



Pennant Walters

Rhyswg Wind Farm

Appendix 12A - Abnormal Indivisible Load (AIL) Access Study

November 2025

Project No. 807379



Contents

1	Introduction	3
1.1	Context	3
1.2	Purpose of Report	3
1.3	Study Approach	3
1.4	Report Structure	3
1.5	Consultation	4
2	Site Context And AIL Vehicle Specifications	5
2.1	Site Context	5
2.2	AIL Transfer Vehicles Specifications	5
3	Legislative and Procedural Guidelines	7
3.1	Introduction	7
3.2	Special Types General Order (STGO)- Abnormal Indivisible Load Regulations	7
3.3	Welsh Government Procedure and Advice Guidance (PAG)	9
3.3.1	Special Orders	10
4	Route Identification	12
4.1	Introduction	12
4.2	Local Road Network	12
4.3	Strategic Road Network	13
5	Route Assessment	15
6	Further Consultation	16
7	Management Strategy	17
7.1	Route Enforcement	17
7.2	Timing of Movements	18
7.3	Escorts	18
7.4	Temporary Closures and Traffic Regulation Order	18
7.5	Notification	18
7.6	Lighting, Signing and Marking	18
7.7	Public Communication Strategy	19
8	Summary	20



Appendices

Appendix A Figures	21
Appendix B Route Survey Report	23

Tables

Table 2.1 – Component and Delivery Vehicle Arrangement Specifications and Gross Weights	6
Table 3.1 - Speed Restrictions	8
Table 3.2 - Abnormal load category by size/weight combination (Welsh Government, 2021)	9
Table 3.3 – Pre-journey notification requirements by abnormal load category (Welsh Government, 2021)	10

1 Introduction

1.1 Context

- 1.1.1 WSP has been commissioned by Pennant Walters Limited ('the Applicant') to undertake an Abnormal Indivisible Load (AIL) access study for the delivery of AILs associated with Rhyswg Wind Farm, also referred to as 'the Proposed Development'. The Proposed Development comprises of up to three wind turbines and associated infrastructure, including transformers and an onsite substation.
- 1.1.2 The Proposed Development site (the Site) is located on land at Rhyswg Farm, east of Abercarn, Wales. The location of the Site is shown in **Figure 1.1 (Appendix A)**.

1.2 Purpose of Report

- 1.2.1 The purpose of this AIL access study is to provide the Applicant with information concerning the practicalities of delivering AILs between an appropriate port capable of accommodating the delivery of wind turbine components and the Proposed Development site's access point.
- 1.2.2 A Route Survey Report (RSR) which includes a swept path analysis (SPA) of the pinch points along the route identified as the preferred route option has been included within this report in **Appendix B**.

In summary, this report provides information on the following items:

- Transfer vehicle and AIL specifications;
- Transfer routes considered within this assessment; and
- Next steps.

1.3 Study Approach

- 1.3.1 This Study has been informed by a RSR undertaken by Pell Frischman which identified a route from the Port of Swansea to the Proposed Development.
- 1.3.2 The route proposed by Pell Frischmann in the RSR has been reviewed and the pinch points identified by Pell Frischmann have been summarised, and any mitigation measures required to accommodate the AIL deliveries have been identified.
- 1.3.3 The Study also identifies Legislative and Procedural Guidelines, Management Strategy and Consultation requirements.

1.4 Report Structure

- 1.4.1 This AIL study is structured as follows:
- Chapter 2 Site Context and AIL Transfer Vehicles Specifications: provides the site location and context. It also identifies the proposed transport vehicle for the turbine blades;

- Chapter 3 Legislative and Procedural Guidelines: provides an overview of the relevant guidance and procedural documentation used to determine the category of AIL vehicle and respective requirements concerning notification procedures, speed limits and escorts;
- Chapter 4 Route Identification: provides an outline of the port of entry and identified route along the strategic, regional and local road network to the Proposed Development;
- Chapter 5 Route Appraisal: provides an overview of the assessment of the route, identifying pinch points, constraints and potential mitigation requirements;
- Chapter 6 Further Consultation;
- Chapter 7 Management Strategy: details the general measures that will be adhered to during the transfer of AILs; and
- Chapter 8 Summary: provides a summary of the route options identified.

1.4.2 All information presented within this study, including the AIL and vehicle specifications, is based on the best available information at this time and may be subject to change following the appointment of a haulage contractor.

1.4.3 Any intended changes will be forwarded to the relevant highway authorities for consideration.

1.5 Consultation

1.5.1 This AIL study has been prepared as an Appendix (**Appendix 12A**) to a Draft ES for Statutory consultation on the Proposed Development. The Statutory Consultation process will provide an opportunity for stakeholders, including relevant highway authorities, to provide comment on the scope and proposals contained within this AIL study. Any comments provided during the statutory consultation process will be considered, and where appropriate, be actioned within the next iteration of the document.

2 Site Context And AIL Vehicle Specifications

2.1 Site Context

- 2.1.1 The Site is located on elevated ground between Abercarn and Cwmcarn. The A467 routes north/south approximately 1km west of the Site and the A472 routes east/west approximately 2.75km north of the site. The A472 and A467 provide connections to the strategic road network at the A465 Heads of Valleys Road, the M4 and the A4042. The Site lies within the Caerphilly County Borough Council (CCBC) and Torfaen County Borough Council administrative areas.
- 2.1.2 It is currently assumed that access to the Site from the highway will be facilitated by mitigation measures within the scope of the Proposed Development and proposals within the adjacent Mynydd Maen Wind Farm (Reference: DNS/3276725) application.
- 2.1.3 As it is anticipated that Mynydd Maen would come forward before the Proposed Development, the Applicant would adopt responsibility for construction of an offline access track between Old Pant Road and an Unclassified Road. After rejoining the unclassified road, the Site would be accessed via the network of access tracks proposed as part of the Mynydd Maen development. The Applicant would then construct access tracks into the Proposed Development from the southernmost on-site access tracks for the Mynydd Maen Wind Farm.
- 2.1.4 Therefore, the access point from the highway and access tracks within the Mynydd Maen site provide a viable route to the Site. **Figure 1.3** shows the layouts of each development and outlines the responsibility of each developer for access track construction.

Further details regarding site access are provided within the Outline CTMP (**Appendix 12B**).

2.2 AIL TRANSFER VEHICLES SPECIFICATIONS

- 2.2.1 The type of transfer vehicles considered within the swept path assessments presented in the supporting RSR (**Appendix B**) are for a Superwing Carrier trailer for the transport of a 74.303m blade and a clamp adapter style trailer for the transportation of tower section components. The vehicle configurations used to transfer Wind Turbine Generator components will ultimately be decided by the appointed haulier, however, the configurations presented in **Table 2.1** are considered to be a robust representation for this assessment and will allow Welsh Government Highways to screen the route during the statutory consultation process.

Table 2.1 – Component and Delivery Vehicle Arrangement Specifications and Gross Weights

Component	Length (m)	Width (m)	Height/min. Diameter (m)	Gross Weight (te)
V150 Blade	78.67	4.4	4.3	69.85
Base Tower	37.088	4.15	4.8	114.3
Mid Tower 1	41.3	4.15	4.8	115.3
Mid Tower 2	45.2	4.15	4.8	115.3
Mid Tower 3	51.938	4.15	4.8	110.3
Top Tower	52.1	4.15	4.8	92.3
Drive Train	25.92	2.7	4.4	143.2
Nacelle	21.27	4.004	4.332	108.57

3 Legislative and Procedural Guidelines

3.1 Introduction

- 3.1.1 An abnormal indivisible load is a type of load that cannot be divided into two or more loads for transportation by road. The vehicle and its load are classed as an abnormal load when it has:
- a weight of more than 44,000kg;
 - an axle load of more than 10,000kg for a single non-driving axle and 11,500kg for a single driving axle;
 - a width of more than 2.9 metres; and
 - a rigid length of more than 18.65 metres.
- 3.1.2 The Road Vehicles (Construction & Use) Regulations 1986 (C&U)¹ describes the different types and classification of permitted vehicles for use on the road, for example motor cars, motorbikes, buses, lorries, mobile cranes and tracked vehicles. It also states the maximum dimensions for each type of vehicle, its gross weight, number of axles, braking system, type of tyres, maximum speed, exhaust system and mirrors.
- 3.1.3 The Road Vehicles (Authorised Weight) Regulations 1998² (AW) details the imposed maximum weight (gross and per axle) of different types of vehicles relating to the number of axles within each category of vehicle.
- 3.1.4 Vehicles which are not conforming to the Regulations specified above are subject to those outlined within Road Vehicles (Authorisation of Special Types) (General) Order 2003 (STGO). It specifies when the Police, Roads Authority or Secretary of State is to be notified of an intended vehicle movement and the number of days' notice required before the movement takes place.

3.2 Special Types General Order (STGO)- Abnormal Indivisible Load Regulations

- 3.2.1 An AIL transport vehicle which does not comply with the Road Vehicles (Authorisation of Special Types) (General) Order 2003 (STGO)³ would require a special order issued by:
- South Wales Trunk Road Agent or National Highways on abnormal loads not covered by C&U and STGO; or
 - the Vehicle Certification Agency (VCA) on special vehicles and divisible loads outside the scope of C&U and STGO.

¹ The Secretary of State for Transport. (1986). The Road Vehicles (Construction & Use) Regulations. (online). Available at: <https://www.legislation.gov.uk/ukSI/1986/1078/contents/made>. (Accessed October 2025).

² The Secretary of State for Transport. (1998). The Road Vehicles (Authorised Weight) Regulations 1998. (online). Available at <https://www.legislation.gov.uk/ukSI/1998/3111/contents/made>. (Accessed October 2025).

³ The Secretary of State for Transport. (2003). The Road Vehicles (Authorisation of Special Types). (online) Available at: <https://www.legislation.gov.uk/ukSI/2003/1998/contents/made>. (Accessed October 2025).

3.2.2 In addition to the above, hauliers are generally advised to inform statutory authorities if total vehicle heights are likely to exceed 5.0m (although it should be noted that there is no legal height restriction in the UK).

3.2.3 STGO vehicles are further categorised into three weight categories, as follows:

- Category 1 - Maximum Gross Weight: 50,000 kg, C&U Regulation axle limit (46,000 kg if the combination has less than 6 axles and does not comply in all other respects with the Authorised Weight Regulations);
- Category 2 - Maximum Gross Weight: 80,000 kg, 12,500 kg axle limit; and
- Category 3 - Maximum Gross Weight: 150,000 kg, 16,000 kg axle limit.
- For all categories, the following advice is provided with regards to width:
 - A vehicle, locomotive or trailer may be up to 3.0m wide and subject to certain qualifications. This limit may be exceeded if it is necessary for the safe carriage of the load;
 - Loads wider than 5m can only be conveyed if authorised by special order (the VR1 procedure under STGO). The VR1 must be carried on the vehicle and at least 10 days notification is required prior to the movement date; and
 - The load cannot exceed 6.1m width under STGO Regulations.
- For all categories, the following advice is provided with regards to length:
 - The overall length of the vehicle(s) and load may be up to 30m, or greater if authorised by special order from the Secretary of State (SOS). In any combination of vehicles on which a load rests, including any articulated vehicle, the 30m does not include the length of the drawing vehicle; and
 - An articulated vehicle or trailer, which is abnormal only in respect of length for carrying indivisible loads of exceptional length, can operate under normal C&U Regulations.

3.2.4 With regards to speeds, those that apply to each of the weight categories are set out in **Table 3.1**.

Table 3.1 Speed Restrictions

	Motorways	Dual Carriageway	Other
Category 1	60mph	50mph	40mph
Category 2	40mph	35mph	35mph
Category 3	40mph	35mph	35mph

It should be noted that although the speeds referenced above are the legal limits, the actual achievable speed of the vehicle configuration may be lower.

3.3 Welsh Government Procedure and Advice Guidance (PAG)

- 3.3.1 The Welsh Government Procedure and Advice Guidance (PAG) ⁴ – ‘Pulling Together’ Best Practice for Transporting Abnormal Loads in Wales, defines the statutory process for planning and organising safe and effective abnormal load movements in agreement with all relevant authorities and organisations. **Table 3.2** and **Table 3.3** provide the abnormal load legal categorisation and the actions required depending on the vehicle and load width, length and weight.
- 3.3.2 **Table 3.2** and **Table 3.3** shows that the proposed ALL deliveries will require a Special Order based on the specifications presented in **Table 2.1**. Deliveries will need to comply with pre-journey notification requirements.

Table 3.2 - Abnormal load category by size/weight combination (Welsh Government, 2021)

Gross weight	Axle weight	Load Dimensions				
		W ≤2.9m L ≤18.65m	W >2.9m L >18.65m	W >4.3m L >27.4m	W >5m L >27.4m	W >6.1m L >30m
≤44,000kg	≤11,500kg	C&U	C&U	STGO Category 1	STGO Category 1	Special Order
>44,000kg	≤11,500kg	STGO Category 1	STGO Category 1	STGO Category 1	STGO Category 1	Special Order
>50,000kg	>11,500	STGO Category 2	STGO Category 2	STGO Category 2	STGO Category 2	Special Order
>80,000kg	>12,500	STGO Category 3	STGO Category 3	STGO Category 3	STGO Category 3	Special Order
>150,000kg	>16,500kg	Special Order	Special Order	Special Order	Special Order	Special Order

Key: = Abnormal load legislation

⁴ Welsh Government (2020). Pulling together Best Practice for Transporting Abnormal Loads in Wales. (online) Available at: <https://www.gov.wales/sites/default/files/publications/2022-01/rhoscrowther-wind-farm-rep003-welsh-government-transport-attachment-20-12-2021.pdf> . (Accessed October 2025).

Table 3.3 – Pre-journey notification requirements by abnormal load category (Welsh Government, 2021)

Gross weight	Axle weight	Load Dimensions				
		W ≤2.9m L ≤18.65m	W >2.9m L >18.65m	W >4.3m L >27.4m	W >5m L >27.4m	W >6.1m L >30m
≤44,000kg	≤11,500kg	N/A	Police – 2d			Special Order
>44,000kg	≤11,500kg	HA&BO – 2d	Police – 2d HA&BO – 2d		Police – 2d HA&BO – 2d NH – 2w	
>50,000kg	>11,500		Police – 2d HA&BO – 2d		Police – 2d HA&BO – 5d NH – 2w	
>80,000kg	>12,500	Police – 2d HA&BO – 5d			Police – 2d HA&BO – 5d NH – 2w	
>150,000kg	>16,500kg	Police – 5d HA&BO – 5d NH – 10w				

Key: = Abnormal Load legislation = VR1 form notice = C&U
 = STGO C1 = STGO C2 = STGO C3 = Special Order
 HA&BO = Highway Authority and other Bridge Owners NH = National Highways

Special Orders

3.3.3 To apply for a Vehicle Special Order (VSO), the following information will need to be supplied to the Department for Transport (DfT):

- Name and address of person/organisation making the application;
- Details of persons/organisations who will be using the vehicles, if different from the previous;
- The number of vehicles involved;
- Type of vehicles involved, their make, model, registration, and/or chassis (serial) numbers of motor vehicles or trailers. These will be listed on any order issued;
- Details of the vehicles e.g. number of axles, individual axle weights, and gross vehicle weights (both in kg), plus dimensions (in m);
- In the case of vehicle combinations, overall weights (in kg) and dimensions (in m); and
- Details of the C&U Regulations with which the vehicles do not comply and the reasons why they cannot comply: The Regulations are specified on the VSO, and it should be made clear that failure to comply with non-specified Regulations or supplying incorrect data would invalidate the VSO.



3.3.4 On receipt of the application, the Vehicle Certification Agency (VCA) will evaluate the application and contact the applicant should further information be required. Various organisations including the Police, Local Authorities and other interested parties, both within and outside of the DfT may be consulted; especially in respect of the conditions to be imposed. Following receipt of all information, and assuming that there are no technical reasons or objections from any of the parties consulted, the VSO will be prepared and dispatched by email within 10 working days.

3.3.5 VSOs are issued for varying periods of time at the discretion of the DfT. Typically, they are issued for a period of up to five years.

The following sets out the speed limits of VSO loads:

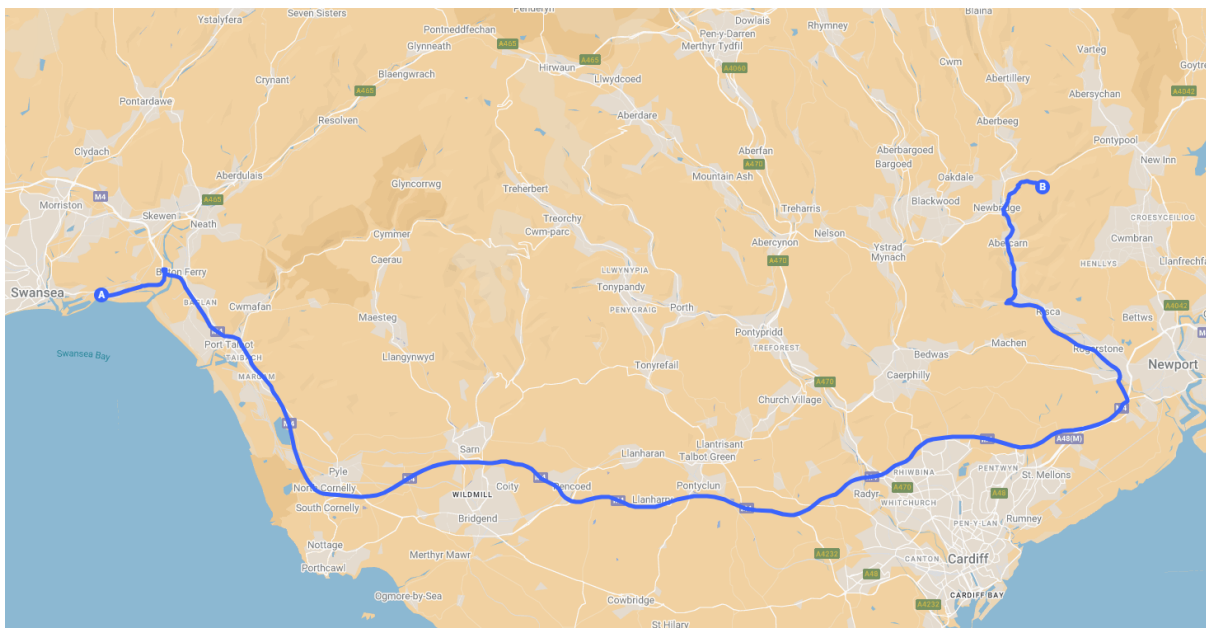
- Articulated vehicles weighing between 150 and 250 tonnes: 25mph;
- Draw-bar Trailer vehicles weighing between 150 and 250 tonnes: 20mph; and
- Girder frame trailers: 12mph.

4 Route Identification

4.1 Introduction

- 4.1.1 The route from the Port of Swansea to site has been identified by Pell Frischmann within the RSR (**Appendix B**). During consultation on other recent Wind Farm projects within South Wales it has become apparent that routes towards an alternative port at Avonmouth near Bristol are not feasible due to weight limits temporarily imposed on structures on the M4 east of junction 28, namely at St Julians viaduct and Ebbw River bridge.
- 4.1.2 The Port of Swansea is connected to the Strategic Road Network at the M4. Abnormal load vehicles would route from the Port of Swansea via the A483, M4, A467, Central Avenue, Old Pant Road and an Unclassified Road to reach the Site. The proposed route is approximately 83km in length.
- 4.1.3 **Plate 4.1** illustrates the AIL delivery route for the Proposed Development that has been identified within the RSR (**Appendix B**).

Plate 4.1 – AIL Delivery Route



Source: Abnormal Indivisible Load Route Survey Report, 2025 – Appendix B

4.2 Local Road Network

Unclassified Road

- 4.2.1 The Unclassified Road included within the scope of this assessment includes a section of highway between Old Pant Road and the proposed access provided for the Mynydd Maen Wind Farm site,

anticipated to be used for access to the Site (as described in **Section 2.1** above). The road is subject to the National Speed limit and is rural in nature. The carriageway width is typically 3m wide and constraints including hedgerow and dry-stone walling are located in proximity to the edge of the carriageway at various sections of the road. A cattle grid is located adjacent to an agricultural property.

Old Pant Road

- 4.2.2 Old Pant is a single carriageway road which is approximately 6m in width. The road routes between an Unclassified Road and Central Avenue in a northeast/southwest alignment. Between the site access and residential properties at Panside, the road is subject to the National Speed Limit. Where Old Pant Road passes through residential areas through Panside to Central Avenue the road is subject to a 20-mph speed limit.
- 4.2.3 Throughout the residential section of Old Pant Road streetlighting is provided and footways are located on both sides of the carriageway. Residential properties and driveways front onto the road and bus stops are located intermittently along the road. A short section of Old Pant Road routes along the eastern boundary of Panside Primary School. This section is subject to traffic calming measures which are provided within the carriageway including speed humps and a buildout with priority control of traffic.

Central Avenue

- 4.2.4 Central Avenue is a single carriageway road approximately 6m wide, subject to a 20mph speed limit and approximately 620m long in a south to north alignment from A467/Central Avenue junction to Central Avenue/ Old Pant Road roundabout. There is streetlighting and footways on both sides of the road. For the majority of its route, Central Avenue is fronted by residential properties on either side of the road accessed through dropped kerb driveways and private accesses. There are buildouts at sections along the road and on street-parking provisions. There are two southbound bus stops provided approximately 70 meters and 265m from A467 Pant Road/ Central Avenue junction.

A467

- 4.2.5 Within the scope of assessment, the A467 routes in a north/south alignment between Junction 28 of the M4 and the A467/A4046/B4471 junction at Aberbeeg. The road is a dual carriageway between Junction 28 of the M4 and the A467/B4251 junction at Crosskeys and is a single carriageway for the remaining route through Abercarn, Newbridge and Crumlin to Aberbeeg. The road is subject to various speed limits along its route but is predominantly subject to the National speed limit along the dual carriageway section. The speed limit on the single carriageway section is reduced to 20mph within Newbridge. Footways are provided intermittently along the A467, predominantly at locations with settlements.

4.3 Strategic Road Network

- 4.2.6 The Strategic Road Network (SRN) comprises the routes of national strategic importance (motorways and trunk roads).



4.2.7 The A4042 and M4 are the strategic roads in the vicinity of the Site, and within Wales are maintained by the South Wales Trunk Road Agency. The M4 is a long-distance route between Swansea and London. The A4042 provides a north-south connection between Newport and the A465 Heads of Valleys Road.

5 Route Assessment

- 5.5.1 The proposed delivery route between the Port of Swansea and the Site identified within the supporting RSR has been screened for constraints or “pinch points”.
- 5.5.2 A ‘pinch point’ is defined as a location where constraints relating to each of the design characteristics referenced below are likely to prevent or significantly impede abnormal load access:
- Horizontal road alignment;
 - Vertical road alignment; and
 - Weight/height restrictions.
- 5.5.3 **Section 3.3 Route Constraints** within the supporting RSR presents potential issue locations or Points of Interest (POI) which have been identified by Pell Frischmann during a route screening exercise. A number of locations have been assessed in further detail by means of a swept path assessment using blade and tower section vehicle models. The swept path assessments are presented within Appendix B of the RSR (**Appendix B**) and present the vehicle track through the pinch point and any necessary mitigation measures.
- 5.5.4 Predominantly, the mitigation identified within the RSR (**Table 3.1**) and the swept path assessments include the removal of street furniture, the clearance of hedgerow and the provision of hardstanding where it is envisaged that the delivery vehicle will overrun outside the carriageway. Other measures proposed include Temporary Traffic Management Orders to prevent on street parking on the delivery route during a scheduled delivery and contraflowing the delivery vehicle through a pinch point to avoid excessive mitigation.
- 5.5.5 Third party land requirements identified at POI 27 and POI 28 within **Table 3.1** of the RSR, are locations which form part of mitigation proposals to provide an offline access track for Abnormal Load vehicles. The offline access track is required to provide a route for Abnormal Load Vehicles which bypasses constraints on an Unclassified Road - from which access to the Mynydd Maen site will be taken to route into the Proposed Development. The offline access track leaves the highway on Old Pant Road southwest the Old Pant Road/Unclassified Road junction and rejoins the highway on the Unclassified Road west of the Mynydd Maen Site Access.

6 Further Consultation

- 6.1.1 After the Statutory consultation and application process is complete, further consultation with highways authorities which are affected by the proposed Abnormal Load route is expected. This consultation would be planned to take place before a trial run is arranged.
- 6.1.2 The trial run will confirm any improvements identified within the Swept Path Assessment of the identified route.
- 6.1.3 A Section 278 Agreement of the Highways Act 1980 will be secured between the relevant local highways authorities and the developer to cover the associated highway works needed to facilitate the delivery of the abnormal loads. The appropriate officer at the relevant highway's authority will be contacted in due course.

7 Management Strategy

- 7.1.1 It is essential that the movements are thoughtfully planned and undertaken to ensure they progress safely on the highway.
- 7.1.2 Those responsible for transporting abnormal loads by road are required by law to plan and execute each movement in agreement with relevant authorities to ensure the incident-free passage of every load from origin to destination.
- 7.1.3 The Welsh Government Procedure and Advice Guidance (PAG) document which aims to summarise the legal process which must be followed in the planning and execution of all abnormal load movements of trunk roads within Wales and to clarify the roles and responsibilities of the various parties involved.
- 7.1.4 There is no legal height limit for vehicles but, wherever possible, the overall height of a vehicle and a load should not exceed 4.95m so that the maximum use can be made of the motorway and trunk road network. This will ensure that loads are less than 5.03m in height, which is the minimum maintained headroom requirement on highways in the UK. In addition to the mitigation measures on the routes, the following will be undertaken prior to transporting the abnormal load:
- Notify South Wales Trunk Road Agent;
 - Advance warning to the police (Gwent Police, South Wales Police, Dyfed Powys Police);and
 - Advance warning to relevant structures teams within Local Authorities and any other Stakeholders impacted.
- 7.1.5 A Construction Traffic Management Plan (CTMP) has been prepared separately covering the construction of the proposed development, **Appendix 12B**. This CTMP is a working document which sets out the principles by which traffic travelling to the Site should be managed, but it will require final confirmation of its suitability following the appointment of the Principal Contractor and relevant suppliers. The CTMP will be reviewed and updated as when necessary to incorporate any comments and additional mitigation measures which may be required to address comments received from key stakeholders in the future.
- 7.1.6 The following sets out the general traffic management strategy that would be employed by the contractor.

7.2 Route Enforcement

- 7.2.1 The routes identified in this document will be strictly enforced unless further notification is given. All main and sub-contracting companies involved in the project will be monitored to ensure they follow the correct routes. The routes will be clearly defined in all sub-contractors and clearly signposted for all drivers to see. Any contractor not adhering to the relevant route guidance will be disciplined. Onsite monitoring and spot checks will assist this.

7.3 Timing of Movements

- 7.3.1 Deliverables shall only take place during the hours agreed with the Police and the relevant Highways Authority. Deliveries would be timed to avoid the morning or afternoon school run periods or other predictable peak traffic periods. Deliveries are expected to take place during weekdays, however, if deliveries are required at weekends approval in principle should be sought from the relevant Roads Authority and the Police.

7.4 Escorts

- 7.4.1 Where applicable, abnormal loads shall all be escorted in accordance with the relevant highway authorities. The escorting will be undertaken by the haulage contractor. Where it has been identified that traffic will need to be temporarily stopped, then a Police escort will be required. Convoys would typically comprise no more than two abnormal vehicles and shall be escorted by Police and/or haulier escort vehicles, as appropriate.

7.5 Temporary Closures and Traffic Regulation Order

- 7.5.1 At the discretion of the haulage contractor, temporary road closures may be required in order to deliver some of the larger abnormal loads. The haulage contractor will liaise with the local community, businesses and key services to ensure they are fully informed in advance should a road closure scheme be required.
- 7.5.2 Any required Temporary Traffic Regulation Orders (TTRO) will be obtained prior to the transport of the abnormal loads.

7.6 Notification

- 7.6.1 All key stakeholders, which include the Local and Strategic Highways Authorities, would be notified prior to the movement of any abnormal loads. The appointed haulage contractor will be responsible for notifying the relevant stakeholders.
- 7.6.2 After the confirmation of haulier appointment and other related information, pre-notifications and consultations where possible will be undertaken.
- 7.6.3 Notifications will be made using the Electronic Service Delivery for Abnormal Loads (ESDAL).
- 7.6.4 VR1 and Special-order movements will take place when an explicit written approval is received as required by legislation.

7.7 Lighting, Signing and Marking

- 7.7.1 Lighting, signing, and marking will be in accordance with:
- Code of Practice Lighting and Marking for Special Order, VR1, STGO and C&U loads.
 - Using abnormally large or heavy vehicles on the road.



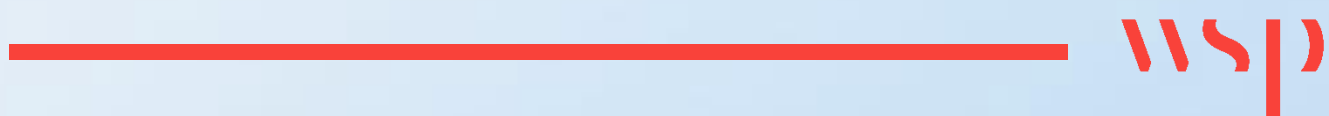
7.8 Public Communication Strategy

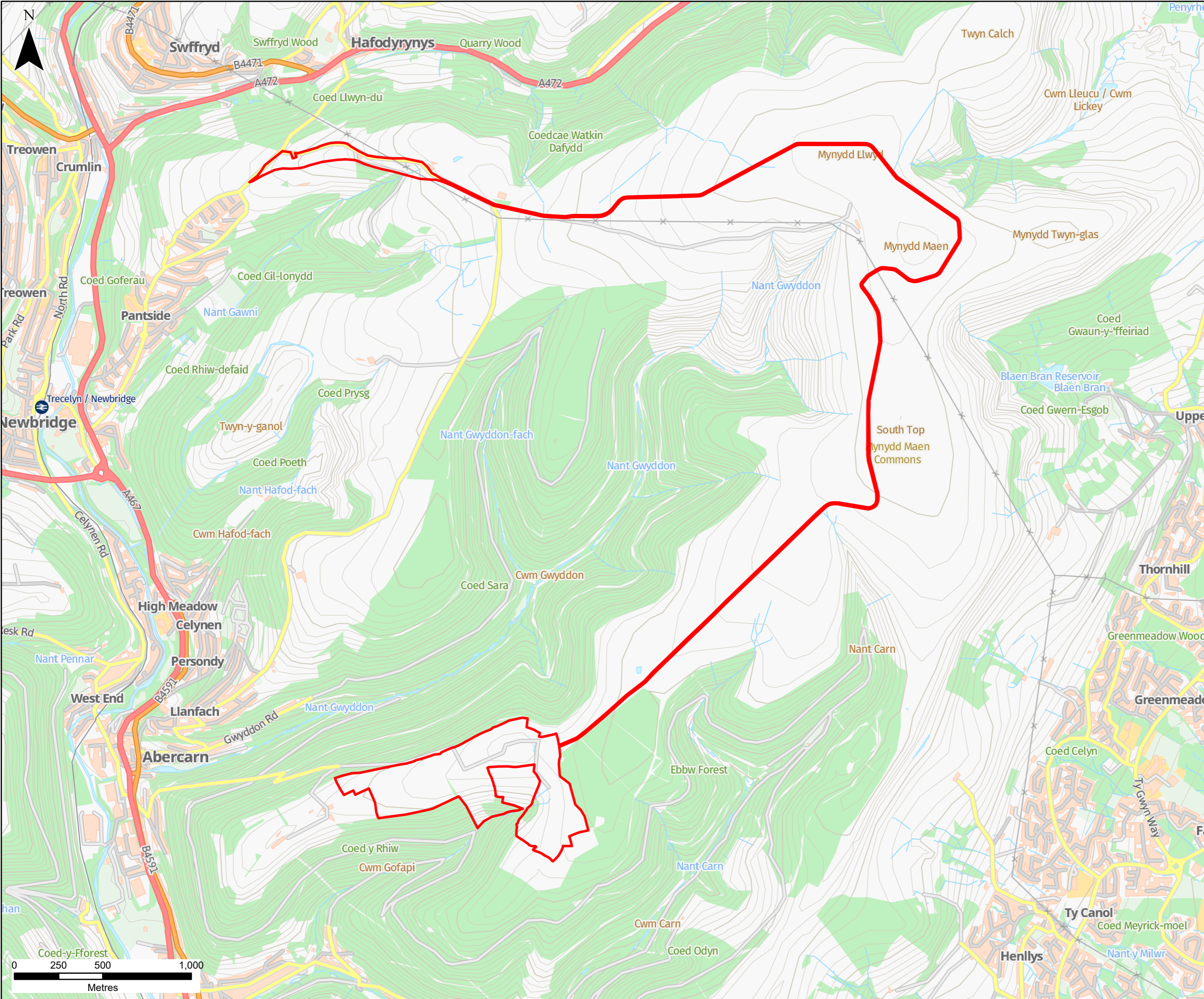
- 7.8.1 The delivery of abnormal loads is likely to cause some delay to local road users and, in some cases, restrict access along certain routes. To ensure residents, local business and key services are made aware of such restrictions, the principal contractor will implement a comprehensive communications strategy, which could include, but is not limited to: letter drops, radio spots, notices within local papers, temporary road signage, website updates on a project website and other social media outlets.

8 Summary

- 8.1.1 This AIL study has presented a proposed Abnormal Indivisible Load delivery route between the Port of Swansea and the Site. The route has been identified by a supporting RSR prepared by Pell Frischmann, the route will require mitigation to accommodate the AIL vehicle at pinch points identified along the proposed delivery route. Some pinch points will require third party land to ensure the AIL delivery vehicle can be accommodated.
- 8.1.2 The results of the Swept Path Analysis included within the RSR (**Appendix B**) will need to be confirmed by a trial run.
- 8.1.3 The Study further presents the anticipated AIL vehicle arrangement dimensions and travelling weights to allow Welsh Government as highways authority to screen the delivery route on the Strategic Road Network.
- 8.1.4 The Legislative and procedural guidelines for the notification and consultation of stakeholders have been presented in **Section 3** and the outline management strategy for Abnormal Load Deliveries is presented in **Section 7**.

Appendix A





Legend
 Draft DNS Application Boundary

CONTAINS OS DATA © CROWN COPYRIGHT [AND DATABASE RIGHT] [2024].



PROJECT TITLE:
RHYSWG WIND FARM

DRAWING TITLE:
FIGURE 1-1 SITE LOCATION PLAN

CONFIDENTIALITY: PUBLIC

DRAWN: JP	CHECKED: LB	APPROVED: AW	AUTHORISED: CP
SCALE @ A3 SIZE: 1:20,000		DATE: 10/11/2025	REVISION: P01.2

DRAWING NUMBER:
 UK0041469.0596-WSPE-FG-MD-00001_P01.2

Appendix B

ROUTE SURVEY REPORT



Pell Frischmann

Rhyswg Wind Farm

Abnormal Indivisible Load Route Survey

September 2025

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Contents

1	Introduction	1
1.1	Purpose of the Report	1
2	Project Background	2
2.1	Candidate Turbine	2
2.2	Proposed Delivery Equipment	2
3	Route Section Review	4
3.1	Port of Entry	4
3.2	Proposed Access Route	5
3.3	Route Constraints	6
3.4	Swept Path Assessment Results and Summary	14
3.6	Weight Review	14
3.7	Summary of Issues	15
4	Summary	16
4.1	Summary of Access Review	16
4.2	Further Actions	16

Figures

Figure 1:	Superwing Carrier	2
Figure 2:	Tower Trailer	3
Figure 3:	Swansea Port Layout	4
Figure 4:	Proposed Access Route	5

Tables

Table 2-1:	Turbine Size Summary	2
Table 3-1:	Constraint Summary	6
Table 3-2:	ESDAL Consultees	15

Appendices

Appendix A	Points of Interest
Appendix B	Swept Path Assessments
Appendix C	ESDAL Consultee Responses

1 Introduction

1.1 Purpose of the Report

Pell Frischmann Consultants (PF) has been commissioned by Pennant Walters to undertake a survey of the Abnormal Indivisible Load (AIL) delivery route for wind turbine loads associated with the construction and development of Rhyswg Wind Farm, located to the east of Abercarn, Caerphilly.

This desk based Route Survey Report (RSR) has been prepared to help inform Pennant Walters on the likely issues associated with the development of the site with regards to off-site transport and access for AIL traffic. This report identifies the key issues associated with AIL deliveries and notes that remedial works, either in the form of physical works or as traffic management interventions will be required to accommodate the predicted loads.

The detailed assessment and subsequent designs of any remedial works are beyond the agreed scope of works between PF and Pennant Walters at this point in time.

It is the responsibility of the turbine supplier to ensure that the entirety of the proposed access route is suitable and satisfactory and that all third party land rights have been secured. The turbine supplier will also be responsible for ensuring that the finalised proposals meet the appropriate level of health and safety consideration for all road users and are in accordance with the relevant legislation at the time of delivery.

2 Project Background

2.1 Candidate Turbine

Pennant Walters have indicated that the candidate turbine is the V150 turbine at a tip height of 180 metres (m). Vestas have been consulted and provided the following turbine details that could suit this specification. The details of the components are detailed in Table 2-1 below.

Table 2-1: Turbine Size Summary

Component	Length (mm)	Width (mm)	Height / Min Diameter (mm)	Weight (kg)
Blade	74,303	4,425	4,396	20,676
Nacelle	12,940	3,981	3,387	67,810
Hub	5,469	3,773	3,964	33,788
Drive Train	7,230	3,516	3,320	65,573
Base Tower	15,280	4,037	4,500	73,500
Mid Tower 1	25,480	4,026	4,037	71,000
Mid Tower 2	28,840	3,668	4,026	59,000
Top Tower	33,000	3,268	3,668	57,000

2.2 Proposed Delivery Equipment

To provide a robust assessment scenario based upon the known issues along the access route, it has been assumed that all blades would be carried on a Superwing Carrier trailer to reduce the need for mitigation in constrained sections of the route.

Towers would be carried in a 4+7 clamp adaptor style trailer, whereas loads such as the hub, nacelle housing and top towers would be carried on a six-axle step frame trailer. Examples of typical trailers can be seen in Figure 1 and 2 below.

Figure 1: Superwing Carrier



Figure 2: Tower Trailer



These configurations are subject to confirmation by the chosen haulier at the time of their commissioning.

As the loads are classified as Special Order, due to a rigid length in excess of 30 m, a full Police Escort would be required along the full length of the route.

3 Route Section Review

3.1 Port of Entry

The proposed Port of Entry (POE) is Swansea. The port is the closest suitable port to site and as such is in line with the Government’s “Water Preferred” policy towards AIL movements.

The port has been used by renewables deliveries in the past for a number of wind farms, including Mynydd y Betws, Pen y Cymoedd and Brechfa Forest.

The port has sufficient quay and storage space and is well located for the strategic trunk road network. The layout of the port is illustrated below in Figure 3.

Figure 3: Swansea Port Layout



From Swansea Port Website

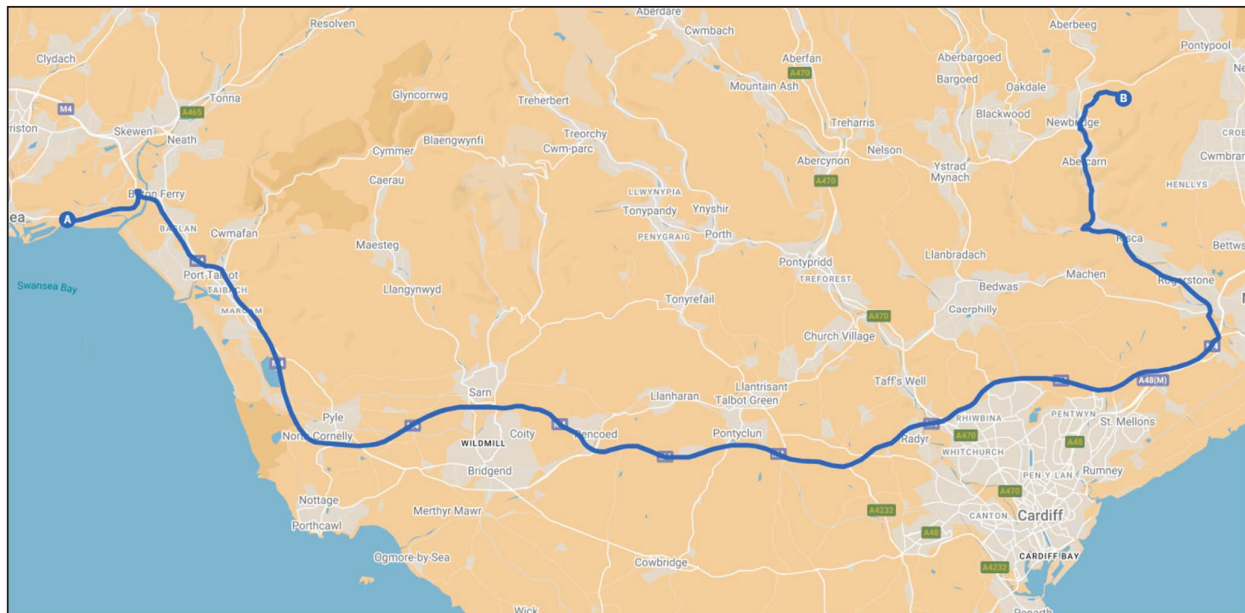
3.2 Proposed Access Route

The proposed access route reviewed for the purpose of preparing this AIL route survey is as follows:

- Loads would depart the port and access the A483 Fabian Way (Eastbound) using a contraflow manoeuvre;
- Loads would proceed eastbound and would join the M4 at Junction 42;
- Loads would proceed eastbound on the M4 until Junction 28. Loads will then diverge from the motorway and will join the A467 northbound;
- Loads would continue north on the A467 to Newbridge;
- North of the Celenyn Roundabout loads would turn right onto Central Avenue;
- They would then continue north east onto Old Pant Road; and
- Loads will continue eastbound using a new bypass route and existing roads. To the east of Pen-y-caeau, loads will split; loads will either proceed ahead or will continue to the south on the public road; and
- To the south, loads will turn left into the southern portion of the site via a new access junction.

The proposed access route section is illustrated in Figure 4.

Figure 4: Proposed Access Route



3.3 Route Constraints





The constraints noted on the route are detailed in Table 3-1. These cover all constraints from the port exit through to the proposed site access only. Transport issues within the development site have not been taken into consideration at this time.




Plans illustrating the location of the constraints / Point of Interest (POI) for the route as shown in Figure 4 are provided in Appendix A.



The Welsh Government has requested that any signage removed on the trunk road network is replaced immediately after loads have passed through a section.

Table 3-1: Constraint Summary





POI	Key Constraint	Details
1	<p>Swansea Port Exit</p> 	<p>Loads would depart the port via the gate and turn left onto Baldwins Crescent.</p> <p>The escorts should hold back oncoming traffic on all arms of the junction to allow loads to full access during the manoeuvres.</p> <p>A swept path assessment has been undertaken. Vegetation trimming is required on Baldwins Crescent to enable oversail.</p> <p>See swept path drawing SK01 and SK01A included in Appendix B.</p>
2	<p>Baldwins Crescent / A483 Junction</p> 	<p>Loads will turn right from Baldwins Crescent onto A483 in contraflow, under Police escort.</p> <p>A swept path assessment has been undertaken and indicates that oversail beyond the kerb is required to both sides of the turn.</p> <p>Three lamp posts and three road signs to be removed to facilitate access. Vegetation trimming is also required along with oversail of sections of crash barrier on the central reservation. Vertical clearance from the barrier is to be confirmed during trial run.</p> <p>See swept path drawing SK01 and SK01A included in Appendix B.</p>




POI	Key Constraint	Details
3	A483 Ffordd Amazon Roundabout 	<p>Loads will travel straight on at A483 /Ffordd Amazon roundabout continuing on A483.</p> <p>A swept path assessment has been undertaken and indicates that oversail is required beyond the kerb over two splitter islands and the central roundabout island.</p> <p>One lamp post, five traffic signals and four road signs to be removed for access. Oversail of two sections of metal railing and two bollards required. Vertical clearance from the railings to be confirmed during trial run.</p> <p>See swept path drawing SK01B and SK01C included in Appendix B.</p>
4	A483 / M4 On slip 	<p>Loads will proceed onto the M4 using the on-slip at Junction 43.</p> <p>Loads will occupy the entire carriageway width. Vehicle escorts must ensure that loads can merge safely, and that trailing traffic does not attempt to merge into the convoy at this location.</p> <p>Seven lamp posts, three illuminated road signs and 22 non-illuminated road signs to be removed. Vegetation trimming is also required along with oversail of sections.</p> <p>See swept path drawing SK01D and SK01E included in Appendix B.</p>
5, 6	M4 Junction 28 	<p>Loads will depart the northbound M4 and at Junction 28 and continue onto the northbound A467.</p> <p>Loads will occupy the entire carriageway during the transition and escorts should protect the convoy.</p>
7	A467 Forge Road Roundabout 	<p>Loads will continue through the Forge Road Roundabout.</p> <p>The swept path assessment indicates that loads will oversail the northwestern edge of the roundabout central island where one chevron sign and one traffic signal pole should be removed. Trees will also need to be removed.</p> <p>Loads will also oversail the western splitter islands, however no physical mitigation is anticipated.</p> <p>Loads will oversail the northern splitter island where one bollard should be removed.</p> <p>See swept path drawing SK02 and SK02A included in Appendix B.</p>

POI	Key Constraint	Details
8	A467 Meadowland Drive Roundabout 	<p>Loads will continue through the Meadowland Drive Roundabout.</p> <p>The swept path assessment indicates that loads will over-run through the central island where a load bearing surface is required. One road sign should be removed and vegetation trimmed.</p> <p>Loads will require access to all lanes at the junction.</p> <p>See swept path drawing SK03 and SK03A included in Appendix B.</p>
9	A467 / B4591 Roundabout 	<p>Loads will continue through the A467 / B4591 Roundabout.</p> <p>The swept path assessment indicates that loads will over-run through the central island of the junction where a load bearing surface is required. Two chevron signs should be removed.</p> <p>Loads will require access to all lanes at the junction.</p> <p>See swept path drawing SK04 and SK04A included in Appendix B.</p>
10	A467 Sirhowy Roundabout 	<p>Loads will continue round the Sirhowy Roundabout and take the 3rd exit to continue north on the A467.</p> <p>The swept path assessment indicates that blade loads will need to undertake a contraflow transit of the junction under police escort. Tower and other loads can proceed around the junction as normal.</p> <p>Loads will oversail the southern verge of the entry where vegetation trimming is required. Blade loads will then require the removal of the safety rail on the entry. A load bearing surface is required and three road signs should be removed.</p> <p>The blade tip will oversail the eastern edge of the central island. Loads will then oversail the northern splitter island and verge where two road signs and two lighting columns should be removed. Vegetation trimming will be required.</p> <p>Non-blade loads will oversail the western edge of the central island where two chevron signs should be removed.</p> <p>Loads will require access to all lanes at the junction.</p> <p>See swept path drawing SK05 and SK05A included in Appendix B.</p>

POI	Key Constraint	Details
<p>11, 12</p>	<p>A467 Crosskeys Islands</p> 	<p>The traffic islands street furniture should be provided with hinged / socket foundations to allow them to be laid flat / temporarily removed during load movements. This will allow vehicles / loads to oversail the islands.</p>
<p>13</p>	<p>A467 Twyncarn Roundabout</p> 	<p>Loads will continue north through Twyncarn Roundabout.</p> <p>The swept path assessment indicates that loads will oversail the western verge on entry to the junction. They will then over-run the western edge of the roundabout island where two sets of chevron signs should be removed. The roundabout island should be reprofiled to allow oversail and a load bearing surface.</p> <p>Loads will require access to all lanes at the junction.</p> <p>See swept path drawing SK06 and SK06A included in Appendix B.</p>

POI	Key Constraint	Details
14-18	A467 North of Pontywaun 	The traffic islands street furniture should be provided with hinged / socket foundations to allow them to be laid flat / temporarily removed during load movements. This will allow vehicles / loads to oversail the islands.

POI	Key Constraint	Details
19	<p>A467 / B4591 Roundabout</p> 	<p>Loads will continue ahead at the roundabout taking the second exit and continuing on the A467.</p> <p>A swept path assessment has been undertaken. To reduce works at the junction a contraflow transit under police escort is proposed. A load bearing surface should be provided on the central island, where two chevron signs should be removed and a load bearing surface laid. Vegetation trimming is required.</p> <p>See swept path drawing SK07 and SK07A included in Appendix B.</p>
20	<p>A467 Celynen Roundabout</p> 	<p>It is proposed that loads will contraflow through the roundabout.</p> <p>The swept path assessment indicates that loads will oversail and over-run the approach road splitter island and the eastern footway when exiting the roundabout. Two road signs should be removed.</p> <p>Loads will over-run the northern splitter island where a load bearing surface is required. One bollard and one sign should be removed.</p> <p>See swept path drawing SK08 and SK08A included in Appendix B.</p>
21	<p>A467 / Central Avenue Junction</p> 	<p>Loads will turn right at the junction, joining Central Avenue.</p> <p>A swept path assessment has been undertaken and indicates that a load bearing surface and oversail area is required on the inside of the junction. Three road signs, hedging, the stone village name sign, two lighting columns and the pedestrian railing will need to be removed and a load bearing surface on the footway laid. Third party land is required.</p> <p>The crossing island on Central Avenue will need to be temporarily removed along with the two bollards on it. In addition, one road sign and pedestrian fencing on the northern verge will need to be removed. A load bearing surface is required at two locations.</p> <p>Parking on Central Avenue will need to be suspended during deliveries to allow the full width of the road to be made available. A Temporary Traffic Regulation Order (TTRO) or voluntary agreement with residents will be required.</p> <p>The tree canopy along Central Avenue and the remaining route to site will need to be trimmed to provide a clear head height of 5m. A review of the tree canopy by ecologists may be required and trimming works are likely to be dependent upon seasonal licencing periods and the agreement with the local road officers.</p> <p>See swept path drawing SK09 and SK09A included in Appendix B.</p>
22	<p>Parked Vehicles</p> 	<p>Parked cars may restrict the available width of the road at this location. A TTRO or voluntary agreement with residents will be required.</p>

POI	Key Constraint	Details
23	<p>Old Pant Road Roundabout</p> 	<p>Loads will continue ahead at the roundabout and will proceed northbound on Old Pant Road.</p> <p>A swept path assessment has been undertaken and indicates that a temporary load bearing surface is laid through the central island of the junction. Two chevron posts and vegetation should be removed from the island.</p> <p>See swept path drawing SK10 and SK10A included in Appendix B.</p>
24	<p>Old Pant Road Chicane</p> 	<p>Loads will continue ahead. The chicane signage and five bollards should be removed and a load bearing surface laid.</p>
25	<p>Old Pant Road Bend 1</p> 	<p>Loads will continue ahead through the bend in the road.</p> <p>A swept path assessment has been undertaken and indicates that loads will oversail the inside of the bend where parking will need to be suspended.</p> <p>The blade tip will oversail the outer verge where lighting columns and trees will need to be removed. Verge vegetation should be trimmed back and a load bearing surface provided. Third party land rights are necessary at this location.</p> <p>Parked cars will restrict the available width of the road at this location. A TTRO or voluntary agreement with residents will be required to remove parked vehicles at this location.</p> <p>The tree canopy should be trimmed to provide a clear head height of 5m. A review of the tree canopy by ecologists may be required and trimming works are likely to be dependent upon seasonal licencing periods and the agreement with the local road officers.</p> <p>See swept path drawing SK11 and SK11A included in Appendix B.</p>

POI	Key Constraint	Details
26	<p>Old Pant Road Bend 2</p> 	<p>Loads will continue ahead through the bend in the road.</p> <p>A swept path assessment has been undertaken and indicates that an over-run surface is required where temporary load bearing surface will be required. Protection will be required for the existing kerbs and any underground services.</p> <p>Lighting columns, fencing and vegetation will need to be removed and the existing ground level lowered. Underground services should be protected. Third party land rights are necessary at this location.</p> <p>Parked cars will restrict the available width of the road at this location. A TTRO or voluntary agreement with residents will be required to remove parked vehicles at this location.</p> <p>On the outskirts of the village, the speed limit sign in the southern verge should be removed to enable loads to oversail the verge.</p> <p>See swept path drawing SK11 and SK11A included in Appendix B.</p>
27	<p>Track Diversion</p> 	<p>Loads will divert from the public road to avoid a highly constrained road junction. A swept path assessment has been undertaken and indicates that hedge and fence removal is required and that third party land rights are necessary.</p> <p>The new access track should be constructed to turbine supplier standards and the entry may need to be finished in a metalled surface to prevent debris being transported onto the public road network.</p> <p>See swept path drawing SK12 and SK12A included in Appendix B.</p>
28	<p>Track Diversion Merge (unclassified road junction)</p> 	<p>Loads will rejoin the public road from the diversion route. A swept path assessment has been undertaken and indicates that loads will require the removal of walls, gates fencing and hedges to create the merge junction. Third party land rights are necessary.</p> <p>The public road will need to be widened from this point onwards to accord with the minimum track width of 4.5m required by Vestas.</p> <p>Works to enable the widening works will be undertaken in what is assumed to be within the limits of road adoption. A third party land review is recommended.</p> <p>Obstructions in the verge should be removed to enable the road widening works.</p> <p>See swept path drawing SK13 and SK13A included in Appendix B.</p>
29	<p>Unclassified Road Bend & Northern Access</p> 	<p>At this location, loads will proceed ahead into the site access.</p> <p>A swept path assessment has been undertaken and indicates that the cattle grid gates will need to be removed. The cattle grid itself may need reinforcing to accept an axle load of 12 tonnes.</p> <p>Tracks leading to the site should be constructed in accordance with turbine supplier standards. These should accord with the minimum track width of 4.5m required by Vestas.</p> <p>See swept path drawing SK14 and SK14A included in Appendix B.</p>

3.4 Swept Path Assessment Results and Summary

The detailed swept path drawings for the locations assessed are provided in Appendix B for review. The drawings in Appendix B illustrate tracking undertaken for the worst-case loads at each location. The colours illustrated on the swept paths are as follows:

- Grey / Black – OS / Topographical Base Mapping;
- Green – Vehicle body outline (body swept path);
- Red – Tracked pathway of the wheels (wheel swept path); and
- Magenta – The oversail tracked path of the load where it encroaches outwith the trailer (load swept path).

Where mitigation works are required, the extents of over-run and oversail areas are illustrated on the swept path drawings. Additional land areas to those indicated in the swept path assessment drawings may be required to facilitate the construction of the proposed physical mitigation measures depending on the site conditions and topography. The extent of any additional areas required to construct mitigation works highlighted within this study and the detailed design of said mitigation works is outwith the scope of this study and should be confirmed on detailed topographical survey data.

Please note that where assessments have been undertaken using Ordnance Survey (OS) base mapping, CAD based aerial mapping and historic topographical data, there may be errors in these data sources.

Where provided by the client, topographical data has been utilised. Please note that PF cannot accept liability for errors on the data source, be that OS base mapping, aerial mapping, historic topographical surveys or client supplied data. Mapping has been augmented with aerial imagery for illustration only. The accuracy of this mapping cannot be confirmed by PF.

Please note that turbine supplier guidance suggests that the minimum road width for the safe transport of ALL components is 4.5m. All public roads and onsite access tracks should comply with this standard unless a relaxation has been agreed with suppliers.

The need to widen public roads will require engagement with the relevant road authority(s) and may constitute permanent or temporary surfacing.

3.5 Third Party Land and Land Ownership

A review of third party land should be undertaken by the client to ensure that no additional land rights are required to enable deliveries or mitigation works. PF accepts no responsibility for the accuracy of land ownership assumptions, all of which should be confirmed across the entire access route by a qualified land agent.

The limits of road adoption can vary depending upon the location of the site and the history of the road agencies involved. The adopted area is generally defined as land contained within a defined boundary where the road agency holds the maintenance rights for the land. In urban areas, this usually defined as the area from the edge of the footway across the road to the opposing footway back edge.

In rural areas the area of adoption can be open to greater interpretation as defined boundaries may not be readily visible. In these locations, the general rule is that the area of adoption is between established fence / hedge lines or a maximum 2m from the road edge. This can vary between areas and location.

3.6 Weight Review

A weight review has been undertaken via the ESDAL (Electronic Service Delivery for Abnormal Loads) contacts database using the Highways Agency website www.esdal.com.

All of the relevant ESDAL contacts are noted in Table 3-2 and all have been contacted to ascertain if there are any relevant constraints that should be noted. The feedback from the consultees is provided in Appendix C, where received.

Table 3-2: ESDAL Consultees

Organisation	Email Address
South Wales Trunk Road Agent	abnormalloads@southwales-tra.gov.uk
WSP	rei.loads.abnormal@wsp.com
Monmouthshire Council	AbnormalLoads@monmouthshire.gov.uk
Gwent Police	abnormalloads@gwent.police.uk
Swansea Council	Abnormal.Loads@swansea.gov.uk
Neath Port Talbot County Borough	abloads@npt.gov.uk
South Wales Police	swp@abloadspolice.com
Welsh Government	AbnormalLoads@gov.wales
Caerphilly County Borough Council / Monmouth Council / Torfaen Council	AbnormalLoads@monmouthshire.gov.uk
Network Rail	AbLoadsESDAL@networkrail.co.uk
National Highways	southwestabnormalloads@nationalhighways.co.uk

3.7 Summary of Issues

It is strongly suggested that following a review of this document, Pennant Walters should undertake the following prior to the delivery of the first abnormal loads, to ensure load and road user safety:

- That any necessary topographical surveys are undertaken and that swept path results are completed;
- A further review of axle loading on structures along the entire access route with the various road agencies is undertaken immediately prior to the loads being transported in case of last-minute changes to structures;
- A review of height clearances with utility providers and the transport agencies along the route to ensure that there is sufficient space to allow for loads plus sufficient flashover protection (to electrical installations);
- That any verge vegetation and tree canopies which may foul loads are trimmed prior to loads moving;
- That a review of potential roadworks and or closures is undertaken once the delivery schedule is established in draft form; and
- That a condition survey is undertaken to ascertain the extents of road defects prior to loads commencing to protect the developer from spurious damage claims.

4 Summary

4.1 Summary of Access Review

PF has been commissioned by Pennant Walters to prepare a route survey report to examine the issues associated with the proposed delivery route to Rhyswg Wind Farm, located to the east of Newbridge.

This report identifies the key points and issues associated with the section of route and outlines the issues that will need to be considered for successful delivery of components.

The report is presented for consideration to Pennant Walters. Various road modifications, structural reviews and interventions are required to successfully negotiate the section of route.

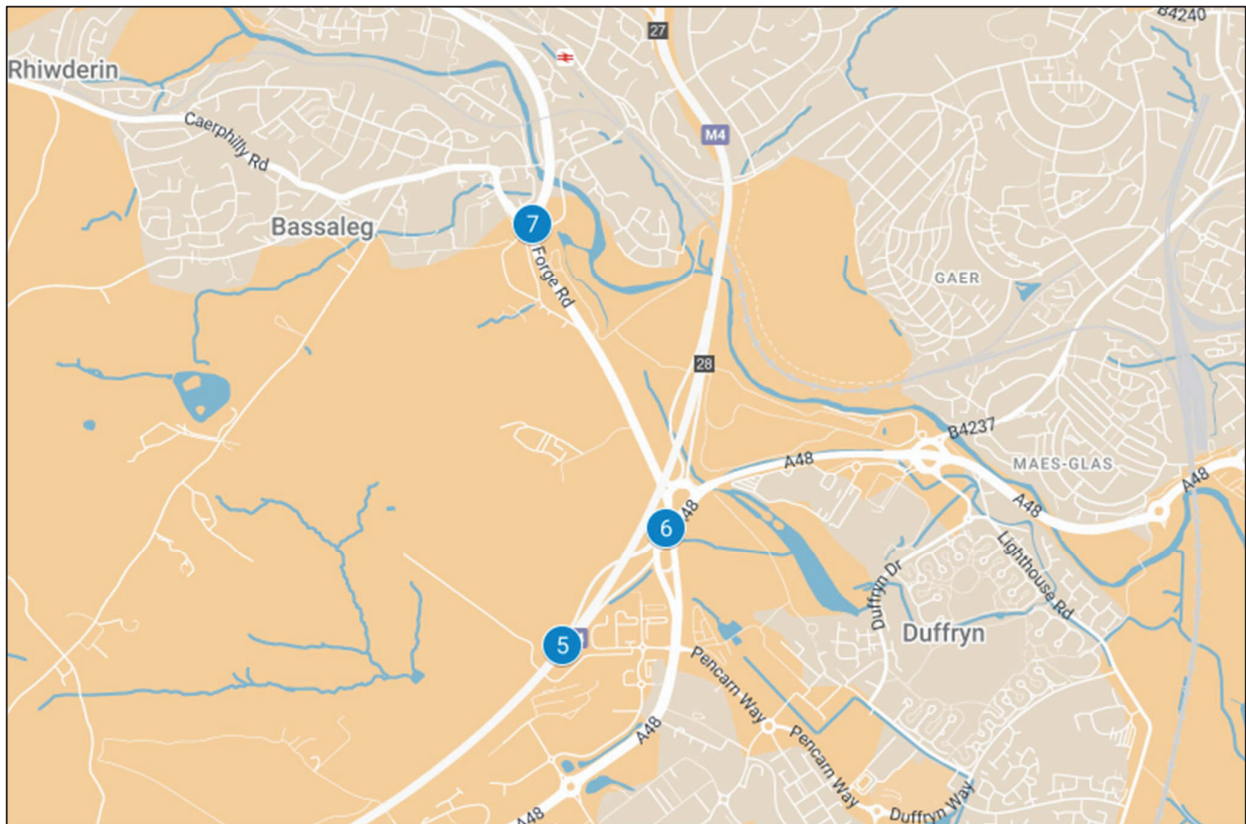
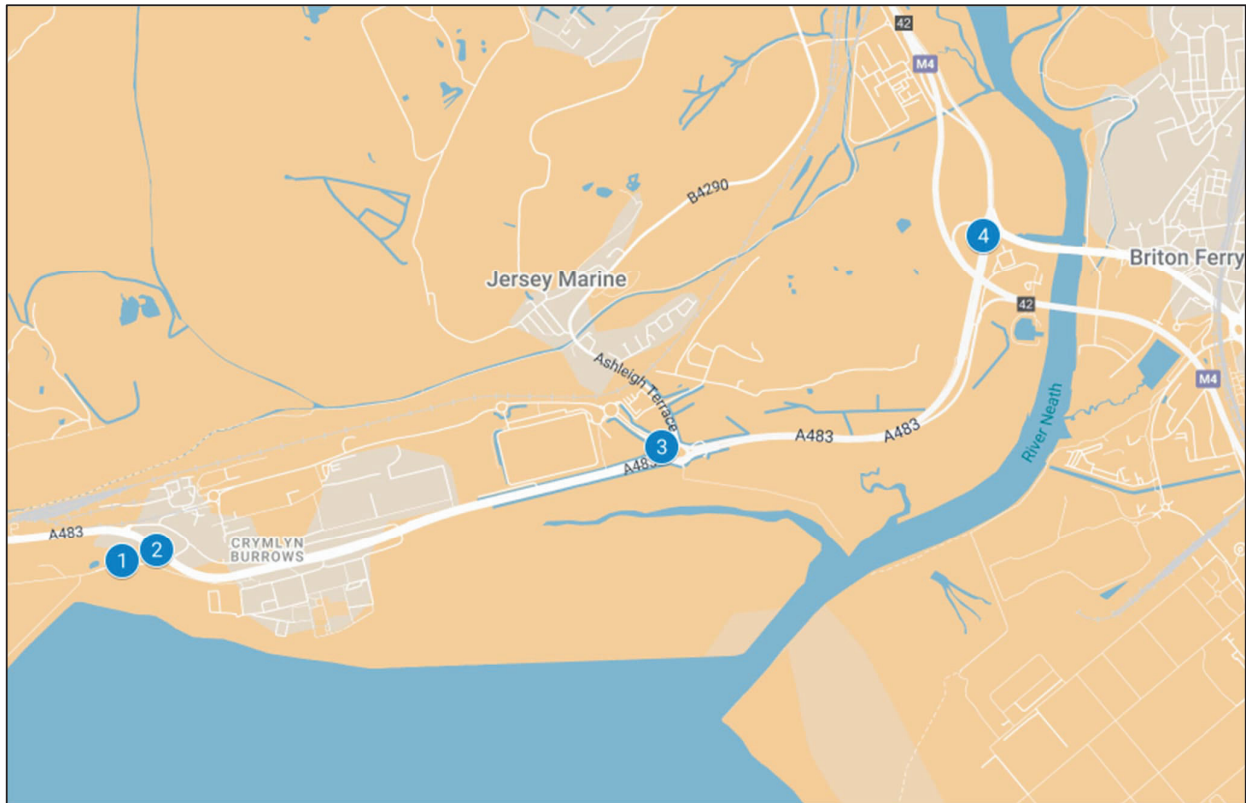
4.2 Further Actions

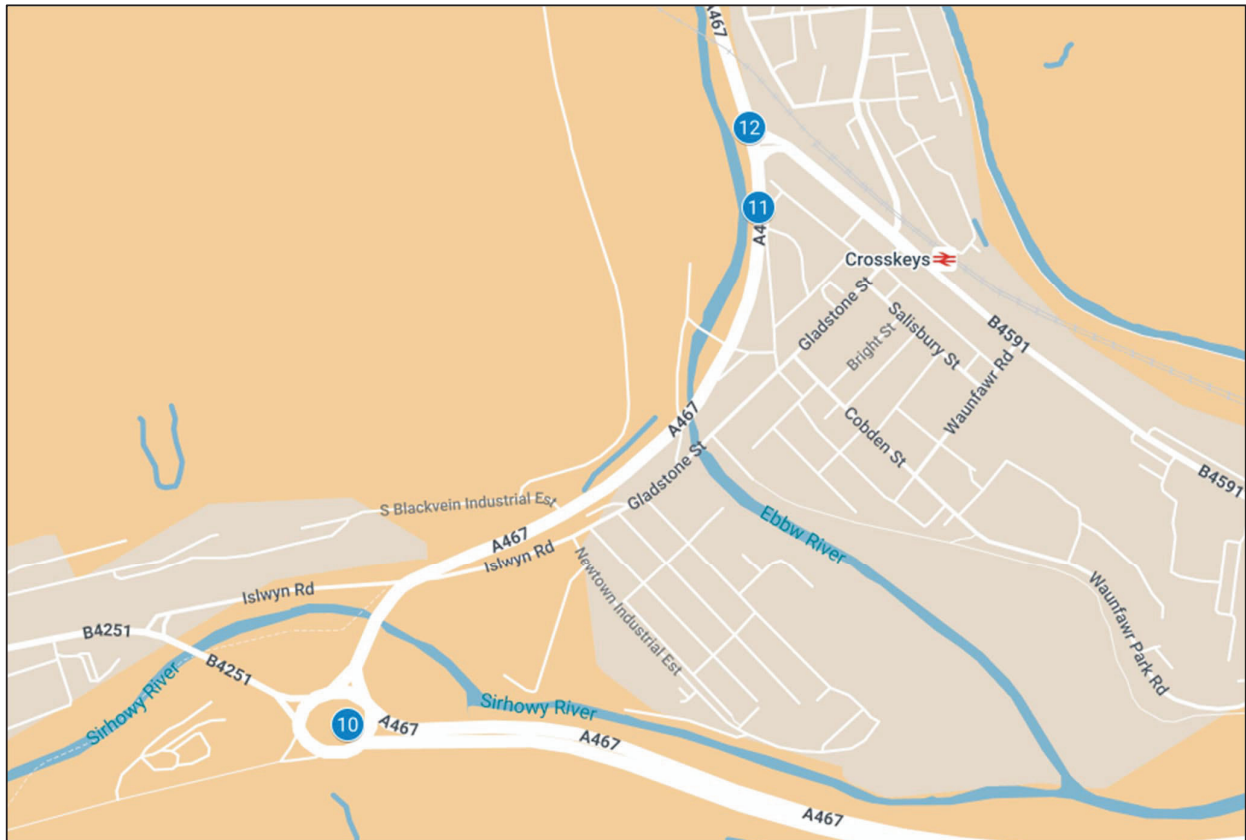
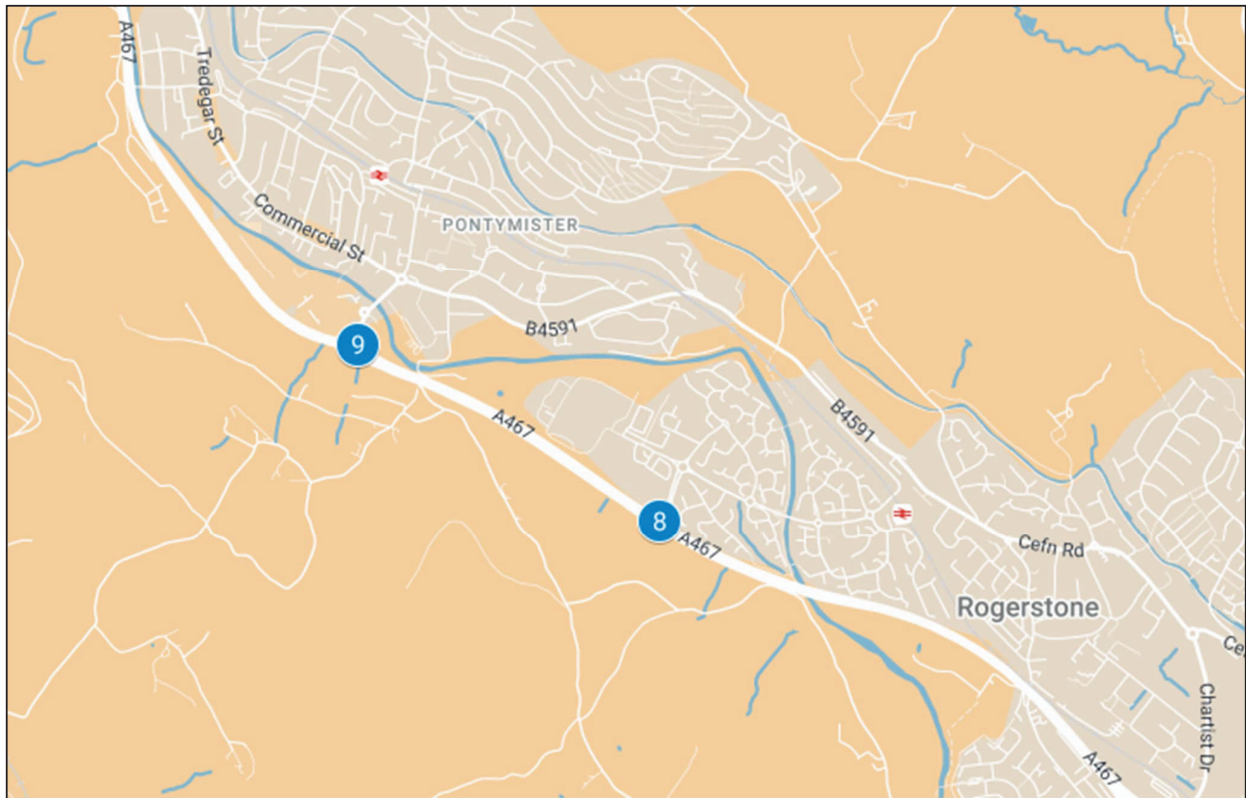
The following actions are recommended to pursue the transport and access issues further:

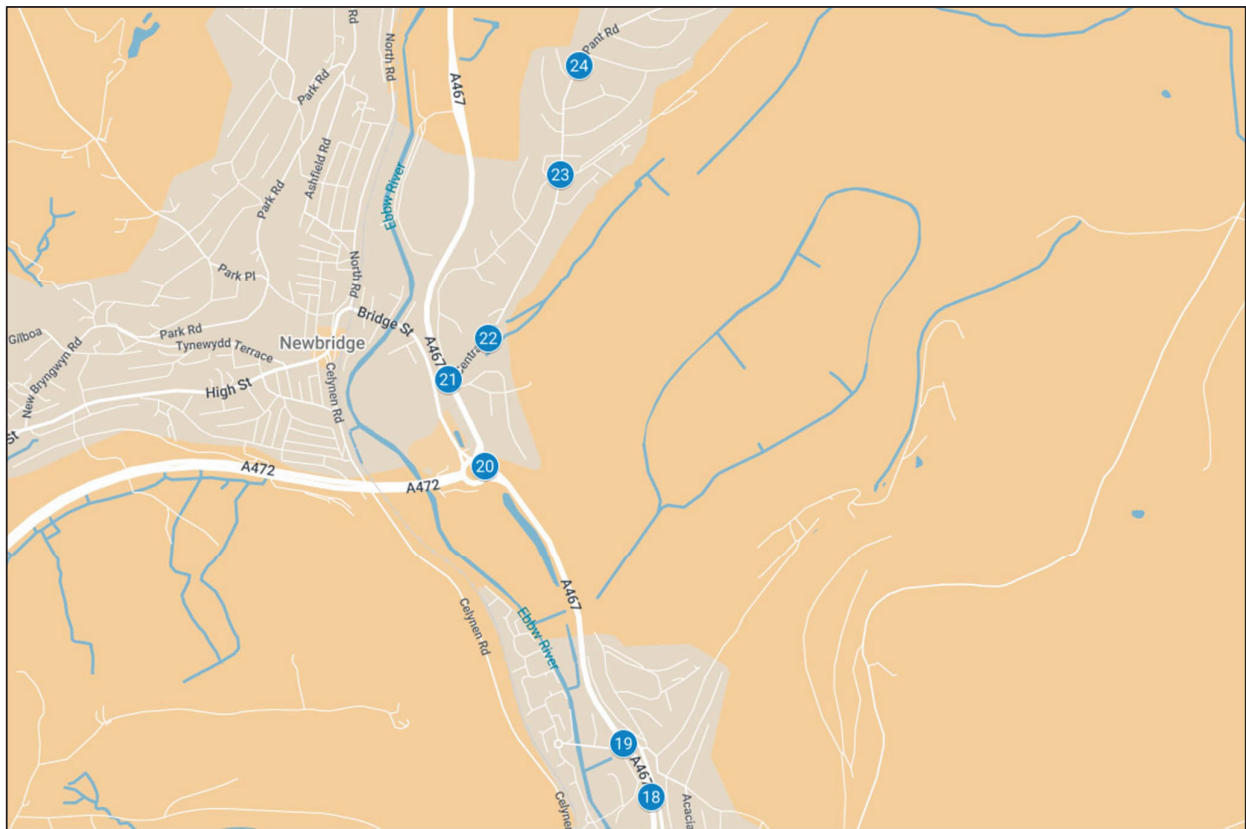
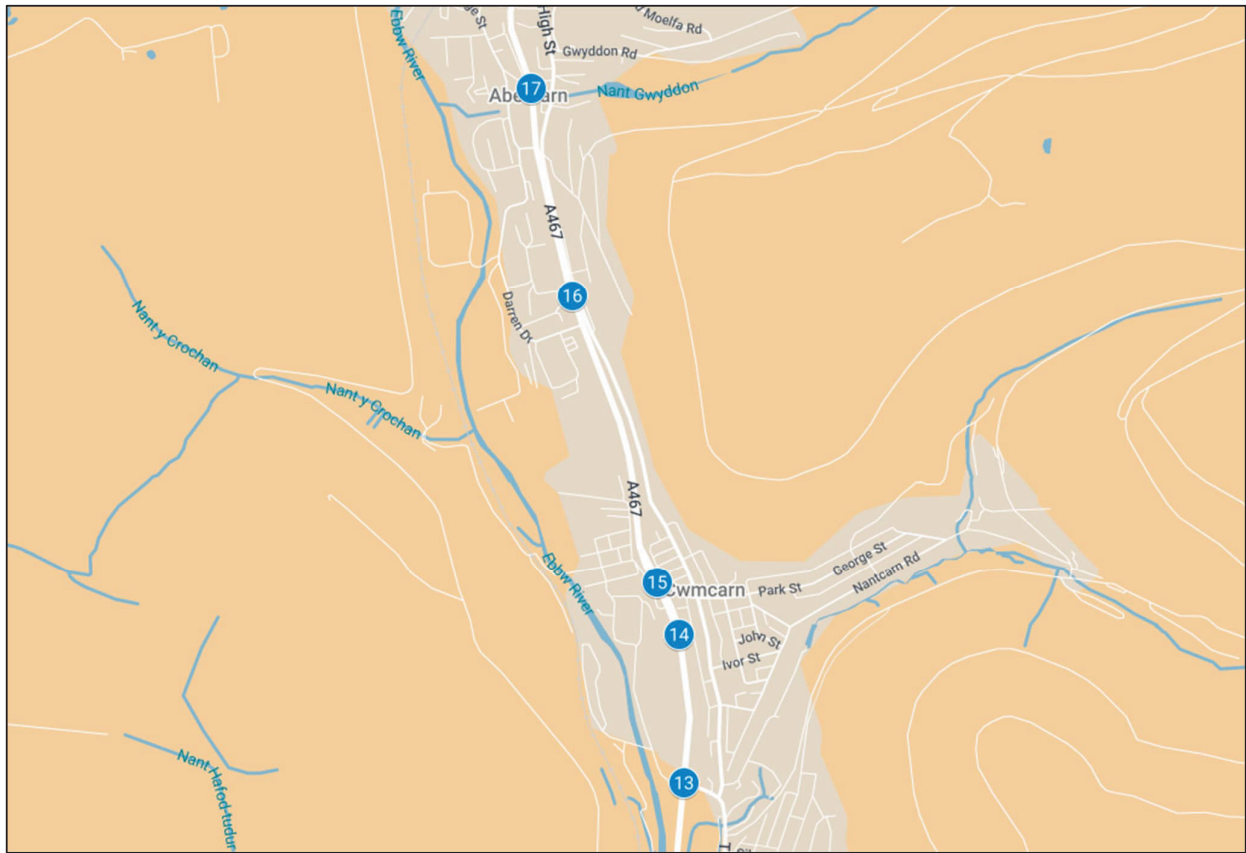
- Prepare detailed mitigation design proposals to help inform the land option / consultee discussions;
- Obtain the necessary land options;
- Undertake discussion with the affected utility providers and roads agencies;
- Obtain the necessary statutory licences to enable the mitigation measures; and
- Develop a detailed operational Transport Management Plan to assist in transporting the proposed loads.

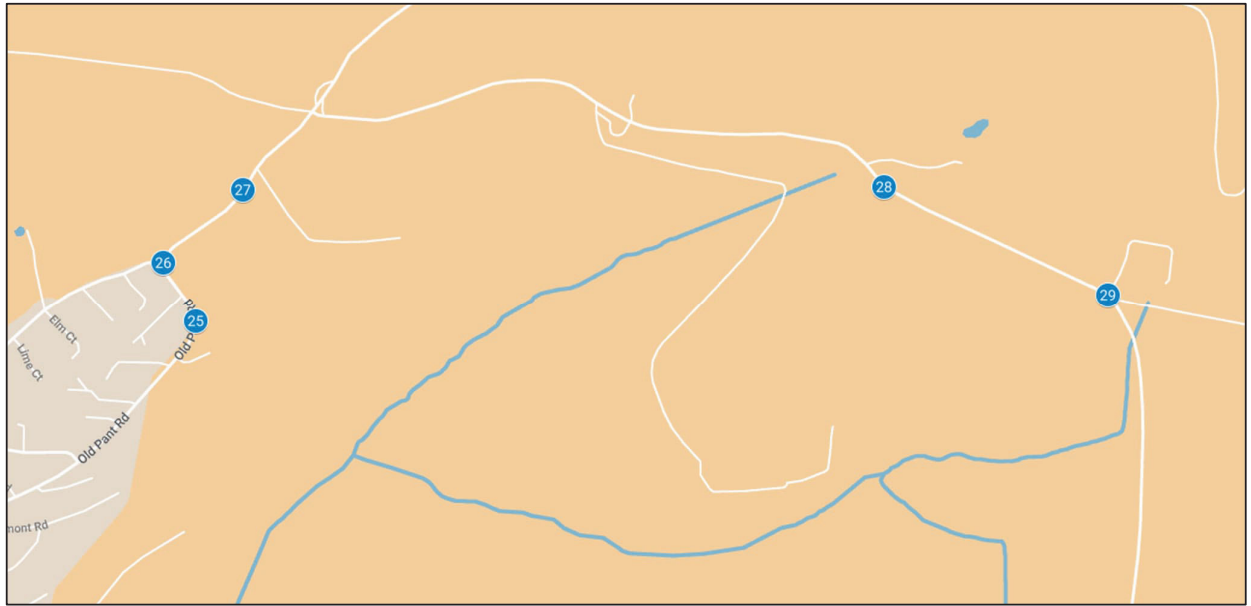
Appendix A Points of Interest

An electronic copy of the POI plans can be found here:
<https://www.google.com/maps/d/edit?mid=1KJIYC1A2UdrDK28QyxSRJIVbIYctsSQ&usp=sharing>

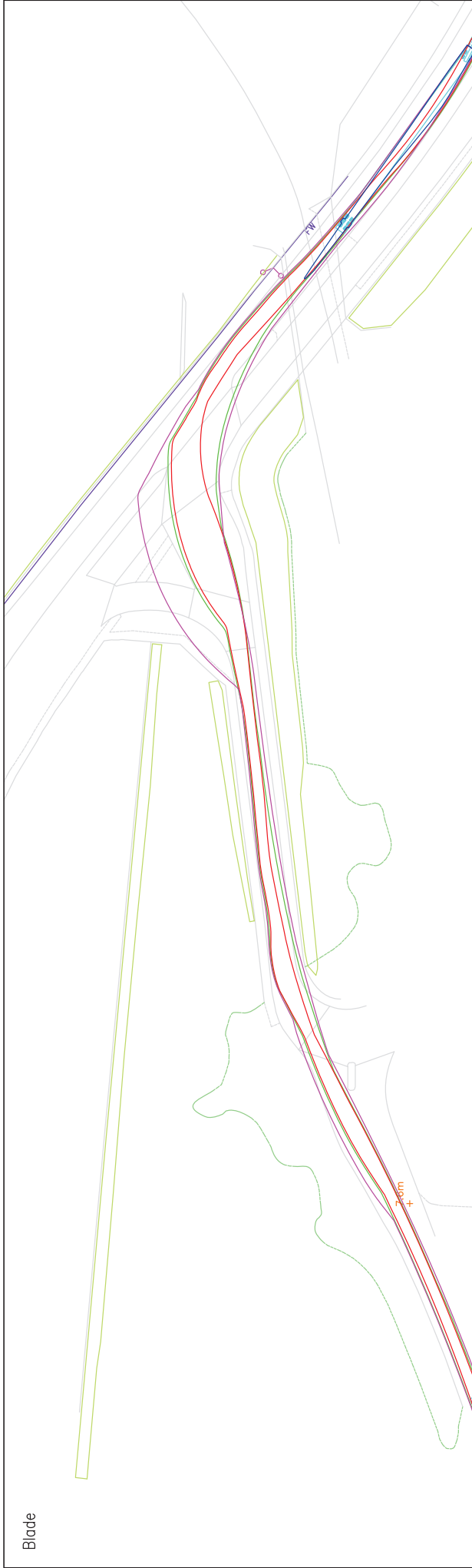






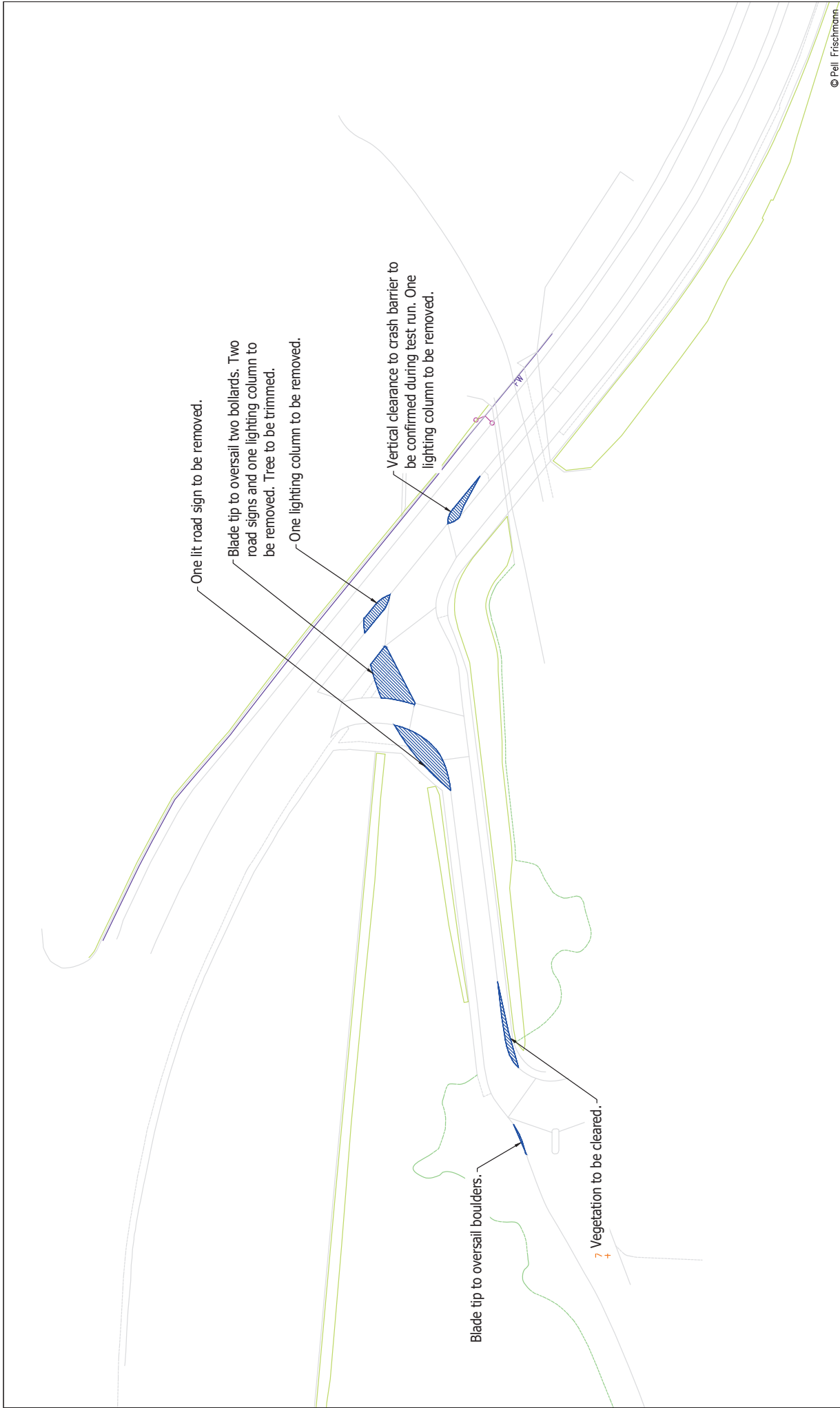


Appendix B Swept Path Assessments



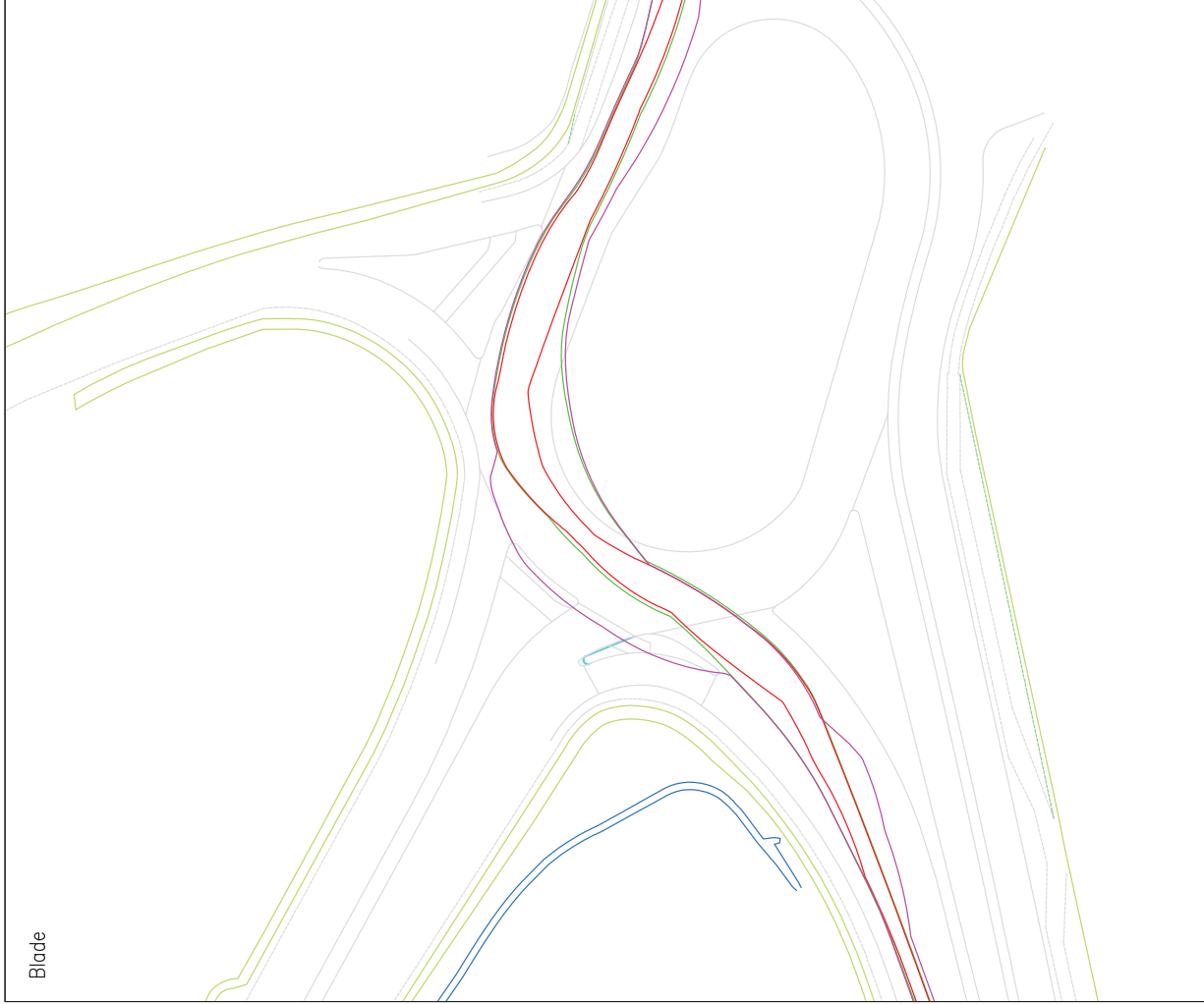
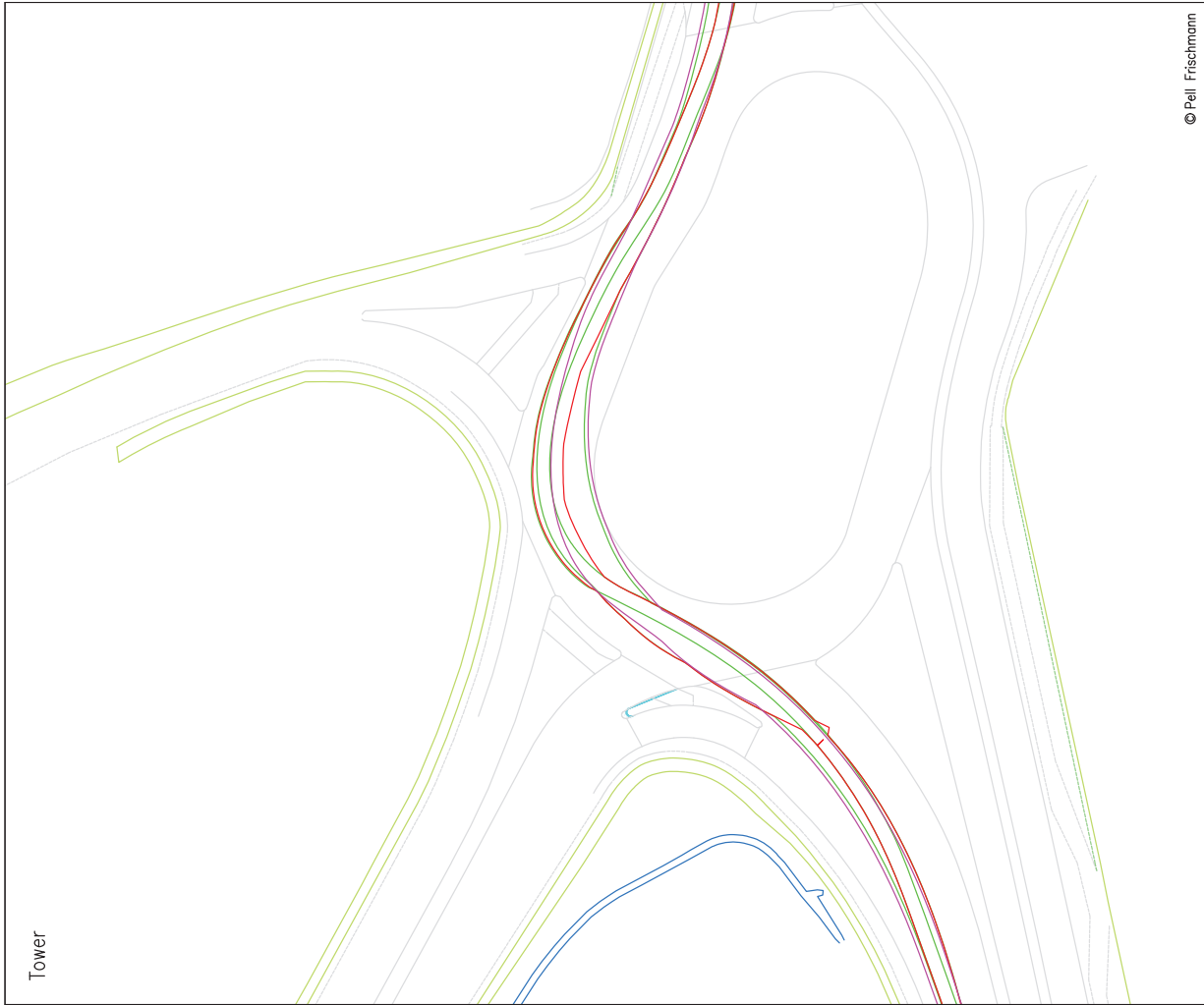
Pell Frischmann 93 GEORGE STREET, EDINBURGH, EH2 3BS Tel: +44 (0)131 240 1270 Email: pell@pellfrischmann.com www.pellfrischmann.com		Project Rhyswg Wind Farm		Name GB 21/09/2025 SC 21/09/2025 GB 21/09/2025		Date 21/09/2025 21/09/2025 21/09/2025		Scale 1:1000 @ A3	
Client Pennant Walters		Drawing Title Vestas V150 Blade & Tower		Drawn Designed Checked		Date 21/09/2025 21/09/2025 21/09/2025		File No. 250921 Rhyswg_Tracking.dwg	
Key Wheel SPA Body SPA Load SPA Over-run Over-sill		SPA Location Port Access Gate / Fabian Way Junction		Point of Interest 1 & 2		Drawing Status Draft		Revision 1	
Drawing No. SK01		Notes: 1. All mitigation is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.		Drawn Designed Checked		Date 21/09/2025 21/09/2025 21/09/2025		File No. 250921 Rhyswg_Tracking.dwg	

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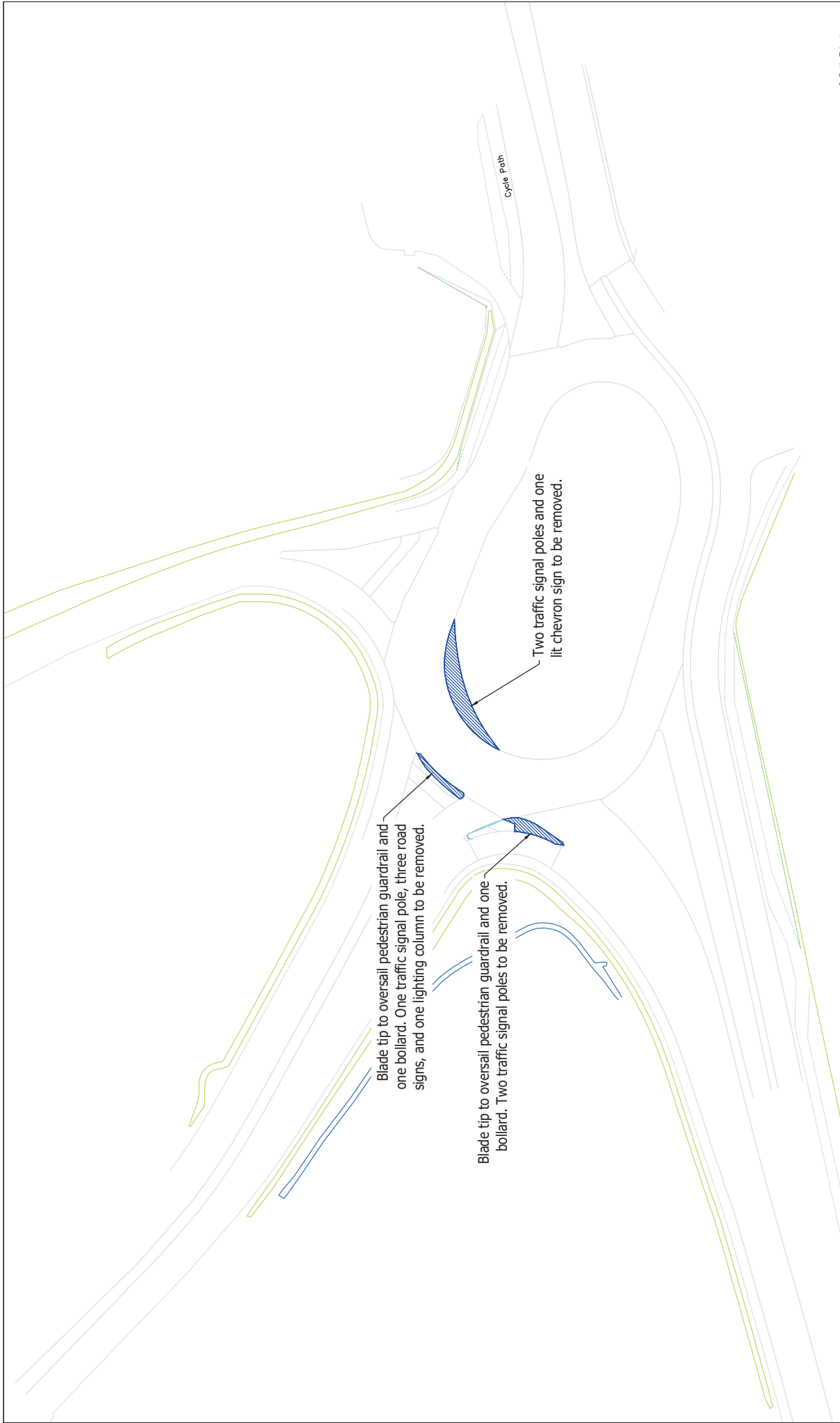


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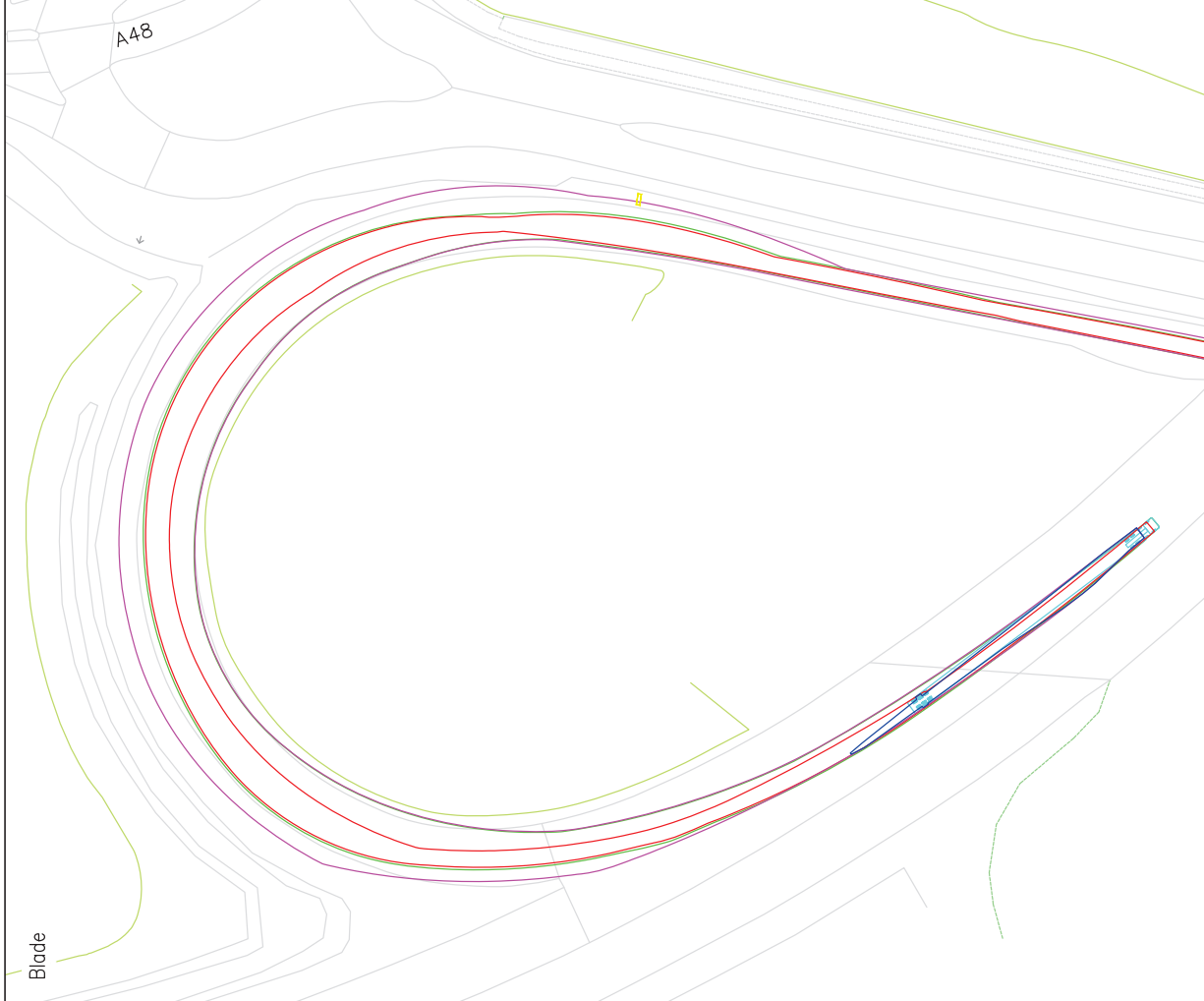
Pell Frischmann 93 GEORGE STREET, EDINBURGH, EH2 3ES Tel: +44 (0)131 240 1270 Email: pfr@pellfrischmann.com www.pellfrischmann.com		Project Rhyswg Wind Farm		Name GB 21/09/2025		Date 21/09/2025		Scale 1:1000 @ A3	
Client Pennant Walters		Drawing Title Vestas V150 Blade & Tower		Drawn Designed GB		Date 21/09/2025		File No. 250921 Rhyswg_Tracking.dwg	
Key Wheel SPA Body SPA Load SPA Indicative		SPA Location Port Access Gate / Fabian Way Junction		Checked GB		Date 21/09/2025		Drawing Status Draft	
Point of Interest Drawing No. SK01A		Notes: 1. All mitigation is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.		Revision 1		Revision 1		Revision 1	



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Client Pennant Walters		Drawing Title Vestas V150 Blade & Tower		Name GB 21/09/2025	
Key Wheel SPA Body SPA Load SPA Indicative Over-run Over-sail		SPA Location A483 Fford Amazon Roundabout		Date 21/09/2025	
		Drawing No. SK01B		Scale 1:1000 @ A3	
		Notes: 1. All mitigation is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.		File No. 250921 Rhyswg_Tracking.dwg	
		Point of Interest 3		Drawing Status Draft	
		Revision 1			

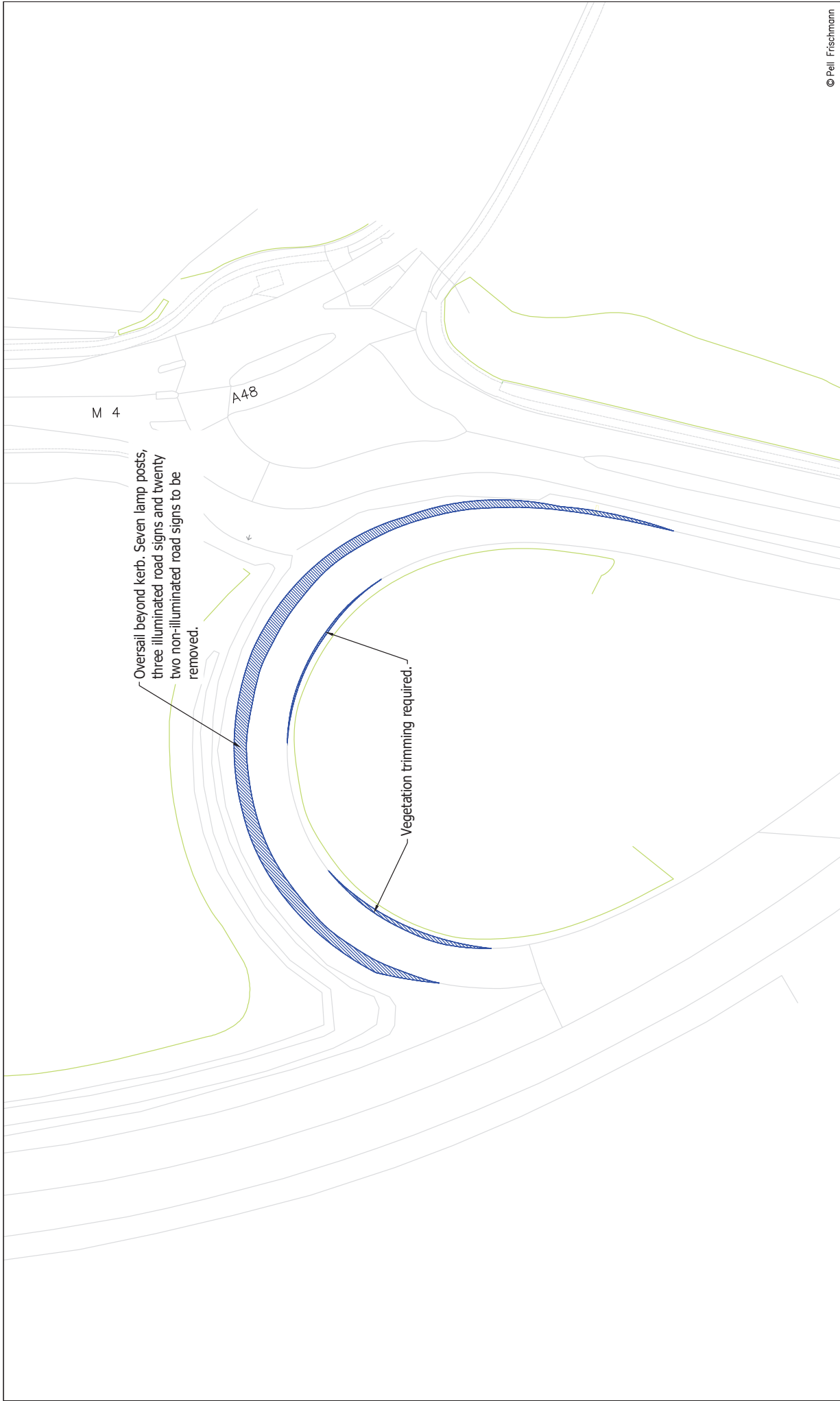


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Client Pennant Walters		Drawing Title Vestas V150 Blade & Tower		Name GB 21/09/2025 SC 21/09/2025 GB 21/09/2025	
Key Wheel SPA Body SPA Load SPA Indicative		SPA Location A483 Fford Amazon Roundabout		Date 21/09/2025 21/09/2025 21/09/2025	
Revision 1		Drawing Status Draft		Scale 1:1000 @ A3	
Notes: 1. All migration is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.		Drawing No. SK01C		File No. 250921 Rhyswg_Tracking.dwg	
Point of interest 3		Drawn Designed Checked		Revision 1	



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Client Pennant Walters		Drawing Title Vestas V150 Blade & Tower		Date 21/09/2025	
Key Wheel SPA Body SPA Load SPA Indicative Over-run Over-slip		SPA Location A483 / M4 Onslip		Name GB SC GB	
Drawing No. SK01D		Point of Interest 4		Date 21/09/2025	
Notes: 1. All mitigation is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.		Drawing Status Draft		File No. 250921 Rhyswg_Tracking.dwg	
Revision 1					

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M 4

A48

Oversail beyond kerb. Seven lamp posts, three illuminated road signs and twenty two non-illuminated road signs to be removed.

Vegetation trimming required.

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Pennant Walters

	Wheel SPA		Body SPA		Load SPA		Indicative		Over-run		Over-sail
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Project

Rhyswg Wind Farm

Drawing Title

Vestas V150 Blade & Tower

SPA Location

A483 / M4 Onslip

© Pell Frischmann

Scale

1:1000 @ A3

Name

GB

Date

21/09/2025

Drawn

GB

Designed

SC

Checked

GB

File No.

250921 Rhyswg_Tracking.dwg

Drawing Status

Draft

Point of Interest

4

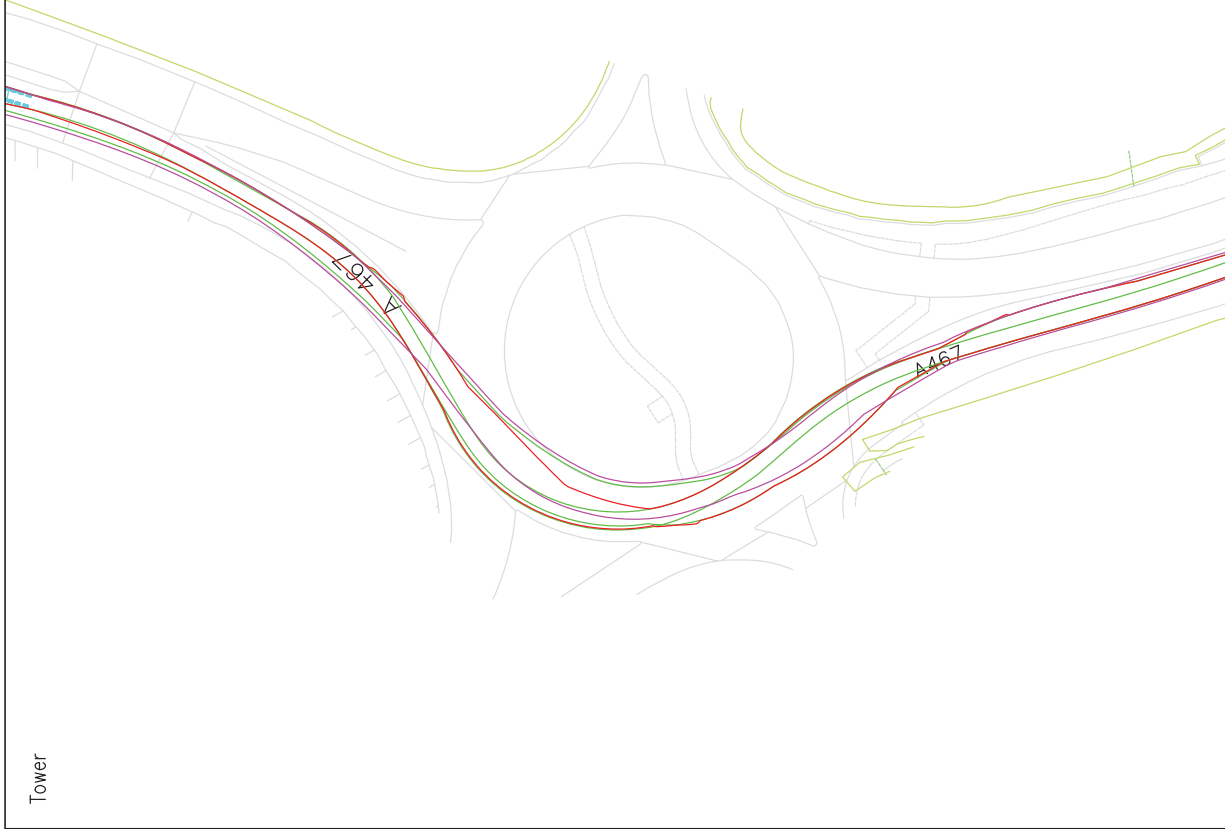
Drawing No.

SK01E

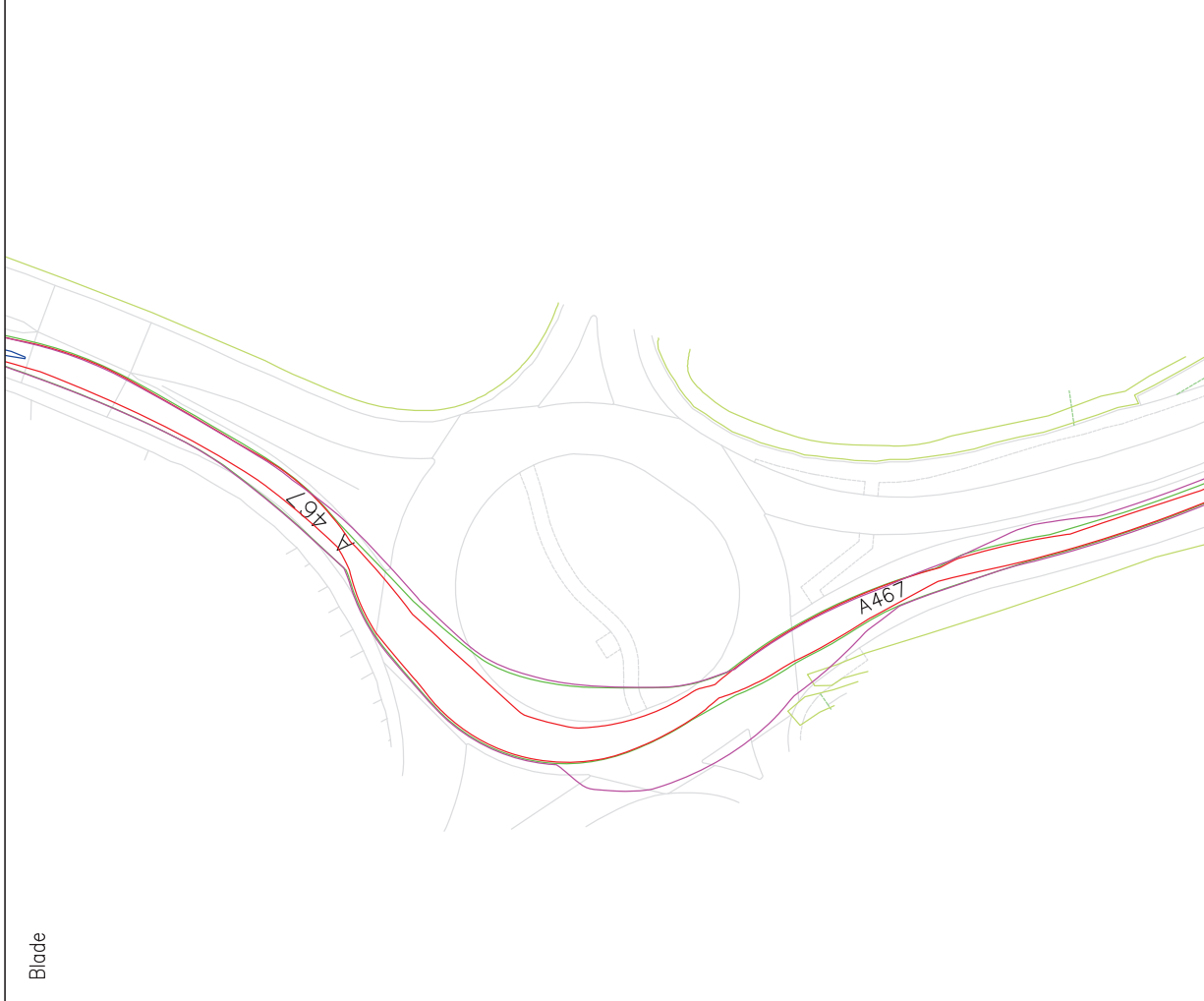
Revision

1

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

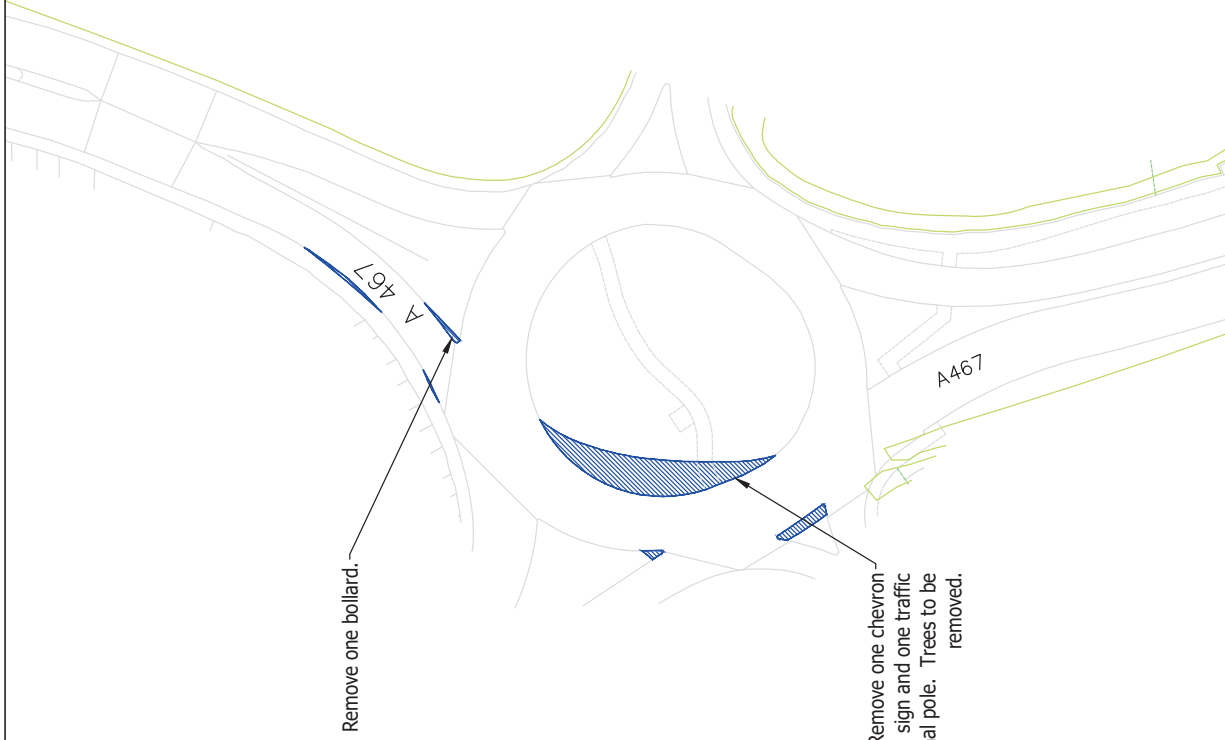


Tower



Blade

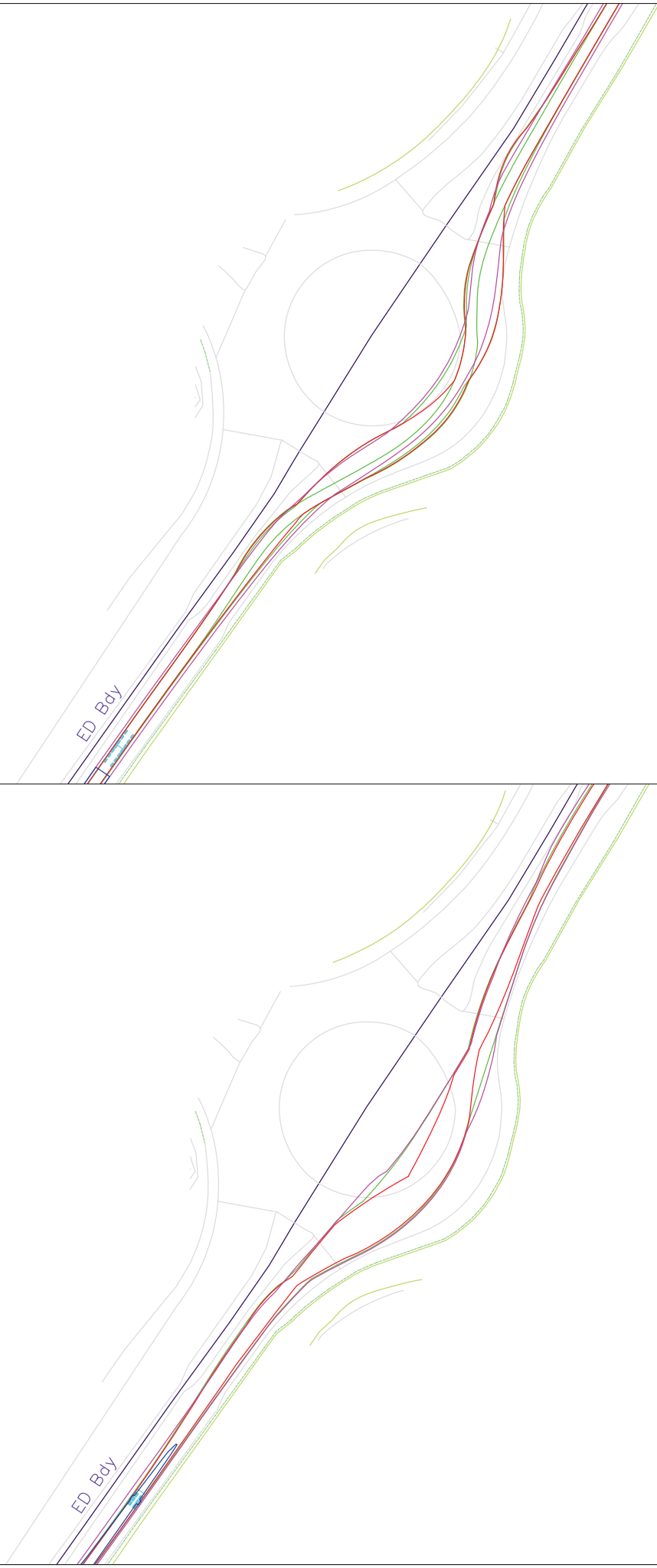
Pell Frischmann 93 GEORGE STREET, EDINBURGH, EH2 3ES Tel: +44 (0)131 240 1270 Email: pfrischmann@pellfrischmann.com www.pellfrischmann.com		Project Rhyswg Wind Farm		Name GB		Date 21/09/2025		Scale 1:1000 @ A3	
Client Pennant Walters		Drawing Title Vestas V150 Blade & Tower		Drawn Designed		Checked GB		File No. 250921 Rhyswg_Tracking.dwg	
Key Wheel SPA Body SPA Load SPA Indicative Over-run Over-sill		SPA Location A467 Forge Road Roundabout		Point of Interest 7		Drawing Status Draft		Revision 1	
Drawing No. SK02		Notes: 1. All mitigation is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.							



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Client Pennant Walters		Drawing Title Vestas V150 Blade & Tower		Name GB 21/09/2025 SC 21/09/2025 GB 21/09/2025	
Key Wheel SPA Body SPA Load SPA Indicative Over-run Over-sill		SPA Location A467 Forge Road Roundabout		Scale 1:1000 @ A3	
Drawing No. SK02A		Drawing Status Draft		File No. 250921 Rhyswg_Tracking.dwg	
Notes: 1. All mitigation is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.		Date 7		Revision 1	







Blade

Tower



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Client Pennant Walters

	Wheel SPA		Body SPA		Load SPA		Indicative		Over-run		Over-sail
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Project

Rhyswg Wind Farm

Drawing Title

Vestas V150 Blade & Tower

SPA Location

A467 Meadowland Drive Roundabout

Name

GB

Date

21/09/2025

Scale

1:1000 @ A3

Drawn

GB

Designed

SC

File No.

250921 Rhyswg_Tracking.dwg

Checked

GB

Drawing Status

Draft

Point of Interest

8

Drawing No.

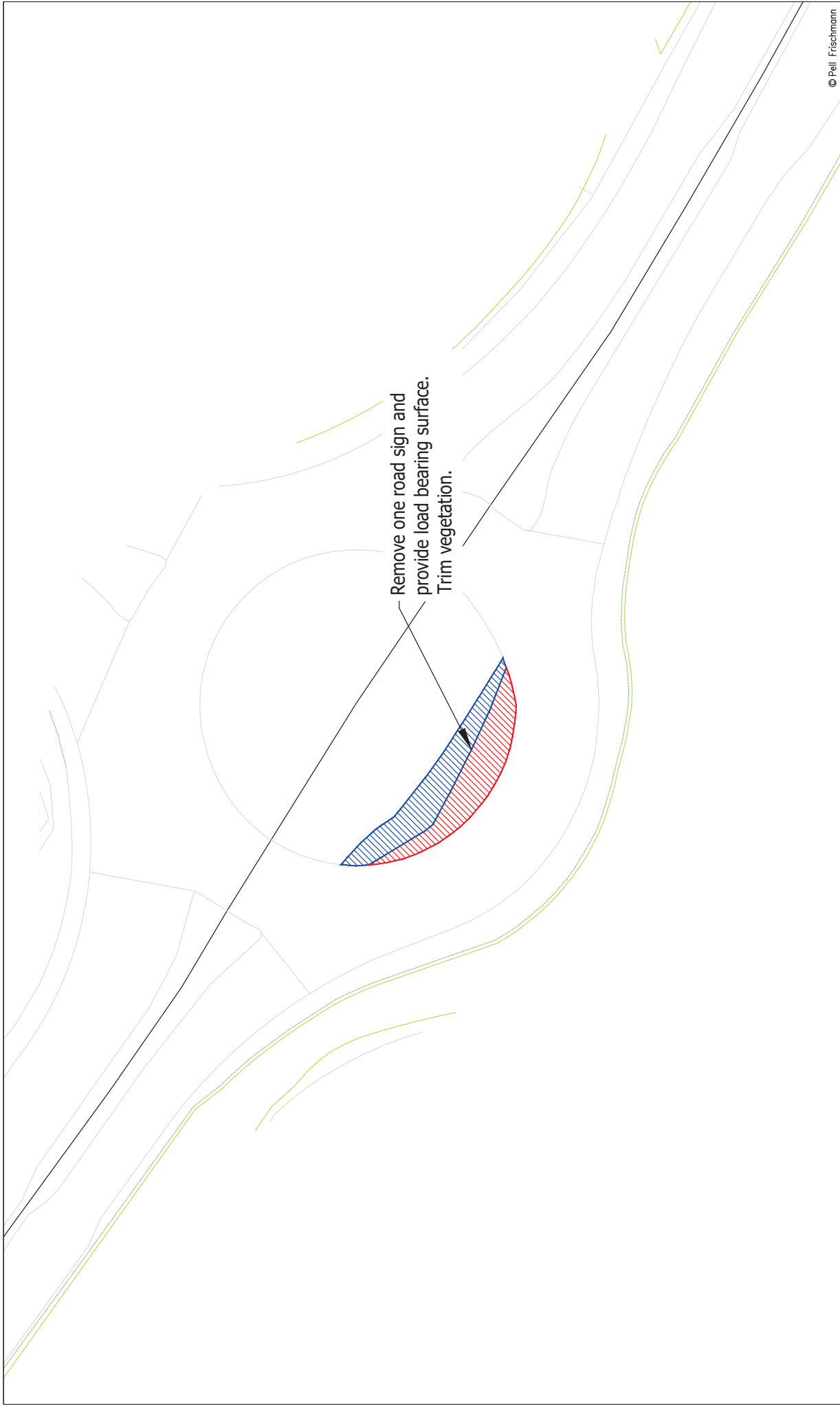
SK03

Revision

1

Notes:
 1. All mitigation is subject to confirmation through a test run.
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Client Pennant Walters		Drawing Title Vestas V150 Blade & Tower		Name GB	
Key Wheel SPA Body SPA Load SPA Indicative		SPA Location A467 Meadowland Drive Roundabout		Date 21/09/2025	
Scale 1:500 @ A3		File No. 250921 Rhyswg_Tracking.dwg		Scale 1:500 @ A3	
Revision 1		Drawing Status Draft		Date 21/09/2025	
Notes: 1. All mitigation is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.		Drawing No. SK03A		Point of Interest 8	
Drawn GB		Checked GB		Designed SC	







Blade

Tower



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Client Pennant Walters

	Wheel SPA		Body SPA		Load SPA		Indicative		Over-run		Over-sill
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Project

Rhyswg Wind Farm

Drawing Title

Vestas V150 Blade & Tower

SPA Location

A467 / B4591 Roundabout

Name

GB

Date

21/09/2025

Scale

1:1000 @ A3

File No.

250921 Rhyswg_Tracking.dwg

Drawing Status

Draft

Point of Interest

9

Notes:

1. All mitigation is subject to confirmation through a test run.

2. This is not a construction drawing and is intended for illustration purposes only.

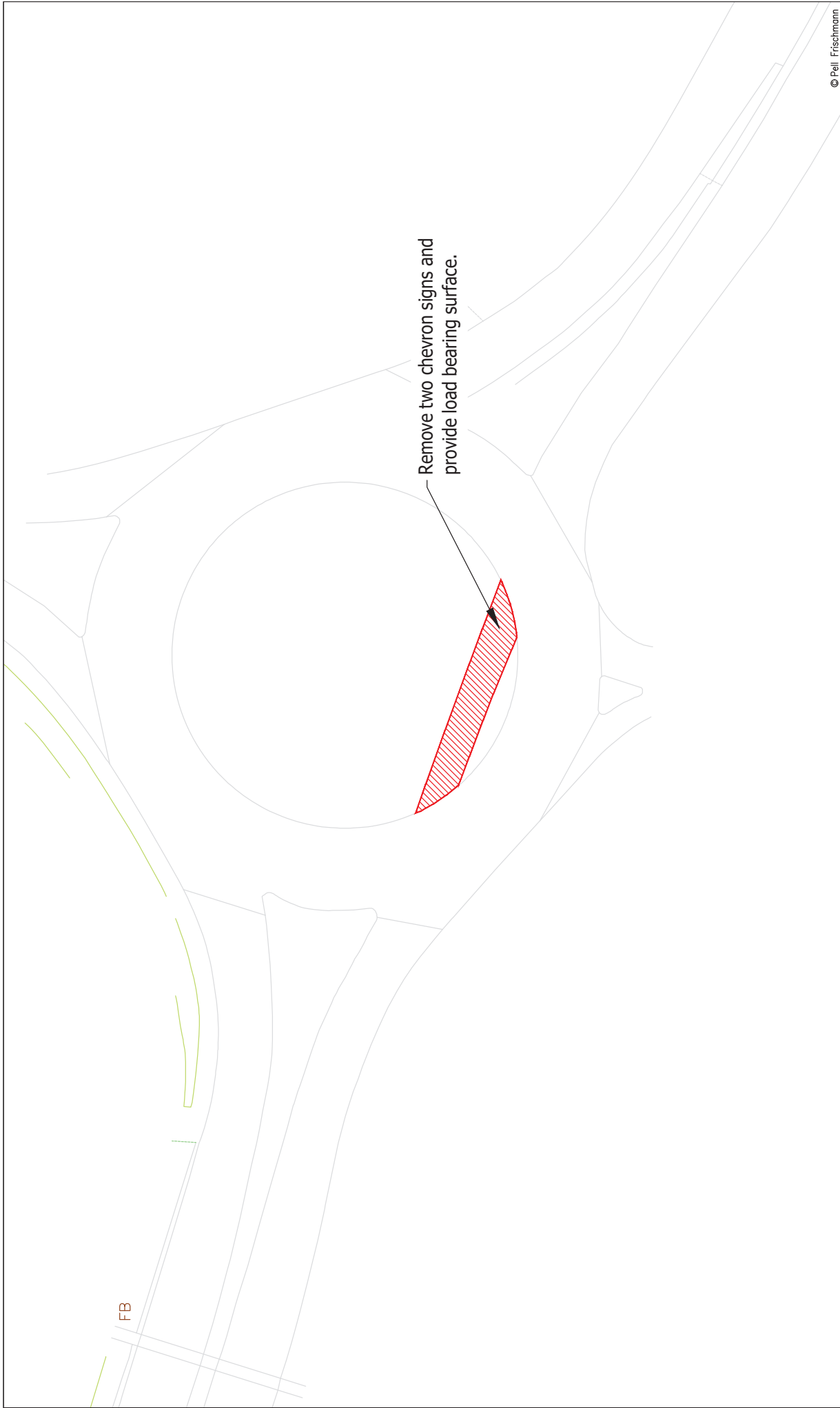
Drawing No.

SK04

Revision

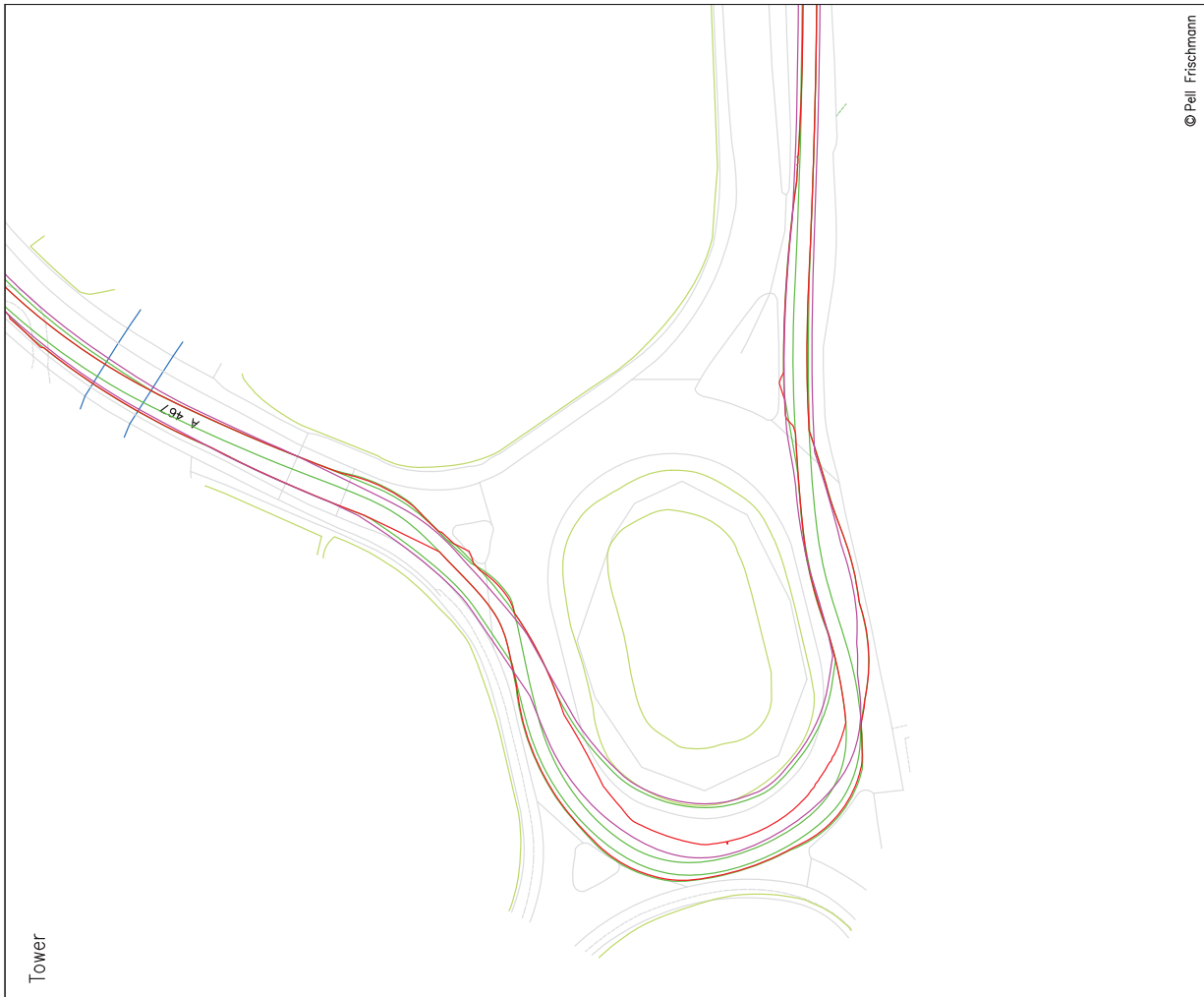
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Client Pennant Walters		Drawing Title Vestas V150 Blade & Tower	
Key Wheel SPA Body SPA Load SPA Indicative		SPA Location A467 / B4591 Roundabout	
Drawn GB	Name GB	Date 21/09/2025	Scale Custom @ A3
Designed SC	Name SC	Date 21/09/2025	File No. 250921 Rhyswg_Tracking.dwg
Checked GB	Name GB	Date 21/09/2025	Drawing Status Draft
Drawing No. SK04A		Notes: 1. All mitigation is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.	
Point of Interest 9		Revision 1	









Tower

Blade

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Client: Pennant Walters

	Wheel SPA		Body SPA		Over-sill
	Load SPA		Indicative		Over-run

Project

Rhyswg Wind Farm

Drawing Title

Vestas V150 Blade & Tower

Drawn

GB

Designed

SC

Checked

GB

Point of Interest

SK05

Date

21/09/2025

Scale

1:1000 @ A3

File No.

250921 Rhyswg_Tracking.dwg

Drawing Status

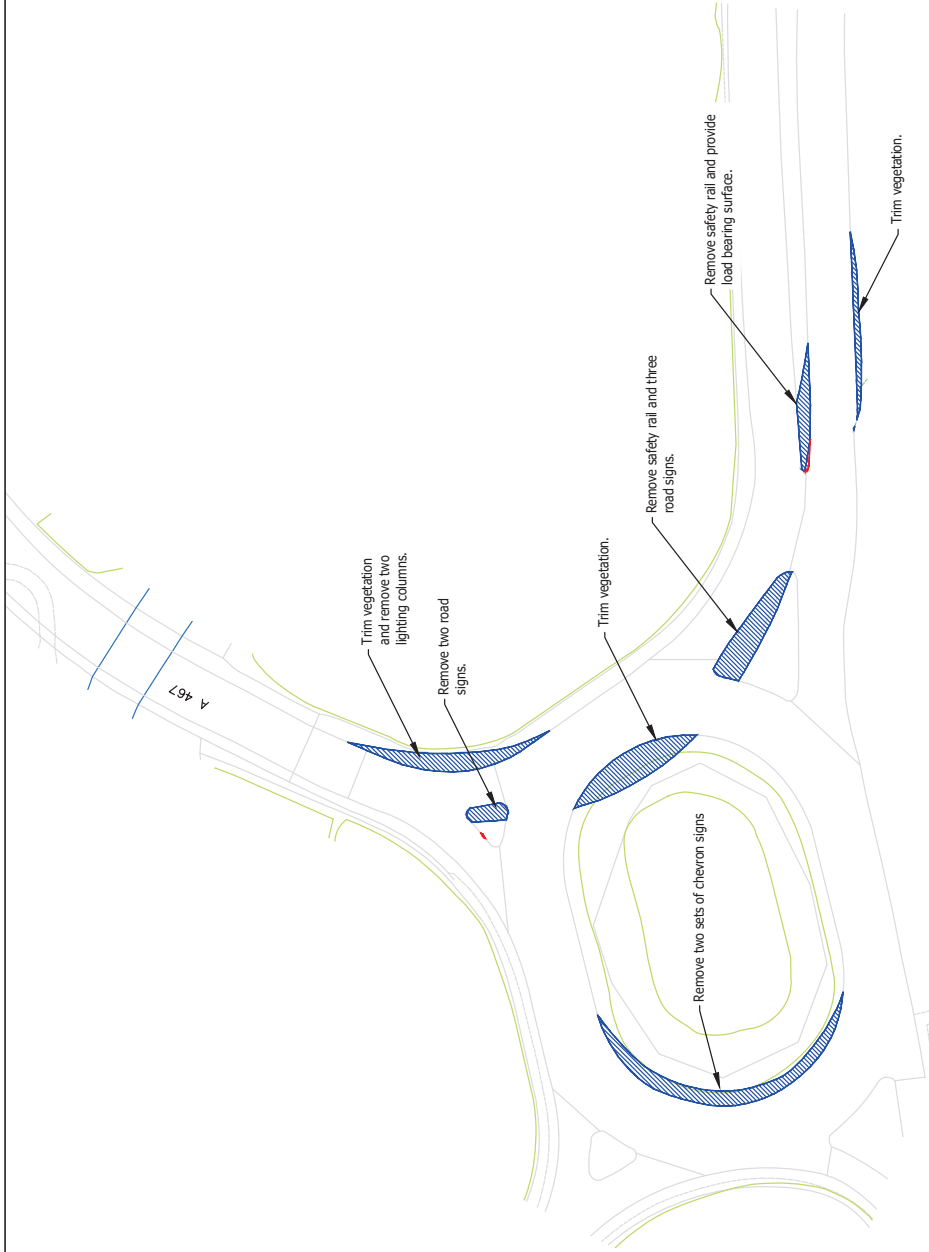
Draft

Revision

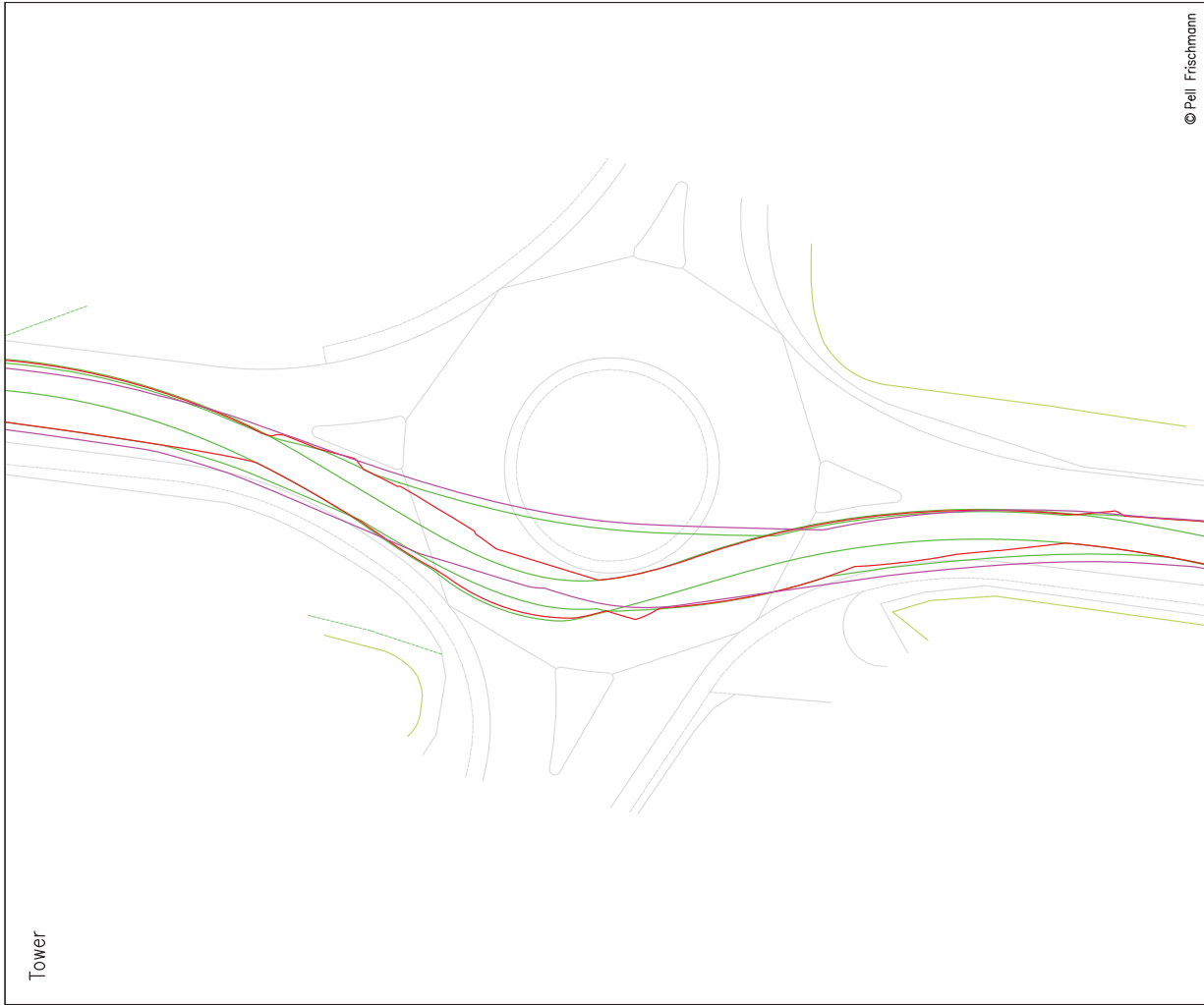
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Notes:

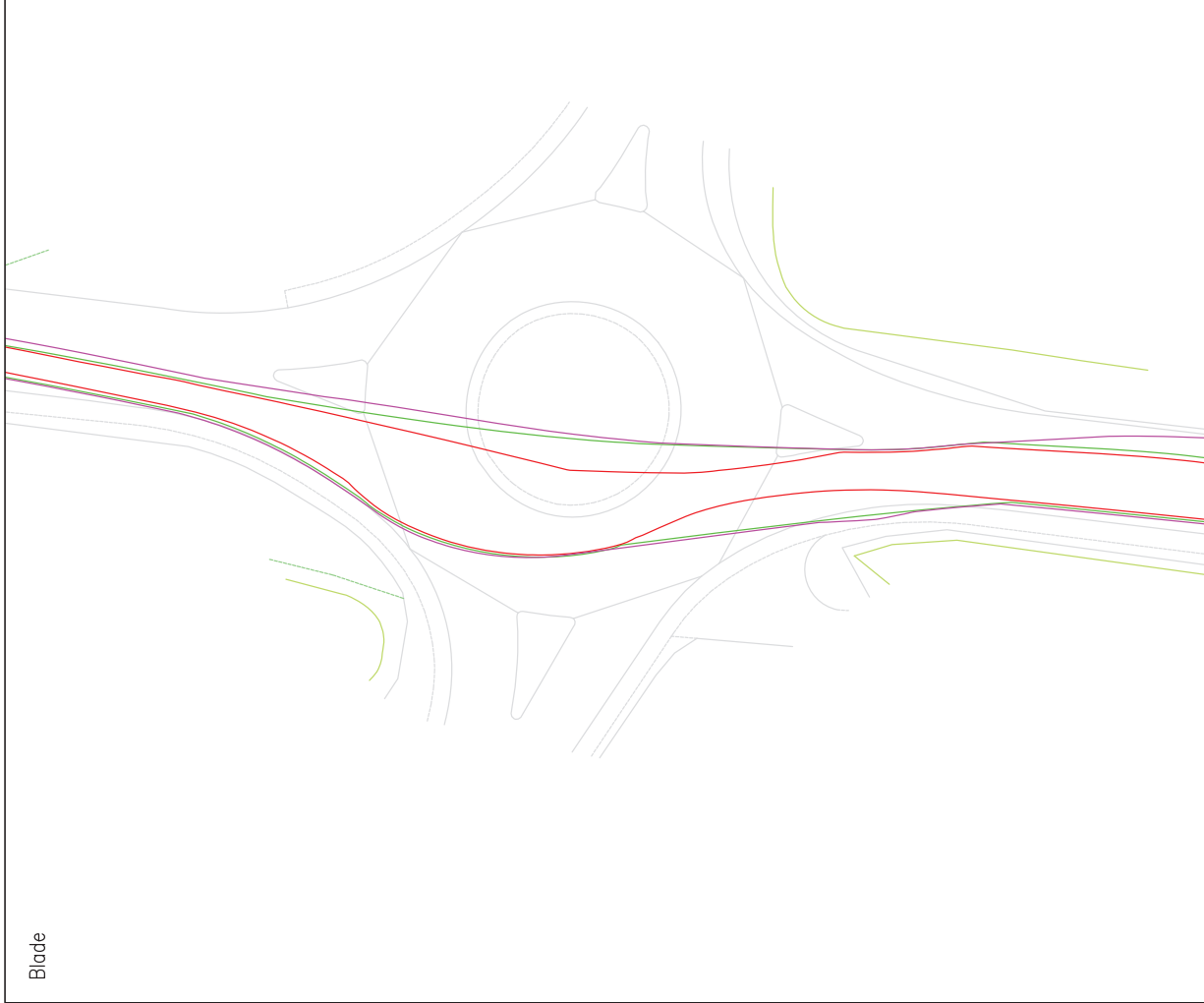
- All mitigation is subject to confirmation through a test run.
- This is not a construction drawing and is intended for illustration purposes only.



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Client Pennant Walters		Drawing Title Vestas V150 Blade & Tower		Date 21/09/2025		File No. 250921 Rhyswg_Tracking.dwg	
Key Wheel SPA Body SPA Load SPA Indicative		SPA Location A467 Sirhowy Roundabout		Checked GB 21/09/2025		Drawing Status Draft	
Drawing No. SK05A		Point of interest 10		Revision 1		Notes: 1. All migration is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.	

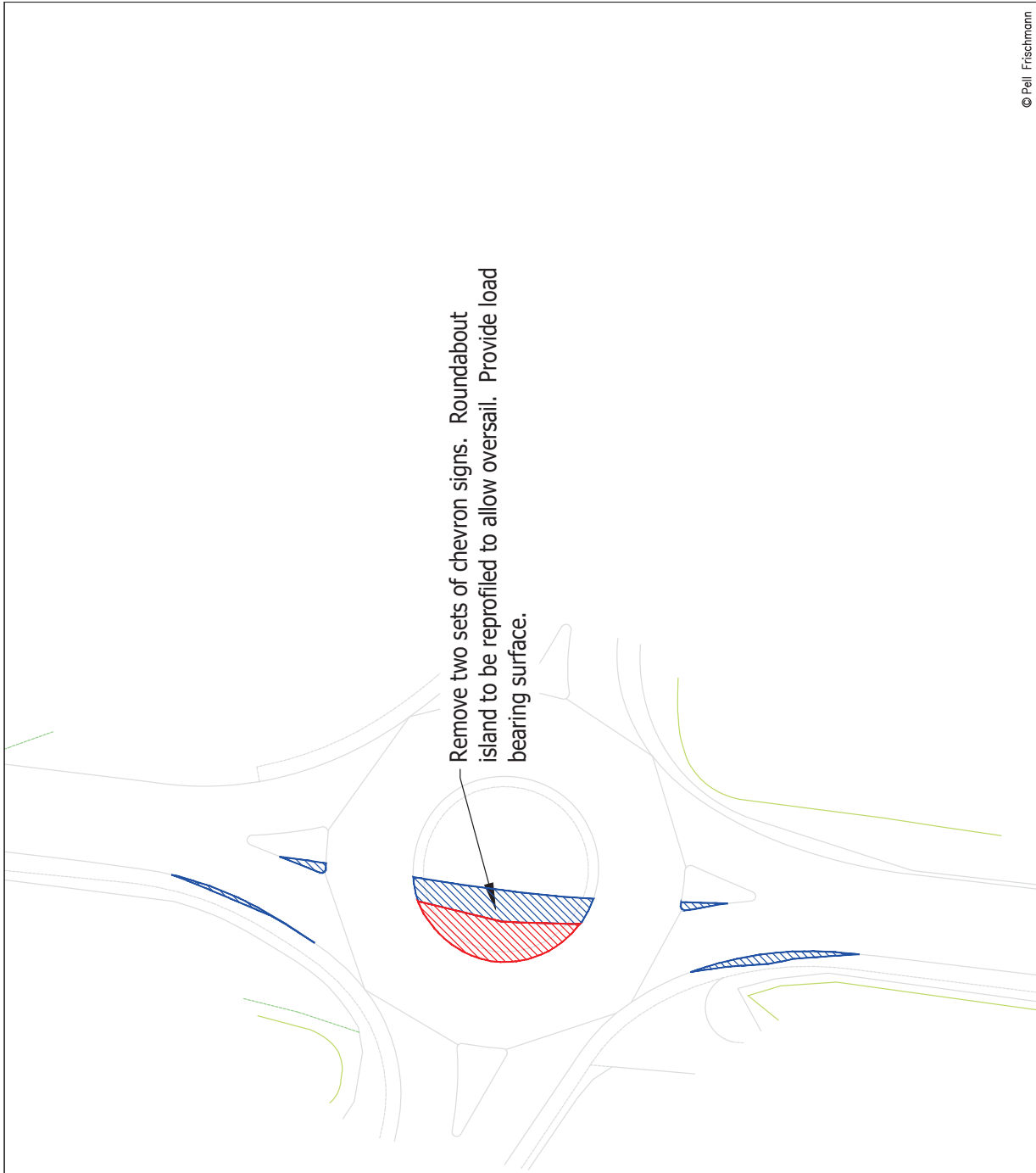


Tower



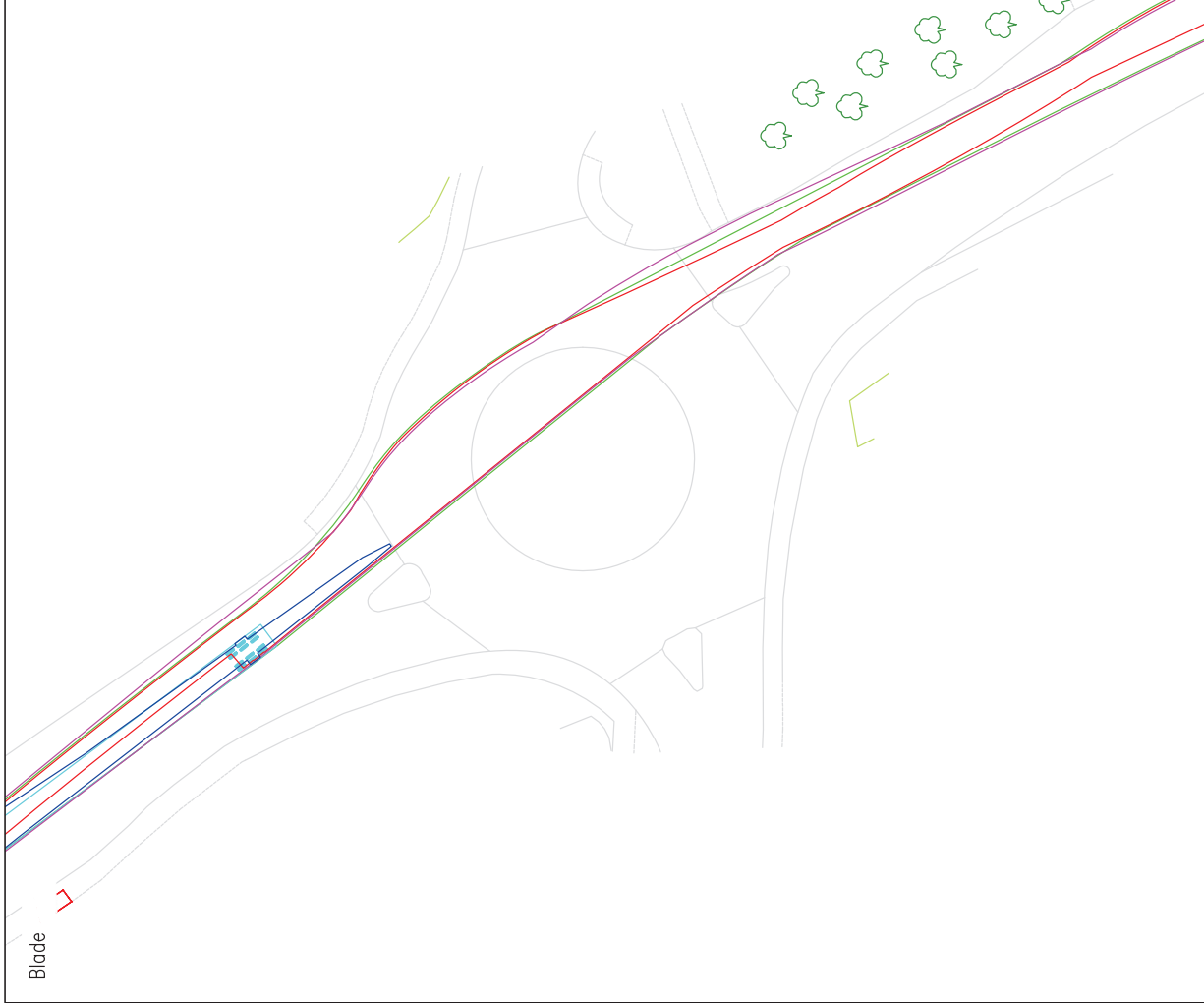
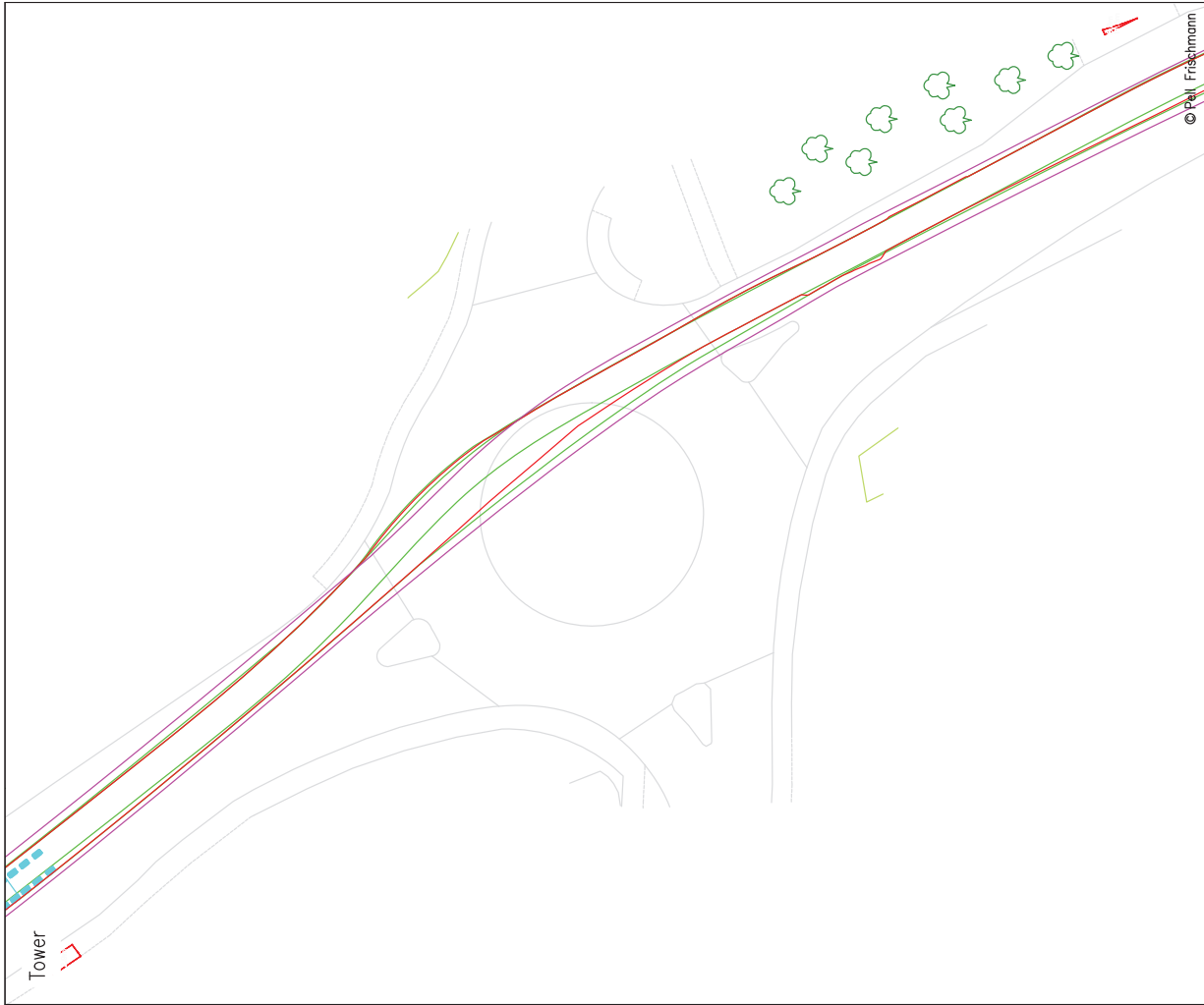
Blade

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<p>Client Pennant Walters</p>		<p>Drawing Title Vestas V150 Blade & Tower</p>		<p>Drawn Designed</p>		<p>File No. 250921 Rhyswg_Tracking.dwg</p>		<p>Drawing Status Draft</p>		<p>Revision 1</p>	
<p>Key</p> <ul style="list-style-type: none"> — Wheel SPA — Body SPA — Load SPA — Indicative Over-sill Over-run 		<p>SPA Location A467 Twyncarn Roundabout</p>		<p>Checked GB 21/09/2025</p>		<p>Point of Interest 13</p>		<p>Drawing No. SK06</p>		<p>Notes: 1. All mitigation is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.</p>	



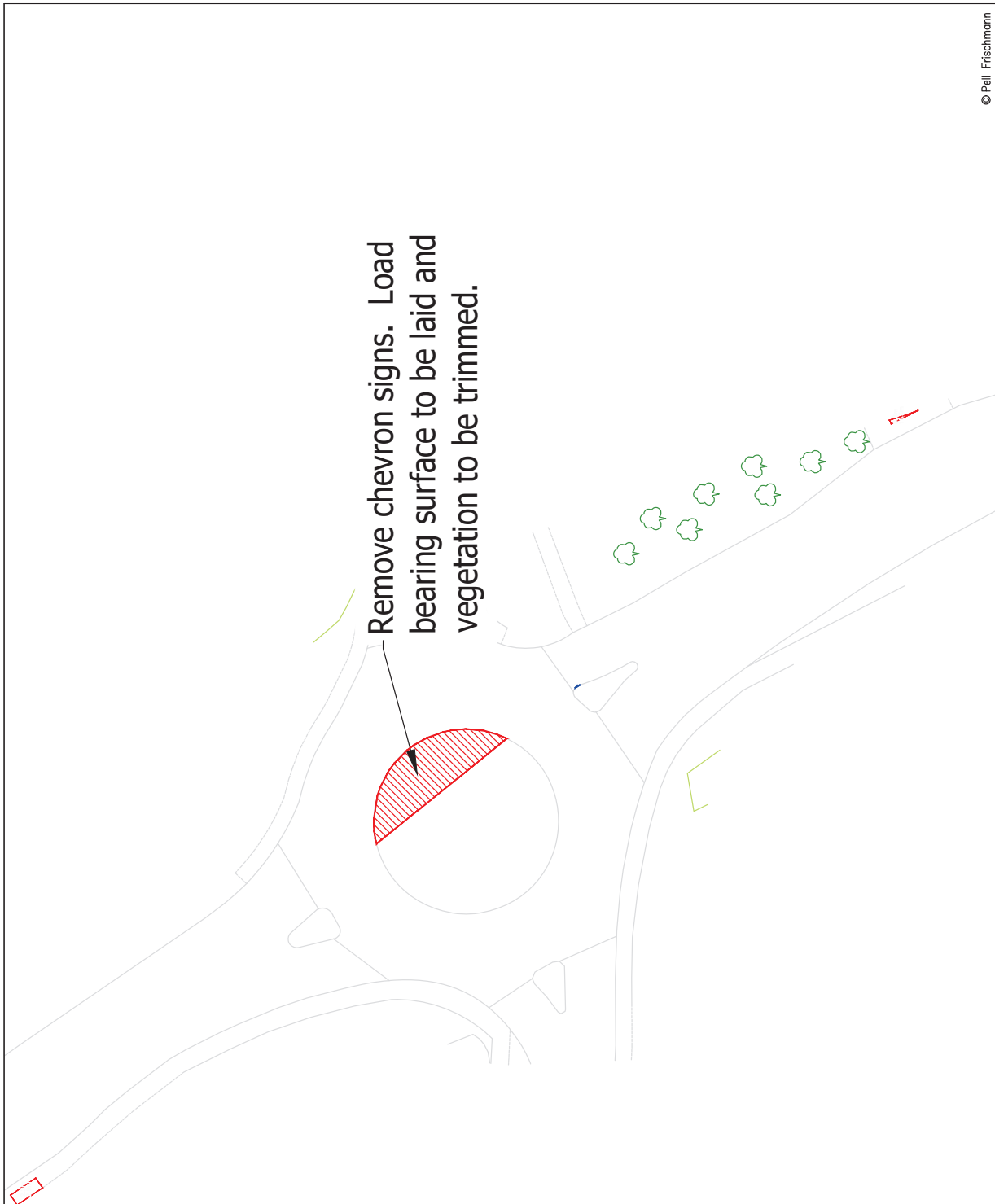
Remove two sets of chevron signs. Roundabout island to be reprofiled to allow oversail. Provide load bearing surface.

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Client Pennant Walters		Drawing Title Vestas V150 Blade & Tower		Checked GB 21/09/2025		Drawing Status Draft		© Pell Frischmann	
Key Wheel SPA Body SPA Load SPA Indicative Over-run Over-sail		SPA Location A467 Twyncarn Roundabout		Drawing No. SK06A		Notes: 1. All mitigation is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.		Revision 1	

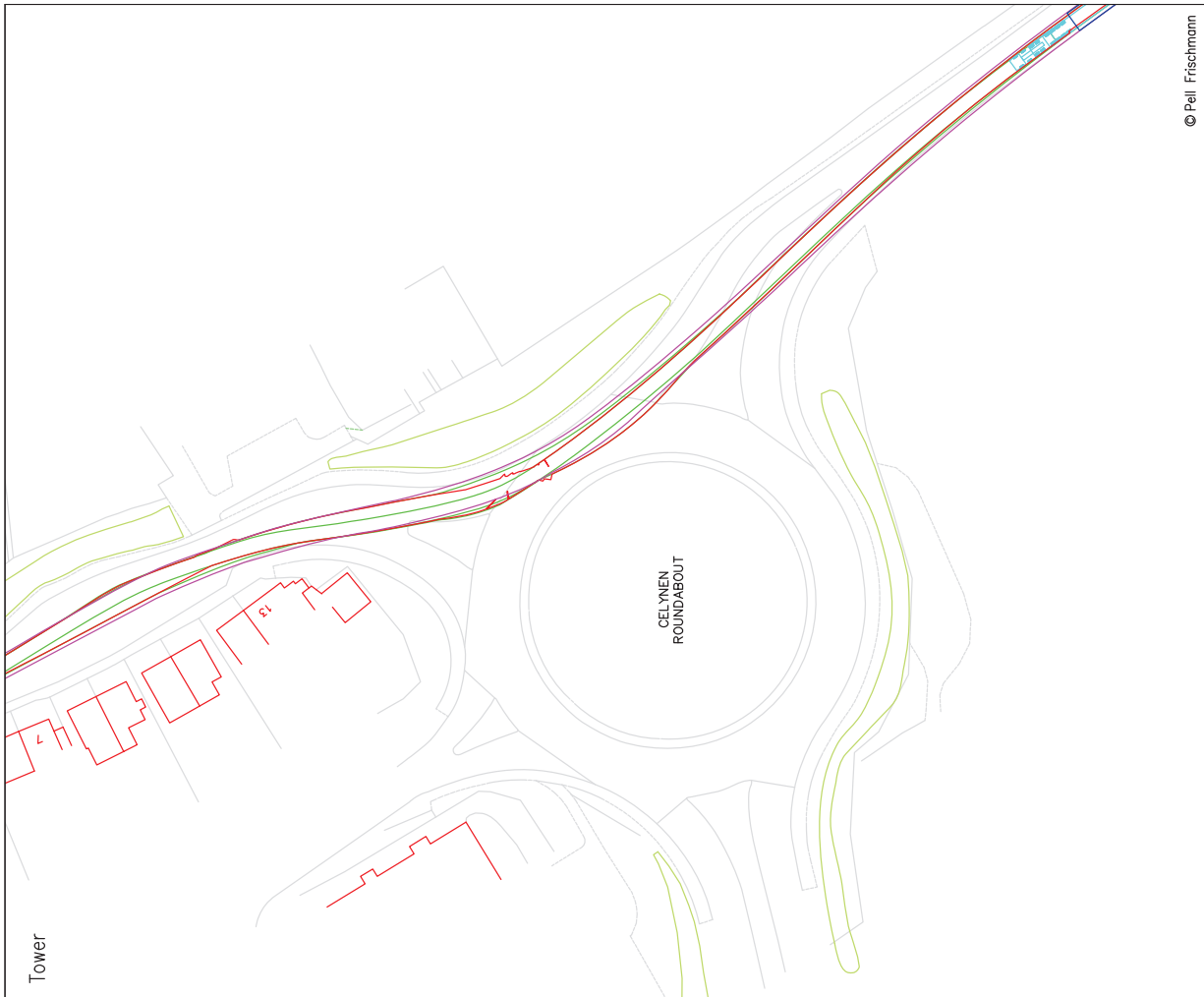


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Client Pennant Walters		Drawing Title Vestas V150 Blade & Tower		Date 21/09/2025		File No. 250921 Rhyswg_Tracking.dwg	
Key Wheel SPA Body SPA Load SPA Indicative Over-run Over-sill		SPA Location A467 / B4591 Roundabout		Checked GB 21/09/2025		Drawing Status Draft	
Drawing No. SK07		Point of Interest 19		Notes: 1. All migration is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.		Revision 1	

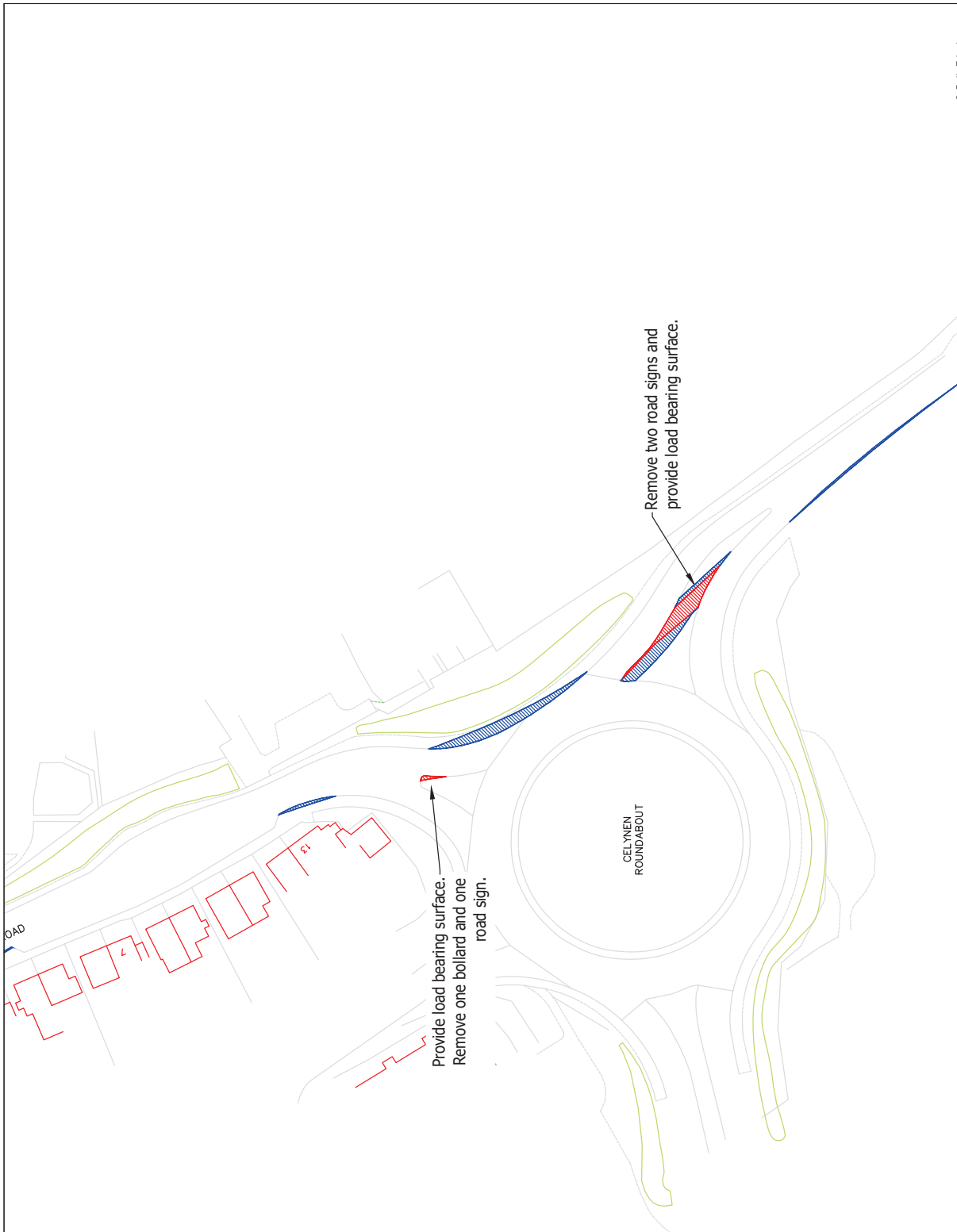
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Client Pennant Walters		Drawing Title Vestas V150 Blade & Tower		Drawn GB		Date 21/09/2025		File No. 250921 Rhyswg_Tracking.dwg		Drawing Status Draft	
Key Wheel SPA Body SPA Load SPA Indicative Over-run Over-sill		SPA Location A467 / B4591 Roundabout		Checked GB		Date 21/09/2025		Drawing Status Draft		Revision 1	
Drawing No. SK07A		Notes: 1. All mitigation is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.		Point of Interest GB		Date 19		Drawing Status Draft		Revision 1	



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Client Pennant Walters		Drawing Title Vestas V150 Blade & Tower		Drawn Designed Checked Point of Interest		Date 20		File No. 250921 Rhyswg_Tracking.dwg		Drawing Status Draft	
Key Wheel SPA Body SPA Load SPA Indicative Over-run Over-sill		SPA Location A467 Celynen Roundabout		Drawing No. SK08		Revision 1		Notes: 1. All mitigation is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.		Revision 1	



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Client Pennant Walters		Drawing Title Vestas V150 Blade & Tower		Drawing No. SK08A		Drawing Status Draft		Revision 1		Notes: 1. All mitigation is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.	
Key Wheel SPA Body SPA Load SPA Indicative Over-run Over-sill		Drawing Title A467 / A472 Roundabout		SPA Location		Point of Interest		Date 20		Revision 1	

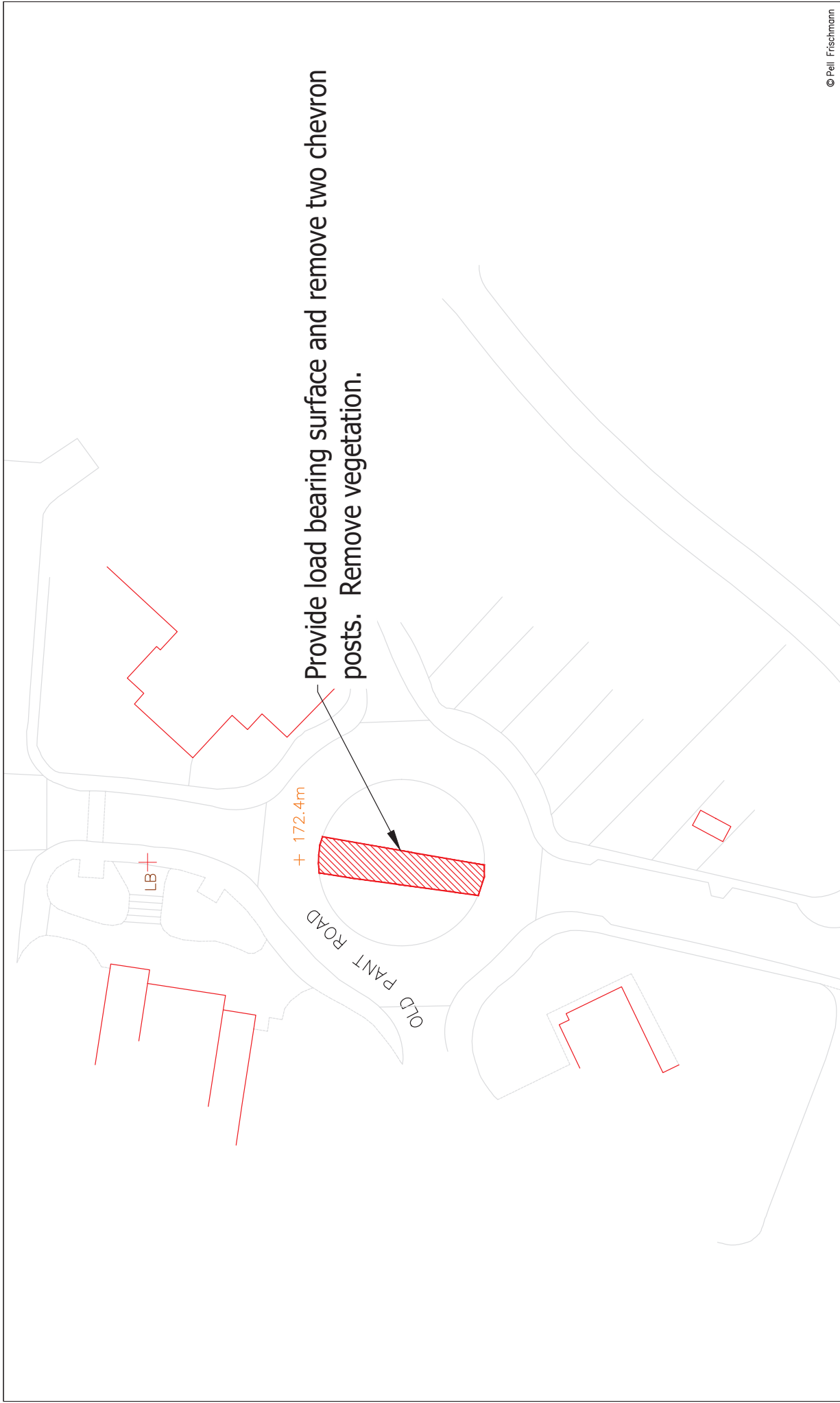
© Pell Frischmann



Tower

Blade

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<p>Client Pennant Walters</p>		<p>Drawing Title Vestas V150 Blade & Tower</p>		<p>Checked GB 21/09/2025</p>		<p>Drawing Status Draft</p>		<p>Revision 1</p>		<p>Notes: 1. All mitigation is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.</p>	
<p>Key</p> <ul style="list-style-type: none"> — Wheel SPA — Body SPA — Load SPA — Indicative Over-run Over-sill 		<p>Drawing No. SK10</p>		<p>Point of Interest Z3</p>		<p>Revision 1</p>		<p>© Pell Frischmann</p>		<p>Revision 1</p>	



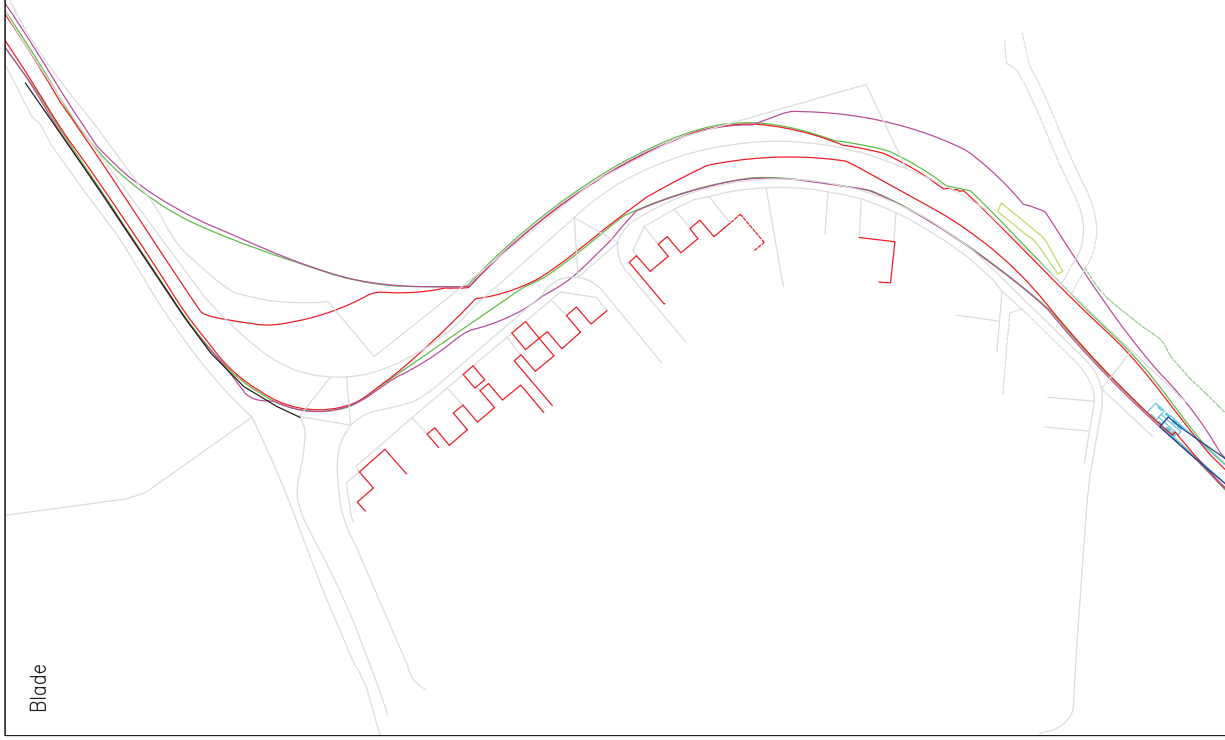
Provide load bearing surface and remove two chevron posts. Remove vegetation.

+ 172.4m

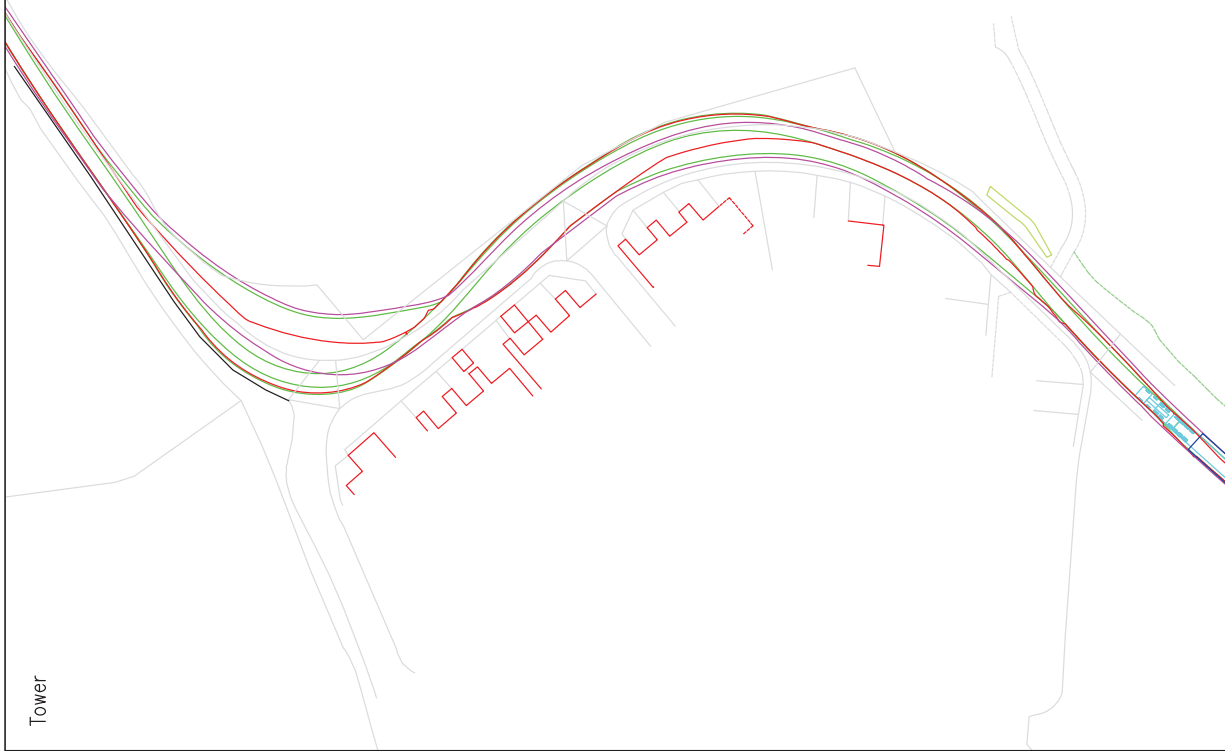
LB

OLD PANT ROAD

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Client Pennant Walters		Drawing Title Vestas V150 Blade & Tower		Drawing No. SK10A		Point of Interest Z3		Drawing Status Draft		Revision 1	
Key Wheel SPA Body SPA Load SPA Indicative Over-run Over-sill		Notes: 1. All migration is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.									



Blade








Tower

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Pennant Walters

	Wheel SPA		Body SPA		Load SPA		Indicative		Over-run		Over-sill
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Client

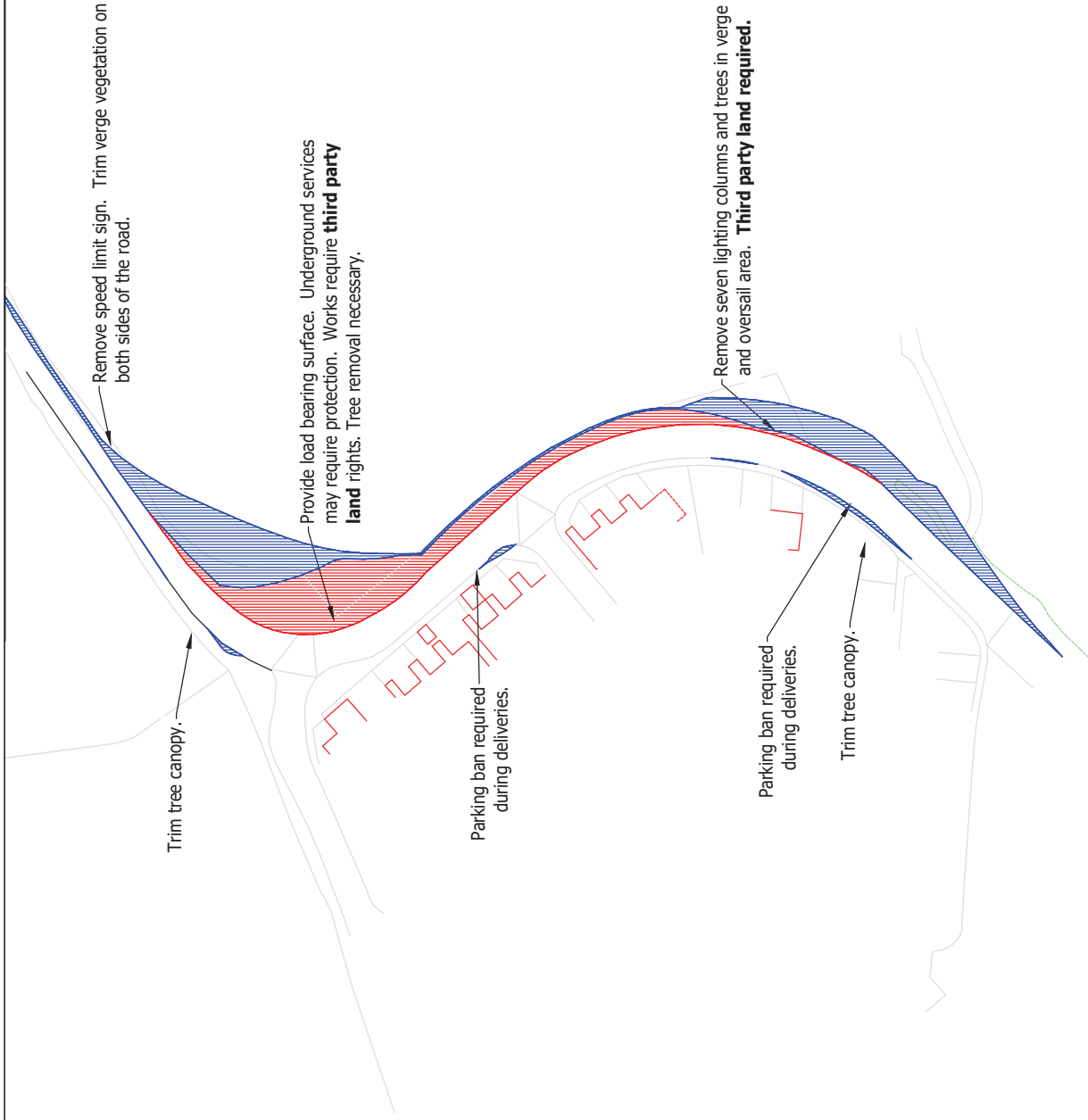
Rhyswg Wind Farm

Drawing Title
 Vestas V150 Blade & Tower
 SPA Location
 Old Pant Road Bends

Project

Drawn	GB	Name	GB	Date	21/09/2025	Scale	1:1000 @ A3		
Designed	SC		SC	21/09/2025	File No.	250921 Rhyswg_Tracking.dwg			
Checked	GB		GB	21/09/2025	Drawing Status	Draft			
Point of Interest				25, 26					
Drawing No.	SK11	Notes:	1. All mitigation is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.					Revision	1

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Pell Frischmann 93 GEORGE STREET, EDINBURGH, EH2 3ES Tel: +44 (0)131 240 1270 Email: pedinburgh@pellfrischmann.com www.pellfrischmann.com	Project Rhyswg Wind Farm		Name GB	Date 21/09/2025	Scale 1:1000 @ A3
	Drawing Title Vestas V150 Blade & Tower Old Pant Road Bends		Drawn Designed Checked	File No. 250921 Rhyswg_Tracking.dwg	Drawing Status Draft
Client Pennant Walters	Drawing No. SK11A	Point of Interest 25, 26	Notes: 1. All mitigation is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.		
Key — Wheel SPA — Body SPA — Load SPA — Indicative ▨ Over-run ▨ Over-sill	Revision 1				



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Blade

Tower

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<p>Client Pennant Walters</p>		<p>Drawing Title Vestas V150 Blade & Tower</p>		<p>Date 21/09/2025</p>	
<p>Key</p> <ul style="list-style-type: none"> — Wheel SPA — Body SPA — Load SPA — Indicative Over-sill Over-run 		<p>Drawing No. SK12</p>		<p>File No. 250921 Rhyswg_Tracking.dwg</p>	
<p>Drawn GB</p>		<p>Checked GB</p>		<p>Drawing Status Draft</p>	
<p>Designed SC</p>		<p>Point of Interest 27</p>		<p>Date 21/09/2025</p>	
<p>Notes: 1. All mitigation is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.</p>		<p>Revision 1</p>		<p>Scale 1:500 @ A3</p>	



Provide AIL bypass road. Remove hedge and fence and provide new access track to turbine supplier standards. **Third party land** required.

Pell Frischmann 93 GEORGE STREET, EDINBURGH, EH2 3ES Tel: +44 (0)131 240 1270 Email: pell@pellfrischmann.com www.pellfrischmann.com		Project Rhyswg Wind Farm		Name GB 21/09/2025 SC 21/09/2025 GB 21/09/2025		Date 21/09/2025 21/09/2025 21/09/2025		Scale 1:500 @ A3	
Client Pennant Walters		Drawing Title Vestas V150 Blade & Tower Track Diverge		Drawn Designed Checked		File No. 250921 Rhyswg_Tracking.dwg		Drawing Status Draft	
Key Wheel SPA Body SPA Load SPA Indicative		SPA Location Track Diverge		Drawing No. SK12A		Notes: 1. All mitigation is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.		Revision 1	

Blade

Tower

The Barn

The Barn

356.3m







356.3m

ED Bdy

ED Bdy

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Client Pennant Walters

	Wheel SPA		Over-run
	Body SPA		Over-sill
	Load SPA		
	Indicative		

Project

Rhyswg Wind Farm

Drawing Title

Vestas V150 Blade & Tower

SPA Location

Unclassified Road Access Junction

Name

GB

Date

21/09/2025

Scale

1:1000 @ A3

Drawn

GB

Designed

SC

Checked

GB

File No.

250921 Rhyswg Tracking.dwg

Drawing Status

Draft

Point of Interest

28

Drawing No.

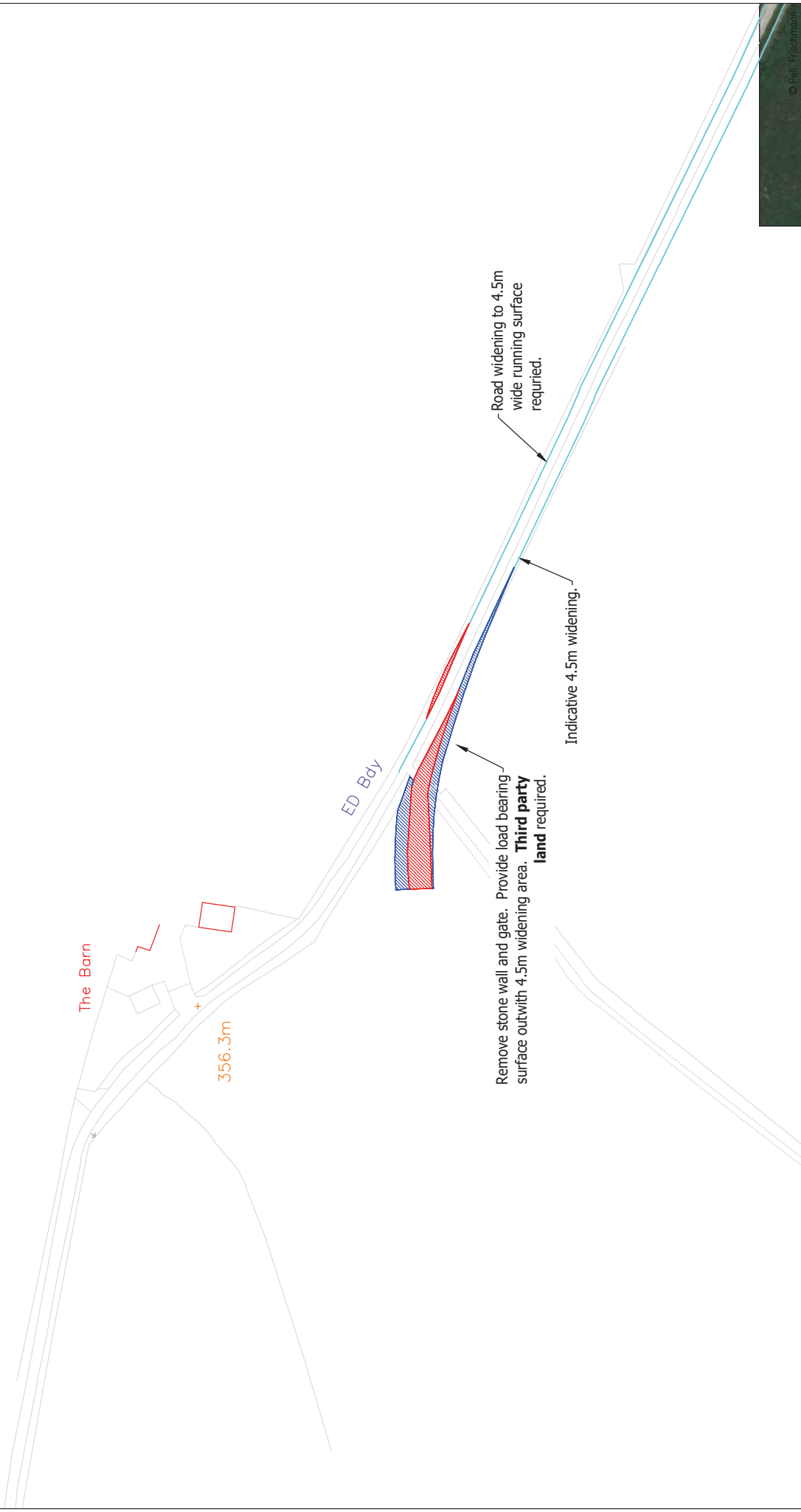
SK13

Revision

1

Notes:
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Client Pennant Walters		Drawing Title Vestas V150 Blade & Tower		Date 21/09/2025	
Key Wheel SPA Body SPA Load SPA Indicative Over-run Over-sill		SPA Location Unclassified Road Bypass Junction		Name GB SC GB	
		Drawing No. SK13A		Date 21/09/2025	
		Point of Interest Draft		Date 28	
		Notes: 1. All mitigation is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.		Revision 1	



Blade

Tower



Blade

Tower

Pell Frischmann 93 GEORGE STREET, EDINBURGH, EH2 3ES Tel: +44 (0)131 240 1270 Email: pfrischmann@pellfrischmann.com www.pellfrischmann.com		Project Rhyswg Wind Farm		Name GB		Date 21/09/2025		Scale 1:500 @ A3	
Client Pennant Walters		Drawing Title Vestas V150 Blade & Tower		Designed SC		File No. 250921 Rhyswg_Tracking.dwg		Checked GB	
Key Wheel SPA Body SPA Load SPA Indicative Over-run Over-sill		SPA Location Proposed Site Access Junction		Point of Interest SK14		Drawing Status Draft		Revision 1	
Notes: 1. All mitigation is subject to confirmation through a test run. 2. This is not a construction drawing and is intended for illustration purposes only.									



Road widening to 4.5m wide running surface required. Remove cattle grid gates.

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Peil Frischmann 93 GEORGE STREET, EDINBURGH, EH2 3ES Tel: +44 (0)131 240 1270 Email: peil@peilfrischmann.com www.peilfrischmann.com	Project Rhyswg Wind Farm		Name GB	Date 21/09/2025	Scale 1:500 @ A3
	Drawing Title Vestas V150 Blade & Tower		Designed SC	File No. 250921 Rhyswg_Tracking.dwg	
Client Pennant Walters	Drawing Location SPA Location		Checked GB	Drawing Status Draft	
	Key Wheel SPA Body SPA Load SPA Indicative Over-run Over-sill		Point of Interest SK14A	Drawing No. SK14A	Revision 1

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

Appendix C ESDAL Consultee Responses

No responses received at the time of publication