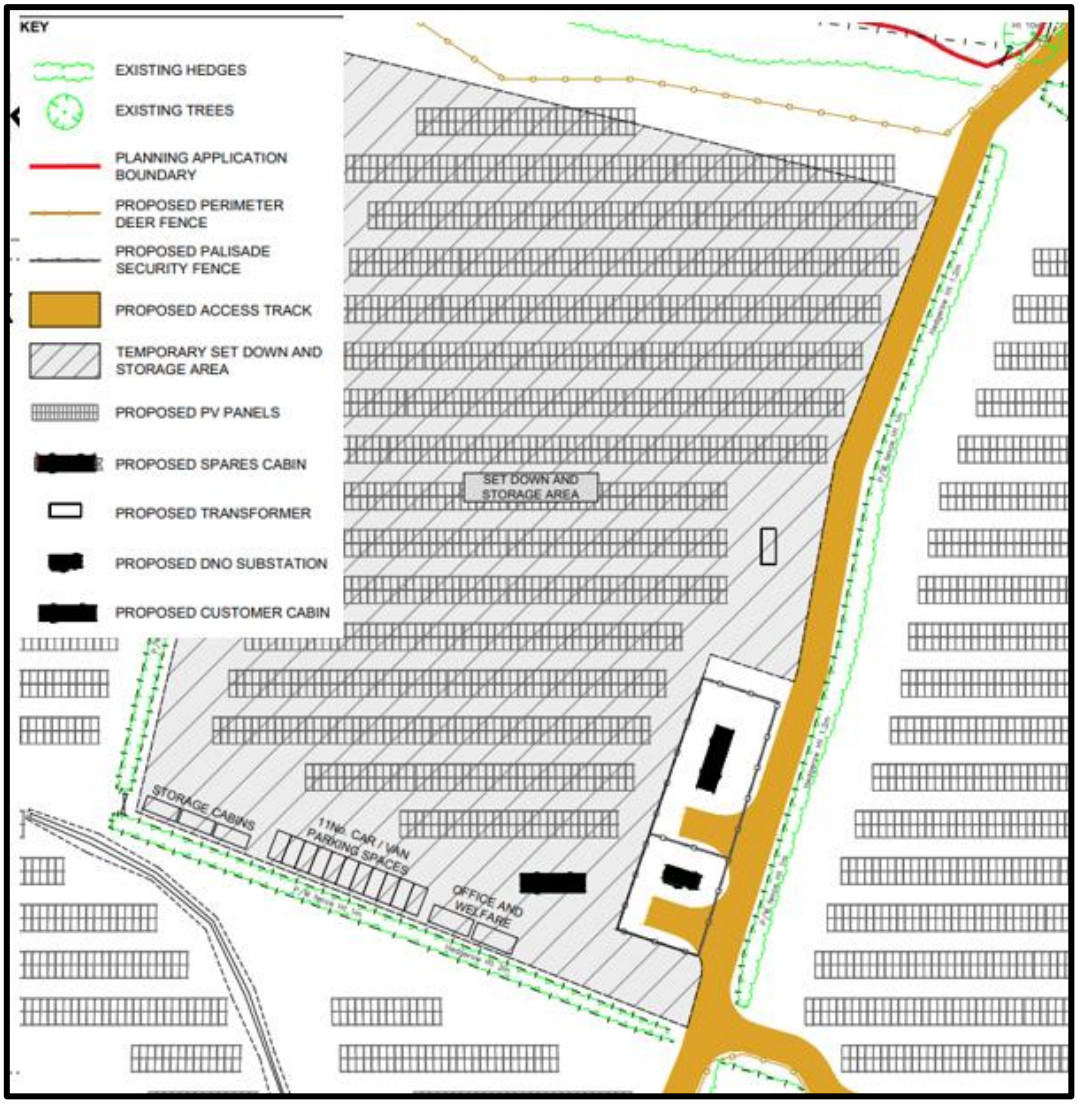
3.3.5 Hedge trimming and localised widening will be undertaken on the access track within the site if needed to provide HGV access for construction.

3.3.6 Within the solar farm site (to the north of the Dyffryn farm buildings), internal service roads will be constructed to access all areas of the site. The roads will be approximately 4m wide and will be finished with compacted crushed stone.

3.3.7 The internal service roads will provide access to the temporary set down area, office and welfare area, parking spaces and storage cabins, alongside the panels.

3.3.8 Drawing WN1011/04/12 identifies the location of the temporary set down area within the site. This will be accessed by construction vehicles from the south.

Figure 3.1 – Temporary Set Down Area



3.3.9 The proposed development will have restricted public access. In designing the proposed development, emphasis will be placed on security. The design ensures the site is secure and not readily accessible to the public through the installation of deer fencing and infra-red CCTV. Access to the site will be through invitation only.

3.3.10 Details of the proposed access arrangements during construction are presented in the CTMP. The CTMP will be subject to final approval by the LPA post-consent under the terms of an appropriately worded planning condition.

3.4 Servicing / HGV Access

3.4.1 Service vehicles / HGVs will access the proposed development via the existing access junction described above.

3.4.2 The proposed route for construction vehicles to access the site is to / from the M4 motorway via the A4119. All of this route is dual carriageway with the Coedely roundabout allowing vehicles to turn to access the left in, left out junction.

3.4.3 As the A4119 Ely Valley Road is dual carriageway the most critical part of the access route is the actual access and internal access drive-way.

3.4.4 Swept path analysis undertaken of the access, internal access drive, and proposed access to the temporary set down area based on a 12m rigid and 16.5m FTA articulated vehicle is provided at Appendix 2.

3.4.5 The tracking shows the access is wide enough for both vehicles to turn into the site from the A4119 Ely Valley Road. Beyond the gate at the access, the access drive reduces in width and based on the topographical survey the tracking of both vehicles is not contained within the surfaced area.

3.4.6 Localised widening and hedge trimming is proposed to allow HGV access along the c100m section of drive. Beyond this, the proposed service routes are 4m wide allowing for the articulated vehicle.

3.4.7 The above access route is too narrow for a car to pass an oncoming FTA articulated vehicle or for two HGVs to pass.

3.4.8 Due to width restrictions, construction traffic will be managed both in terms of vehicle sizes and traffic movements, with the access route operating as a one-way system. Full details of the proposed traffic management are provided within the CTMP.

3.5 Car and Cycle Parking

3.5.1 The Rhondda Cynon Taf Local Development Plan Supplementary Planning Guidance: Delivering Design and Placemaking: Access, Circulation and Parking Requirement adopted in March 2011 does not provide any specific parking standards for solar farm developments.

3.5.2 Adequate vehicle parking for staff (11 spaces) and delivery vehicles will be provided within the temporary construction compound at the development site. There will therefore be no parking on the local highway network.

3.6 Section Conclusion

3.6.1 Vehicle access to the proposed development will be provided via the existing access junction from the A4119 Ely Valley Road.

3.6.2 Swept path analysis has confirmed that a 16.5m FTA articulated vehicle can access the site, however internal alterations (localised widening and hedge trimming) will be undertaken if needed. Vehicles will be controlled so that vehicles do not arrive at the same time as they leave (a one-way operation).

3.6.3 Full details of the construction access arrangements are provided in the CTMP.

3.6.4 Adequate vehicle parking for staff and delivery vehicles will be provided within the development site.

4.0 TRAFFIC ASSESSMENT

4.1 Introduction

4.1.1 Details of the potential traffic flows that could arise from the proposed development will be considered within this section of the report.

4.1.2 As detailed above, the main traffic and transport related effects of the proposal will be associated with the movement of vehicles to and from the site during the construction and decommissioning of the on-site set up phase of the development, and end of life decommissioning, as opposed to when the development is operational.

4.2 Construction Phase Traffic

4.2.1 The construction of the solar farm is expected to take 6 months and is envisaged to start in 2028. During this period, there will be journeys associated with the arrival and departure of site staff and the delivery of equipment and construction materials.

Staff Trips – Directly to Site

4.2.2 During the construction period up to 50 staff will be on-site, depending on the phase of the development.

4.2.3 It is envisaged that staff will be from both local and regional contractors who will use shared transport such as crew cab transit vans to access the site via the access on the A4119 Ely Valley Road.

4.2.4 All vehicle parking will be provided within the temporary construction compound at the development site. There will therefore be no parking on the local highway network.

4.2.5 As part of the CTMP the contractor will aim to manage staff movements at the start / end of shifts to ensure that all vehicles are not released at the same time. This could involve releasing a small number of vehicles in five-minute intervals and asking drivers to arrive in five-minute intervals at the start of the day. It will also be assumed that most staff are likely arrive before the operating hours of the site (before 08:00) and depart after the sites close each day (after 18:00).

4.2.6 Based on the above, staff vehicle movements are likely to be small in number and occur outside of the typical 08:00-09:00 and 17:00-18:00 highway peak hours.

Construction Vehicle Movements

4.2.7 Deliveries to the site during the construction period will include a number of different materials and equipment. The majority are modular, with the exception of the transformers, substations and switchgear cabins which are delivered to site pre-assembled. If larger lifting equipment is required to unloaded-assembled items, then temporary modular crane towers can be constructed on site and delivered by suitably sized vehicles.

4.2.8 Based on the above, all materials will be able to be delivered using vehicles of a similar size to the FTA articulated HGV or smaller. No abnormally large loads will be expected.

4.2.9 During month one of construction, it is envisaged that 60 HGV's (a combination of 10m rigid HGVs and articulated HGVs) will deliver plant equipment and materials, security fencing, construction compound, solar panels and the solar panel frames to the site. This equates to around three vehicles per day.

4.2.10 During month two of construction, it is envisaged that 45 HGV's (again likely to be a combination of 10m rigid HGVs and articulated HGVs) will deliver further plant equipment and materials, the transformers and control equipment, cabling, more solar panels and the solar panel frames to the Site. This equates to two vehicles per day.

4.2.11 During month three of construction, it is envisaged that 30 HGV's (again likely to be a combination of 10m rigid HGVs and articulated HGVs) will deliver further plant equipment and materials, the transformers and control equipment and further solar panels to the site. This equates to just over one vehicle per day.

4.2.12 During month four of construction, it is envisaged that 25 HGV's (again likely to be a combination of 10m rigid HGVs and articulated HGVs) will deliver further plant equipment and materials, the transformers and control equipment and further solar panels to the site. This equates to one vehicle per day.

4.2.13 During month five of construction, it is envisaged that 5 HGV's (again likely to be a combination of 10m rigid HGVs and articulated HGVs) will again deliver plant equipment and materials and remove on-site facilities as well as collecting un-needed plant and equipment. This equates to less than one vehicle per day.

4.2.14 During the final month of construction, month six, it is envisaged that 10 HGV's (again likely to be a combination of 10m rigid HGVs and articulated HGVs) will again deliver plant equipment and materials and remove on-site facilities as well as collecting un-needed plant and equipment. This equates to less than one vehicle per day.

4.2.15 Based on the above, the construction phase will generate 175 deliveries / collections with month with month one having highest number of movements and month five the least. An overview of the deliveries / collections to site are detailed at Table 1 below.

Table 1 – Indicative Vehicle Deliveries during Construction Phase

Construction Activity (indicative delivery vehicle)	**Month**						
	1	**2**	**3**	**4**	**5**	**6**	**Total**
Delivery of plant, equipment and materials (both 16m artic and 10m rigid)	10	10	5	5	5	5	**40**
Erection of security fencing and construction compound (10m rigid)	10						**10**
Cabling on site (16m artic)		5					**5**
Delivery of transformer & control equipment (10m rigid)		5	5	5			**15**
Delivery of frames & support posts (16m artic)	10	10					**20**
Delivery of PV panels (16m artic)	30	15	20	15			**80**
Removal of plant and equipment (both 16m artic and 10m rigid)						5	**5**
Total	**60**	**45**	**30**	**25**	**5**	**10**	**175**

4.2.16 A breakdown of expected HGV movements on a typical day is provided below. It is based on the expected trip generation for month one, which is expected to have the highest number of movements.

4.2.17 Based on a 6-day working week during the construction phase (Monday-Saturday), there will be up to c25 working days per month.

4.2.18 Assuming that construction vehicles will arrive and depart between 08:00 and 18:00 on weekdays and 08:00 and 16:00 on Saturdays there is an 8/10 hour working day.

4.2.19 Based on the above, the predicted number of HGV trips to site is shown below: -

- 60 deliveries, 120 movements in month one.
- 25 working days in a month (Monday-Saturday) = Five movements per day (approximately).
- Eight-to-ten-hour day = One movement every two hours approximately.

4.3 Operational Phase Traffic

4.3.1 The solar farm will have a lifespan of 40 years.

4.3.2 During the operational phase, there will be no site-based staff and only the requirement for routine inspections/maintenance by car/van approximately once a month.

4.4 Decommissioning Phase

4.4.1 After 40 years all equipment will be removed from the site and the land will continue to be used for agriculture and biodiversity.

4.4.2 The traffic associated with this phase will be similar to that of the construction phase with the decommissioning phase also lasting 6 months.

4.5 Section Conclusions

4.5.1 Based on the above, even during the busiest time, the first month of construction there will be a negligible increase in traffic as a result of the solar farm.

4.5.2 The increase in HGV's (around five per day) will be managed via the CTMP.

4.5.3 During the operational phase the site will attract approximately one vehicle per month.

5.0 JUNCTION CAPACITY ASSESSMENT

5.1 Introduction

5.1.1 The assessment in Section 4.0 identifies that the net traffic effect of the proposed development is negligible.

5.1.2 Therefore, no detailed assessment of junction capacity of collision analysis has been undertaken.

5.1.3 As detailed above, Crashmap an online database of collision data shows that for the most recent five years of data 2019-2023, no collisions have occurred at the existing site access. The A4119 Ely Valley Road improvement scheme will enhance the safety of the road.

6.0 SUMMARY AND CONCLUSIONS

6.1 Summary

6.1.1 Connect Consultants Limited is a firm of transport planning and highway design consultants that have been instructed in relation to a proposed Solar Farm on land at Duffryn Farm, A4119 Ely Valley Road, Ynysmaerdy, Pontyclun.

6.1.2 The report is summarised as follows: -

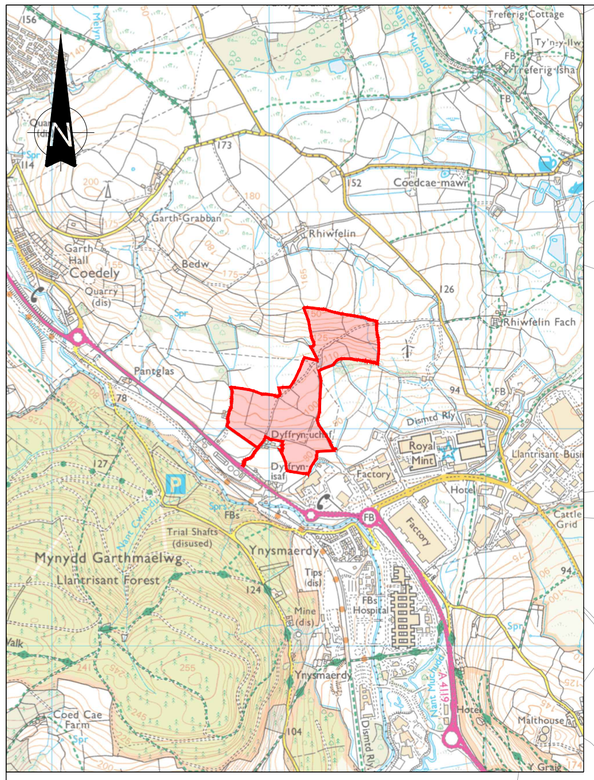
- This TS has been produced to accompany a planning application for the above solar farm to be submitted to Rhondda Cynon Taf Council. It is accompanied by a Construction Traffic Management Plan (CTMP).
- The proposal is to develop a solar farm across approximately 20.9 hectares of land at Duffryn Farm, to the north of the A4119 Ely Valley Road.
- The Site is accessible by sustainable mode including access by foot, cycle, and frequent public transport services.
- Given the site's rural location, which is a functional need for this type of development, it is expected that the majority of arrival / departure trips will be undertaken by car, van and HGV.
- The proposal site also has a prominent location relative to the local highway network, and the recent local collision records indicate that there is no existing road safety problem in the vicinity of the Site.
- Overall, the site has a good level of accessibility by all relevant transport modes.
- The main traffic and transport-related effects of the proposal will be associated with the movement of vehicles to and from the site during the construction and the end-of-life decommissioning, as opposed to when the development is operational.
- Swept path analysis shows that the access arrangements and layout of the proposed development are suitable for the largest vehicles that are expected to use the site as part of the CTMP. Widening of the existing internal access drive and hedge trimming either side of the access driveway will be undertaken on-site if needed.
- Full details of the proposed traffic management are provided in the CTMP.
- Adequate vehicle parking for staff and delivery vehicles will be provided within the development site.
- The traffic assessment included in this report is based on a realistic traffic impact scenario and demonstrates the development traffic effects will be negligible.
- There does not appear to be any particular pattern within the recent collision records, and the effect of the proposed development traffic is not likely to materially worsen the occurrence or materially affect the pattern of collisions in the vicinity of the Site access.

6.2 Conclusions

6.2.1 The proposal is shown to accord with the adopted national and local plan.

6.2.2 The results of this assessment highlight that the proposed development is acceptable from a transport perspective.

APPENDIX 1 – SITE LAYOUT



KEY

SITE BOUNDARY (205,298m²)

REV	DESCRIPTION	DATE	BY

CLIENT

Russel House, Mill Road, Langley Moor, Durham. DH7 8HJ. 0191 378 9972

JOB TITLE

DYFFRYN FARM

DRAWING TITLE

SITE LOCATION PLAN

DRAWN	DATE	APPROVED	DATE
S.T	24/4/2024	D.E	24/4/2024

SCALE	SHEET	DRAWING NUMBER	REVISION
1:2500 1:20000	A2L	WN1011/04/01	0

50.0 0.0 100.0 200.0 300.0 400.0 500.0 600.0

KEY

- PLANNING APPLICATION BOUNDARY
- PROPOSED PERIMETER DEER FENCE
- PROPOSED ACCESS TRACK
- PROPOSED PV PANELS
- SP — PROPOSED SPARES CABIN
- PROPOSED TRANSFORMER
- DNO — PROPOSED DNO SUBSTATION
- CUSTOMER CABIN — PROPOSED CUSTOMER CABIN

REV	DESCRIPTION	DATE	BY

CLIENT

siriUS Planning
4245 Park Approach, Thorpe Park, Leeds. LS15 8GB. 0113 264 9960

JOB TITLE

DYFFRYN FARM

DRAWING TITLE

SITE LAYOUT

DRAWN	DATE	APPROVED	DATE
S.T	24/4/2024	D.E	24/4/2024

SCALE	SHEET	DRAWING NUMBER	REVISION
1:2000	A2L	WN1011/04/04	0

0.0 50.0 100.0 150.0 200.0 250.0

KEY

- EXISTING HEDGES
- EXISTING TREES
- PLANNING APPLICATION BOUNDARY
- PROPOSED PERIMETER DEER FENCE
- PROPOSED PALISADE SECURITY FENCE
- PROPOSED ACCESS TRACK
- TEMPORARY SET DOWN AND STORAGE AREA
- PROPOSED PV PANELS
- PROPOSED SPARES CABIN
- PROPOSED TRANSFORMER
- PROPOSED DNO SUBSTATION
- PROPOSED CUSTOMER CABIN

REV	DESCRIPTION	DATE	BY

CLIENT

WINDEL SOLAR 8 LTD

siriUS Planning
4245 Park Approach, Thorpe Park, Leeds. LS15 8GB. 0113 264 9960

JOB TITLE

ELY VALLEY SOLAR FARM

DRAWING TITLE

TEMPORARY SITE SET DOWN AREA DETAILS

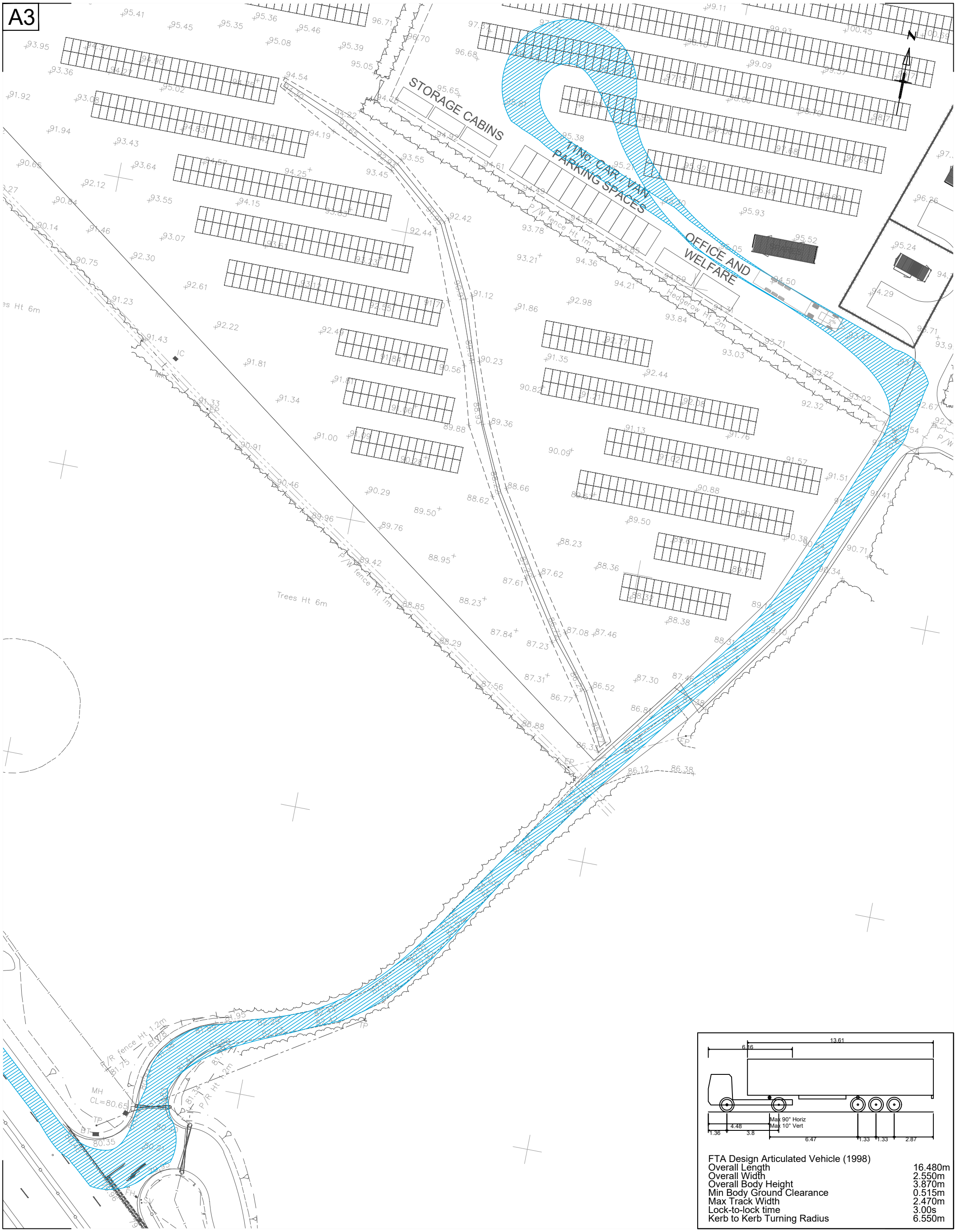
DRAWN	DATE	APPROVED	DATE
S.T	23/5/2025	J.C	23/5/2025

SCALE	SHEET	DRAWING NUMBER	REVISION
1:500	A1L	WN1011/04/12	0

SET DOWN AND STORAGE AREA
STORAGE CABINS
11No. CAR / VAN PARKING SPACES
OFFICE AND WELFARE
Water Treatment Works
Dyffryn-uchaf
Overgrown
Trees Ht 10m
Trees Ht 8m
Trees Ht 6m
P/W fence Ht 1m
Hedgerow Ht 2m
Hedgerow Ht 1.5m
Ht 10m
Ht 8m
Ht 6m
Ht 2m
10.0 0.0 10.0 20.0 30.0 40.0 50.0 60.0 70.0 80.0 90.0 100.0

APPENDIX 2 – SWEPT PATH ANALYSIS

A3



FTA Design Articulated Vehicle (1998)

Overall Length	16.480m
Overall Width	2.550m
Overall Body Height	3.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock-to-lock time	3.00s
Kerb to Kerb Turning Radius	6.550m

connect CONSULTANTS

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CHIPPING SODBURY, BRISTOL. BS37 6AG
Tel: 01454 320 220 Web: www.connect-consultants.com
Fax: 01454 320 099 Email: bristol@connect-consultants.com

QUALITY MANAGEMENT SYSTEM
ISO 9001 : 2015 FS 594947

client
SIRIUS PLANNING

project
PROPOSED DEVELOPMENT
PONTYCLUN, ELY VALLEY ROAD

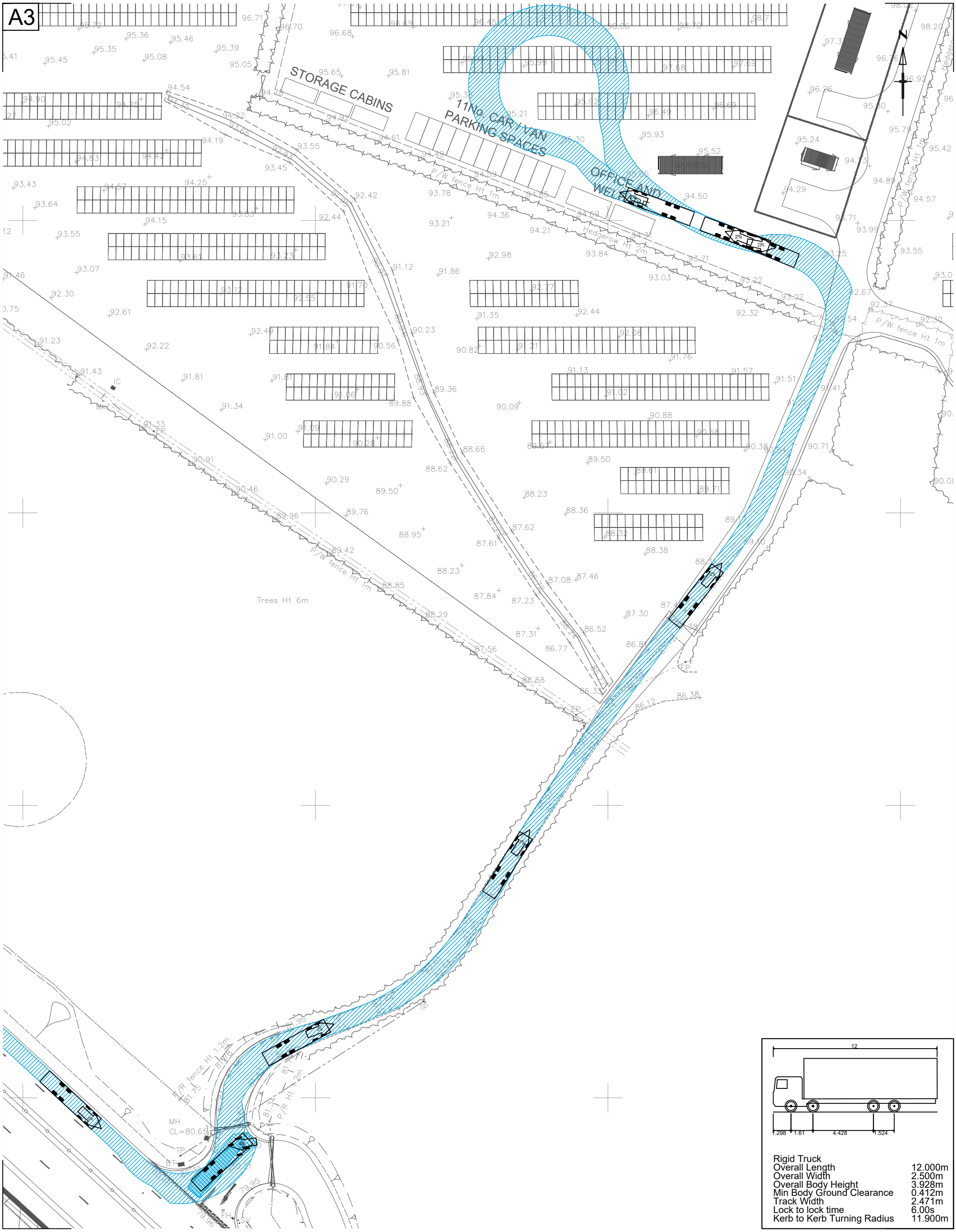
title
SWEPT PATH ANALYSIS
FTA DESIGN ARTICULATED VEHICLE

scale	date
1:500	MAY 2025
drawn by	checked by
T.A.S	R.H.L

drawing number
250571-TR001

status	rev.
PLANNING	

A3



Rigid Truck	
Overall Length	12.000m
Overall Width	2.500m
Overall Body Height	3.928m
Min Body Ground Clearance	0.412m
Track Width	2.471m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	11.900m

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QUALITY MANAGEMENT SYSTEM
ISO 9001 : 2015 FS 594947

client
SIRIUS PLANNING

project
PROPOSED DEVELOPMENT
PONTYCLUN, ELY VALLEY ROAD

title
SWEPT PATH ANALYSIS
12M RIGID VEHICLE

scale	date
1:500	MAY 2025
drawn by	checked by
T.A.S	R.H.L

drawing number
250571-TR002

status	rev.
PLANNING	